THE DEVELOPMENT OF RAF AIR POWER DOCTRINE 1999-2013

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It is just the beginning...

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Abstract

In this thesis, the development of RAF air power doctrine in 1999-2013 is explored. Three issues of doctrine are explored in terms of the factors that influenced the preparation process. The four-factor model of doctrine preparation as developed by Oliver Daddow is applied to air power doctrine. The main factors included in the thesis are that of the external environment of previous and on-going operations, the internal environment of domestic politics in inter-service rivalry, the influence of networks of academic and independent contributors and, finally, the impact of authors on the doctrine preparation process.

The research demonstrates that, in the timeframe under review here, the doctrine preparation process was primarily influenced by the different stages of jointery institutionalisation. The dominance of jointery in national defence discourse stimulated the RAF to adapt its framework document − the environment doctrine in accordance with new trends in jointery. Therefore, the third edition of AP 3000 was aimed at demonstrating the service's commitment to jointery with the two other services. The fourth edition aimed at demonstrating that the service can produce a joint environment doctrine under single-service authorship. Finally, the last doctrine JDP 0-30 demonstrated a crucial shift from single-service to joint authorship over environmental doctrine and new trends in its preparation process.

The originality of this thesis lies in the chosen timeframe and the systematic nature of the analysis. This thesis fills an existing gap − to be precise the lack of systematic research on the development of RAF doctrine over the last two decades. This thesis is a logical continuation of the existing works on air power doctrine development which concentrated on the preceding decades. One key aspect of originality is the use of interviews to provide perspectives of doctrine development that were not previously available to a wider audience.

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Abbreviations

AAP-47 (A)	Allied Administrative Publication (Allied Joint Doctrine Development)
ABCA	American, British, Canadian, Australian and New Zealand Armies programme
ADP	Army Doctrinal Publication Operations
AEW	Airborne Early Warning
AFDC	Air Force Doctrine Center Commanders(US)
AFM	Army Field Manual
AJOD	Allied Joint Operations Doctrine
AJP - 01 (D)	Allied Joint Doctrine (Allied Joint Operations)
AHB	Air Historical Branch
ALARM	Air Launched Anti-Radiation Missile
AP 1300	Air Publication 1300 (Royal Air Force War Manual)
AP 3000	Air Publication 3000 (British Air Power Doctrine)
AP 3001	Air Publication 3001 (Air Power Essentials)
AP 3002	Air Publication 3002 (Air Operations)
AP 3003	Air Publication 3003 (A Brief History of the Royal Air Force)
ASM	Air Staff Manuals
BAI	Battlefield Air Interdiction
BBD	British Defence Doctrine
BMDG	British Military Doctrine Group
BR 1806	British Maritime Doctrine
C4I	Command, Control, Communications, Computers And Intelligence
C2W	Command and Control Warfare
CAOC	Combined Air Operation Centre
CAS	Close Air Support
CAS	Chief of the Air Staff
CD 22	Confidential Document 22 (Operations Manual, Royal Air Force)
CDS	Chief of the Defence Staff
CENTAF	United States Central Command Air Forces
CJCSI 5120.02C	Chairman of the Joint Chiefs of Staff Instruction (Joint Doctrine Development System)
CJCSM 5120.01	Chairman of the Joint Chiefs of Staff Manual (Joint Doctrine Development Process)
COIN	Counterinsurgency
DCS	Defensive Counter-Space Operations
DCDC	Development, Concepts and Doctrine Centre
DDS	Director of Defence Studies for the RAF
DfiD	Department of International Development
DTI	Department of Trade
FCO	Foreign and Commonwealth Office
GWOT	Global War on Terror
HCDC	House of Commons Defence Committee
HMSO	Her Majesty's Stationery Office
HQ	Headquarters
IED	Improvised Explosive Device

IFOR	Implementation Force
IR	International Relations
ISAF	International Security Assistance Force
ISR	Intelligence, Surveillance and Reconnaissance
ISTAR	Intelligence, Surveillance, Target Acquisition and Reconnaissance
JDC	Joint Defence Centre
JDCB	Joint Doctrine and Concept Board
JDCC	Joint Doctrine and Concepts Centre
JDN	Joint Doctrine Note
JDP	Joint Doctrinal Publication
JDSC	Joint Doctrine Steering Committee
JFACC	Joint Force Air Component Commander
JIPTL	Joint Integrated Prioritised Target List
JSCSC	Joint Services Command and Staff College
JWP	Joint Warfare Publication
JTCB	Joint Targeting Coordination Board
MBT	Main Battle Tanks
MOD	Ministry of Defence
NATO	North Atlantic Treaty Organisation
NCC	Network-Centric Capability
NEC	Network Enabling Capability
NGO	Non-Governmental Organisation
NSA	NATO Standardized Agency
OCA	Offensive Counter-Air Operations
OCS	Offensive Counter-Space Operations
OPLAN	Operational Plan
PGM	Precision-Guided Munition
PSO	Peace Support Operations
RAF	Royal Air Force
RAND	Research And Development Corporation
RFC	Royal Flying Corps
RMA	Revolution in Military Affairs
RN	Royal Navy
RNAS	Royal Naval Air Service
ROE	Rules of Engagement
RUSI	Royal United Services Institute for Defence Studies
SDR	Strategic Defence Review
SDSR	Strategic Defence and Security Review
SEAD	Suppression Of Enemy Air Defences
SO1	Staff Officer Grade 1
SOF	Special Operations Forces
SOP	Standard Operating Procedures
TRADOC	US Army Training and Doctrine Command
UAS	University Air Squadron
UAV	Unmanned Air Vehicle
UCAV	Unmanned Combat Air Vehicle
UK	United Kingdom
UN	United Nations
UNPROFOR	United Nations Protection Force
UOR	Urgent Operational Requirements

USAF	United States Air Force
USMC	United States Marine Corps
WMD	Weapons of Mass Destruction
WOT	War on Terror
WPK	Wider Peacekeeping
2C	Command and Control

INTRODUCTION

This thesis investigates the development of a single-service environmental doctrine in the years between1999-2013. In a nutshell, the thesis is an analytical history aimed at the exploration of changes and forces driving the process of doctrine writing. In this regard, both internal and external factors are studied. These factors include operational experience, domestic politics, the roles of academics and doctrine writers. While the focus of this thesis is RAF air power doctrine, the central process is jointery. Consequently, doctrinal development is studied within the stages of the institutionalisation of jointery.

The Relevance of the Topic

The last two decades in the history of British air power and air power in general were characterised by contradictory tendencies. The first post-Cold War decade was distinguished by the return of faith in air power capability mainly due to the technological advancement conditioned by success in the Gulf War. This resulted in the over-reliance on air power as a response to all possible challenges. Subsequently, the conflicts of the second post-Cold War decade were characterised by the necessity of more profound synchronisation of cooperation between the three services. In this context, air power was often criticised for being in the wrong place or under the wrong command. This resulted in the statement that the last decade was distinguished by the decline of air power.[1]

However, recent operations also demonstrated that air power plays a crucial role in contemporary warfare. The deployment of the British Armed Forces in any type of conflict is hard to imagine without the involvement of air and space environments. As a result, air and space powers can play various roles. They range from the active use of manned aircraft, unmanned air vehicles (UAVs) and satellites in surveillance, reconnaissance, intelligence, firepower and protection of the land forces to the supportive roles of transport and communications. Since air power exists on the edge of all four environments, it is, inevitably, joint in its nature.

In air campaigns, air power has demonstrated its relevance as means of political presence without the heavy deployment of the land forces and protracted involvement. In this context, air power has provided decision and policy-makers with an extra option of conducting policy without 'boots on the ground' and subsequent enormous budgetary expenses.

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[1] Tony Mason, interview with the author, Cheltenham, 19 June 2013.

Taking into account all of the above mentioned aspects of the recent tendencies in air power roles in the contemporary strategic environment, the crucial question of how they have changed since the Cold War remains unanswered. The lack of an exact answer to this question has created a gap in understanding of what British air power actually is in comparison to what it was capable of and promised to do before. Not being able to understand how the RAF has changed its perception of air power due to the experience of recent operations and technological advancement may simply leave the service in a disadvantageous position. Reliance on secondary sources alone might leave the driving forces of air power change over the last few decades somewhat hidden. The understanding of the RAF's change and perception of its roles can be achieved through the analysis of its official guide − environmental doctrine.

The importance of RAF environmental doctrine is in the fact that it explains what the service thinks about itself at a certain moment of time. The doctrine embodies what the service believes it is capable of achieving with the existing capabilities and posed threats. The exploration of the forces driving doctrine provides a unique opportunity to examine the introduction of certain concepts and their subsequent implementation against alternatives. The analysis of driving forces also provides a researcher with an understanding of the interconnection between international context, national strategy, policy, new technologies, budgetary restraints and the contents of doctrine. Analysing doctrinal documents in chronological order provides an opportunity to explore how the service and its subsequent role in the national defence have changed and according to which causal factors. It also may suggest the outcomes towards which the service is moving. Overall, the main importance of the thesis is in the necessity of understanding which roles the RAF can deliver, how and why. Thus, the roles of British air power in future allied operations can be realised. Moreover, the exploration of British air power through doctrine provides a key to understanding the changes in Allied air power.

Framing the Research Question

Environmental doctrine exists on the edge of the public and military fields. It is not entirely for public use, yet it is not classified and can tell the story of a service better than its official history, mainly because it is a key to understanding of the inside story of the service. The aim of this research is not to read and explain what was written in the

doctrinal documents of the chosen timeframe but to explore the historical and situational motivations of these changes. In other words, **the research question of this thesis** is *How and Why did British air power doctrine develop in 1999-2013*? In this regard, the thesis is intended to explore the story behind the official doctrinal documents. In terms of the '*how*' question, this thesis explains changes in each studied edition, the features of the process of doctrine writing, its stages, involved members, duties and responsibilities, who initiated the process, who was responsible for drafts and had the veto right, when the doctrine was considered to be outdated and revised and the time of the preparation of drafts. The '*why*' question is answered through the examination of the forces driving the writing of doctrine. In other words, the aim is to understand which factors affected the decision to rewrite doctrine, the specifics of its contents and the purposes behind these decisions.

The main rationale for writing this thesis is that it can cover the gaps in the field of doctrinal studies. The **originality** of the thesis is in the following considerations. *First of all*, there is no systematic research on the development of RAF doctrine in the last two decades. Therefore, it is the timeframe which is original. The two previous analytical works written by the previous Directors of Defence Studies for the RAF covered the time frame from the establishment of the service until the 1980's. Accordingly, Air Vice Marshal Andrew Vallance devoted his MPhil thesis to *The Evolution of Air Power Doctrine Within the RAF 1957-1987*.[2] Air Commodore Neville Parton concentrated on the earlier years of RAF doctrine development in his PhD thesis *The Evolution and Impact of Royal Air Force Doctrine, 1919-1939*.[3] Irrespective of slightly different emphases in these works, they both paid attention to doctrinal development. The main purpose of their work was to write an analytical history. This thesis is the continuation of their research trend − analysing doctrine in its chronological development over the chosen period of time, although with a slightly different emphasis.

Secondly, in the realm of contemporary doctrinal studies, the very topic of RAF doctrine is quite undeveloped. This will be demonstrated in detail in the section outlining the literature review. Over the last two decades, scholars have paid attention to

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[2] Andrew Vallance, "The Evolution of Air Power Doctrine within the RAF 1957 - 1987" (MPhil thesis, the University of Cambridge, 1988).
[3] Neville Parton, "The Evolution and Impact of Royal Air Force Doctrine, 1919-1939" (PhD thesis, the University of Cambridge, 2009).

the theoretical and conceptual aspects of the doctrinal phenomenon. Recently, the shift moved towards Army-oriented doctrines related to recent operations, meaning Peace-Support Operations (PSO) and Counterinsurgency (COIN) doctrines. Accordingly, the topic of RAF doctrine was mentioned in a couple of articles but no systematic analysis of doctrine development or the inside story of the process of doctrine writing was conducted. Thus, this thesis can contribute to the stimulation of further research in this field.

Thirdly, the methodological structure is based on Oliver Daddow's historiographic approach, which was already used in the research of Alexander Alderson.[4] In the case of this research, the same categories were used as certain guidance on how to study doctrine. However, Daddow's approach is not used unquestioningly, mainly because he provides only general advice and not exact formulas of the correlation between influential factors and the procedures of their study. His approach is used as a starting point for the development of methodology. Further detailing of exact factors, their implementation and investigation in doctrinal texts are crystallised for this thesis.

Sub-questions

The chosen research question consists of two parts − how and why, both aiming at the inquiry of the process of doctrine development. On the other hand, in order to trace the path of the research and its structure, the following sub-questions are posed.

1. *What are doctrine and its place in military practice?* Consequently, the definition of 'doctrine'; the purpose of doctrine, the target audience; its correlation with policy and strategy; the influence of technology and the problems of doctrine are outlined.

2. *What was the strategic culture outside and within the service regarding doctrine per se and how did it influence doctrine?* The strategic culture is explored through the history of the RAF and the role of doctrine in its establishment as a single service. In this regard, the change of doctrine's functionality from 1918 till 1967; the attitude to the doctrine among RAF personnel through its history; the reasons for the absence of a single-service doctrine for over 30 years during the Cold War and the reasons for doctrine revival in the post-Cold War era are addressed.

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[4] Alexander Alderson, "The Validity of British Army Counterinsurgency Doctrine after the War in Iraq 2003-2009". (PhD thesis, the Cranfield University, 2009).

3. ***In terms of external context, what was the impact of operational experience of previous and ongoing campaigns on doctrine?*** The RAF's performance in recent operations is assessed through the lessons learned and their subsequent influence on the writing of doctrine and its reflection in doctrinal texts. Subsequently, the change of conventional adversaries; new concepts of warfare; the application of new technologies; new experiences of inter-service cooperation; the dominance of some roles of air power over the others and the shift of air power's functionality are explored.

4. ***In terms of domestic politics, which internal factors outside the RAF affected doctrine?*** In this regard, attention is paid to several factors: the priorities of defence policy shaped by the ruling government, budgetary cuts, the implications of Defence Reviews and the stages of the institutionalisation of jointery in the Armed Forces.

5. ***In terms of exact participants and inspirers of droctrine writing, what was the contribution of academics, external experts and doctrine writers in the process of doctrine preparation?*** The role of academics is evaluated in terms of their direct involvement in the discussion of ideas and concepts during doctrine workshops and the degree of their influence on the final texts. The indirect impact of academics is traced through their writing on the topics relevant to the doctrine and the exchange of ideas at academic and professional conferences. The role of doctrinal writers is particularly multi-layered. In this regard, the impact of writers' background on the content of doctrine, the degree of decision-making on what goes into a draft and what is left out and the external considerations which affected writers' judgement are explored.

6. ***What was the impact of other authors, academics and experts from abroad on the doctrine preparation process?*** In this regard, the extent to which national doctrine can be influenced from abroad, referring mainly to US and Commonwealth discourses is of the main interest. The exchange of concepts and ideas on an inter-personal or institutionalised basis is another aspect that could affect the doctrine's final content.

7. ***What are the tendencies in doctrine development over the studied period of time?*** In this context, studied cases are compared in terms of similarities in the predominance of influential factors in their preparation; differences in content, the form and purposefulness of studied doctrines.

8. ***How do specifics of doctrine development correlate with the process of the institutionalisation of jointery?*** In this regard, changes in the process of doctrine writing and the dominance of some factors over others are viewed through the lens of the development of jointery. Accordingly, the impact of stages of jointery, the shift from the single service to joint ownership of environmental doctrine; the place of doctrine in a new 5-year doctrinal cycle and the intensification of cooperation with NATO are analysed.

Literature Review

A History of the research question

James Neil Pugh's 2012 PhD thesis placed the emphasis on the theoretical-conceptual origins of the control of air in terms of divided British Military and Naval aviation of 1911-1918. It also provided a background story to how the first doctrinal manual was created and which concepts were predominant. Although the research concentrated mainly on concepts and doctrine was viewed as one of *'various facets affecting the conceptual origins of the control of the air,'*[5] in terms of the history of the studied question, it still provided some insights into the beginning of the process of doctrine writing within the RAF.

The next stage of doctrine development was covered in the research of Air Commodore Neville Parton, who concentrated on air power doctrine and its development in the interwar period.[6] Parton explained the influential factors in the preparation of doctrine, which affected its final form and classified status.[7] These factors included the dominance of concepts of strategic bombing and air offensive, the inter-service rivalry and the desire of the RAF to preserve its independent status under the conditions of constant budgetary restraints.[8] He also examined both strategic and tactical doctrines. Parton conducted a comparative analysis of RAF Operations Manual 1922 with the 1st and 2nd editions of the War Manual of the RAF.

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[5]James Neil Pugh, "The conceptual origins of the control of air: British military and naval aviation, 1911-1918". (PhD thesis, the University of Birmingham, 2013), abstract.

[6] Neville Parton, "The Evolution and Impact of Royal Air Force Doctrine, 1919-1939". (PhD thesis, the University of Cambridge, 2009).

[7] Ibid..

[8] Neville Parton, "The Development of Early RAF Doctrine," *The Journal of Military History*, vol. 72, no. 4 (October 2008): 1155-1178.

John Buckley also explored air power doctrine in the interwar period.[9] Although like Neville Parton he looked into theoretical and conceptual changes in air power doctrines of the time and examined inter-service pressure on doctrinal development,[10] he placed emphasis on the subject from the perspective of maritime air power rather than the RAF. He also analysed RAF performance in World War II, paying particular attention to RAF Coastal Command and Trade Defence.[11] Although John Buckley examined the development of RAF doctrine in the interwar period, doctrine *per se* was not the subject of his research, but it served as a tool for exploring air power performance in the chosen time.

Further chronological research was conducted by Andrew Vallance covering the period 1957-1987.[12] The main emphasis of his work is described thus: *'While seeking to identify the principal elements of the Royal Air Force's air power doctrine in the past - and the factors that have shaped it - this study is aimed very much at the service's doctrinal development in the future.'*[13] In this regard, attention was paid to the reasons of the service's existence without a conceptual framework of its actions, its diverse functionality and the potential ways of its shaping against growing inter-service and international integrations.

In an article published the same year in *Air Clues*, Andrew Vallance explained the results of his research, discussion between senior officers and the practical necessity of the doctrine for the RAF.[14] He traced the history of doctrine development and functionality, and come to a conclusion that *'in comparison with USAF's well organised 'Big Business' approach to doctrinal development, that of RAF's was more akin to a cottage industry.'*[15] Andrew Vallance continued his professional activity encouraging strategic thinking on air power and potential doctrinal publications. The next step was a collection of essays on the air power, which was an attempt to systematise the existing concepts and create a certain non-official framework of air power use.[16] In a book, *The*

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[9] John Buckley, *Air Power in the Age of Total War* (London: Routledge, 1999).
[10] Ibid..
[11] John Buckley, The RAF and Trade Defence 1919-1945: Constant Endeavour (Stoke-on-Trent: Keele University Press, 1995).
[12] Andrew Vallance, "The Evolution of Air Power Doctrine within the RAF 1957 - 1987". (MPhil thesis, the University of Cambridge, 1988).
[13] Ibid., 5.
[14] Andrew Vallance, "Air Power Doctrine," *Air Clues*, vol. 42, no 5 (May 1988):163-169.
[15] Ibid., 167.
[16] Andrew Vallance, ed., *Air Power-Collected Essays in Doctrine* (London: HMSO, 1990).

Air Power Weapon, [17] he concentrated on the implications of new technological advancement for the role of air power in the post-Cold War and post- Gulf War strategic environments.

The contemporary period of RAF doctrine development was covered in an article by Chris Finn. In his earlier works, he concentrated on operational lessons which could be adopted in the new practice, [18] potential doctrinal implications of new operations and technological changes.[19] Later, he traced the development of air power doctrine from 1977 to 2009, when the 4th edition of AP 3000 was about to be published.[20] Hence, Finn's account did not include an analysis of the last publication of air power doctrine JDP 0-30. The main argument he poses is that irrespective of temporal changes, the intellectual tendencies in air power thinking remain the same. He is quite critical about doctrinal functionality and the impact of diverse operational experience on the application of doctrine. He also explains certain unknown forces behind the writing of the 4th edition of AP 3000. The relevance of this article for the studied field is that it provides a roadmap to the evaluation of the processes of doctrine writing of the two studied editions of air power doctrine. However, this article does not cover entirely the timeframe of this thesis and does not concentrate on the systematic approach to the process of doctrine writing.

Intersecting fields

Except for the above mentioned works directly related to the studied research question, there are fields of literature on the studied period that intersect with the studied topic. In this regard, the literature can be divided into two groups. The first group concentrates on the general topic of British air power and the RAF. The second group is devoted to the exploration of the British military doctrine in general.

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[17] Andrew Vallance, *The Air Weapon* (London: Macmillan, 1996).

[18] Chris Finn, "Air Aspects of Operation Iraqi Freedom," *Air Power Review*, vol. 6, no 4, (Spring 2003):1-23; "Air Power in Afghanistan," *Air Power Review*, vol. 5, no 4, (Winter 2002):1-16; "The Broader Implications of the Increasing Use of Precision Weapons," *Air Power Review*, vol. 4, no. 1, (Spring 2001):35-59.

[19] Chris Finn, *Network Centric Warfare - Doctrinal Issues*, Network Centric Warfare and the Future of Air Power, Canberra 2004, Wing Commander Keith Brent RAAF (Ed); *Air Power Post Operation Iraqi Freedom: the Doctrinal Implications*. Unpublished paper for the RAF 2004 Air Power Conference.

[20] Chris Finn, "British Thinking on Air Power – The Evolution of AP3000," *Air Power Review*, vol. 12, no 1, (Spring,2009):56-68.

British air power and the RAF

The field of air power studies is characterised by a very small number of specialists. Military specialists of air power often work on its practical aspect and disseminate their findings through conferences and workshops, while academics publish a few articles and books on the topic. However, they mostly concentrate on a theoretical aspect of research. Therefore, when there is an opportunity to bring together both military practitioners and academics, it results in a systematic evaluation of the studied topic and its dissemination to a wider audience. Thus, the new ideas and concepts that are presented only at the conferences and workshops to academics and practitioners become available to the public. Often, such symbiosis is achieved in the form of monographs and collections of essays on a target topic. This explanation is aimed to demonstrate the importance of monographs in the field of air power studies and their scarcity.

Stuart Peach, as an author of the AP 3000, 3rd edition, edited a couple of books on the new capabilities of air power conditioned by technological changes and how they fit into the post-Kosovo realities.[21] Although the ideas embodied in these works reflected the concepts of the written doctrine, doctrinal issues *per se* were not discussed in these books.

Peter Gray has also edited collections of essays on air power − *Air Power 21*[22] and *British Air Power.*[23] The main emphasis of both collections was on the transition of air power from the experience of the Cold War towards the new realities of the 21st century. Such topics as asymmetric warfare, counterinsurgency, the new technologies of UAVs and the politico-strategic implication of the improved precision were included. The first monograph concentrated on the lessons of Kosovo and allied operations, while the second paid attention to Afghanistan and the War on Terror.

The series of books edited by Andreas Olsen concentrated on air power on the global scale but included several chapters on British air power. In a book *A History of Air Warfare,* attention is paid to the evaluation of the performance of air power in major operations through the history of the existence of the RAF[24]. In terms of British air

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[21]Stuart Peach, ed., *Perspectives on Air Power* (London: HMSO, 1998); Stuart Peach & David Gates, eds., Air Power for the New Millennium (Lancaster: CDISS, 1999).

[22] Peter Gray, ed., *Air power 21: Challenges for the New Century* (London: HMSO, 2000).

[23] Peter Gray, ed., *British Air Power* (London: HMSO, 2003).

[24] Andreas Olsen, ed., *A History of Air Warfare* (Washington: Potomac Books, 2009).

power of the period relevant to this thesis, Robert Owen analysed the correlation between the decision-making apparatus and air power efficiency in Operation Deliberate Force. The British contribution to the recent campaigns in Operation Allied Force, Enduring Freedom and Iraqi Freedom were analysed by Tony Mason, Benjamin S. Lambeth and Williamson Murray. The potential of air and space powers' use in effects-based operations and the place of both in contemporary warfare were explained in the article by Richard P. Hallion.[25]

Andreas Olsen's book *Global Air Power* included a chapter by Tony Mason. He followed the history of the RAF, and explained the complexity of its independence as a single service under the constant threat of being absorbed by two other services.[26] In terms of the studied timeframe, the chapter provides analysis of the RAF's performance in the last operations under substantial budgetary cuts. In this regard, it was emphasised that *'sometimes air power could achieve the desired political or strategic effects on its own, but its primarily focus was joint service operations.'*[27]

While the previous works concentrated on air power development and its incorporation into the changing strategic environment, other academics devoted their works to the exploration of air power's role in particular operations. David F. Haines argues that the contemporary counterinsurgency operations require a more profound COIN education, which should be based on a better analysis of the previous experience of COIN use of air power in Malaya and Aden.[28]

Benjamin Lambeth, an American specialist in air power, devoted his books to various operations and their results for air power. He analysed the political and strategic implications of air power use and frictions in air war in Kosovo,[29] the role of air power in the War on Terror[30] and other aspects of the development of air power.[31] The general

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[25] Richard, P. Hallion, "Air and Space Power: Climbing and Accelerating". In *A History of Air Warfare,* ed. Andreas Olsen (Washington: Potomac Books, 2009), 379-380.

[26] Andreas Olsen, ed., *Global Air Power* (Washington: Potomac Books, 2011).

[27] Tony Mason, "British Air Power". In *Global Air Power*, ed. Andreas Olsen (Washington: Potomac Books, 2011), 62.

[28] David F. Haines, *British Airpower and Counterinsurgency: Learning from the Past, Fighting Today and Preparing for Tomorrow* (Biblioscholar: 2012).

[29] Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment (Project Air Force Series on Operation Allied Force)* (Washington: RAND, 2001).

[30] Benjamin S. Lambeth, *Air Power Against Terror: America's Conduct of Operation Enduring Freedom* (Washington: RAND, 2005).

[31] Benjamin S. Lambeth, *The Transformation of American Air Power* (New York: Cornell University Press, 2000); *Mastering the Ultimate High Ground: Next Steps in the Military Uses of Space* (Washington: RAND, 2003); *American Carrier Air Power at the Dawn of a New*

relevance of his works to the studied topic is in the creation of background knowledge for the understanding of global tendencies in the roles of air power. He also makes reference to the RAF performance in the recent operations. On the other hand, his last book[32] is of particular significance, because he devotes an entire chapter to the Allied Contribution to Iraqi Freedom, where he compares the RAF and RAAF performance. Moreover, he addresses the issue of doctrine in terms of the harmonisation of Allied cooperation at the operational and tactical levels.[33]

Tim Ripley analysed allied performance in each stage of the air war in Iraq[34] and traced the evolution of US and NATO operations after Afghanistan.[35] His most recent book[36] pays particular attention to British Army aviation in operations from Kosovo to Libya. In this regard, the author looks into the technological equipment of the Army Air Corps and Royal Artillery. Thus, he concentrates on the British Army aviation rather than the RAF. On the other hand, Dave Sloggett analyses the stages of RAF actions in Libya,[37] with the provision of political and financial contexts to specific decisions. He also derives operational lessons for the domestic SDSR discourse and prognosis of future operations. On the other hand, Anthony Loveless had a different perspective on the reflecting of the RAF experience in a particular operation. He collected interviews with the RAF personnel serving in Afghanistan.[38] Unlike the aforementioned literature, this work addressed his personal perception of the operation and the day-to-day challenges of its accomplishment.

The relationship of Colin Gray's research to the studied subject is dual. First of all, Colin Gray wrote about doctrine from a theoretical perspective, as one of the

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Century (Washington: RAND, 2005); *Combat Pair: the Evolution of Air Force-Navy Integration in Strike Warfare (Project Air Force)* (Washington: RAND, 2007); *Air Operations in Israel's War Against Hezbollah: Learning from Lebanon and Getting it Right in Gaza* (Washington: RAND, 2011).

[32] Benjamin S. Lambeth, *The Unseen War: Allied Air Power and the Takedown of Saddam Hussein* (Annapolis: Naval Institute Press, 2013).

[33] Ibid..

[34] Tim Ripley, *Air War Iraq* (Barnsley: Pen and Sword, 2004).

[35] Tim Ripley, *Air War Afghanistan: US and NATO Air Operations from 2001* (Barnsley: Pen and Sward, 2011).

[36] Tim Ripley, *British Army Aviation in Action: Kosovo to Libya* (Barnsley: Pen and Sword, 2011).

[37] Dave Sloggett, *The RAF's Air War in Libya: New Conflicts in the Era of Austerity* (Barnsley: Pen and Sword, 2012).

[38] Anthony Loveless, *Blue Sky Warriors: The RAF in Afghanistan in their own words* (Sparkford: Haynes Publishing, 2011).

dimensions of strategy.[39] He also explored doctrinal functionality as an institutional means of creating commonality in thinking and the synchronisation of actions.[40] Secondly, in his book *Air Power for Strategic Effect*, Colin Gray concentrated on the historical and contemporary re-evaluation of air power in a strategic context.[41] In this regard, attention was paid to air power *per se,* and not just the RAF or the USAF. Since the target of the book was to link operational experience to the strategic re-evaluation of air power for the contemporary strategic understanding and its effective use, it did not look into doctrinal issues. However, the book is an immense resource for the historical development of air power examined from the point of view of strategic thinking.

From the literature analysed above, it can be concluded that the air power was analysed mainly in terms of new operational experiences and requirements of a strategic environment. In this regard, British air power is less emphasised than American. On the other hand, the analysis of allied operations can be applied to both Air Forces, taking into account obvious differences in size, the division of roles and the achievement of objectives. In terms of doctrine, the general air power discourse pays little attention to it since the main approach to air power research is aimed at analysis of outcomes of its use instead of means like doctrine. Therefore, with the exception of a few works, the general air power literature does not pay sufficient attention to doctrine.

The field of British military doctrine

After the end of the Cold War, doctrine writers that had no previous experience of systematic doctrine writing had to face several challenges.[42] First of all, it was essential to come to a common understanding of what was meant by the term "*doctrine*" and its role in the national strategic culture. Secondly, the place of doctrine in the timeline of events required an emphasis. Although the first post-Cold War decade was meant to address these issues and provide a precise conclusion, the transitional nature of the period and the unstable role of doctrine resulted in a diversity of inquiries on doctrinal matters. Since the field of doctrinal studies is still evolving, most of the literature analysed below consists of academic and professional articles on the subject. It can be divided into several groups: historical, conceptual and services' perspectives.

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[39] Colin S. Gray, *Modern Strategy* (Oxford: University of Oxford Press, 1999).

[40] Colin S. Gray, *The Strategy Bridge: Theory for Practice* (Oxford: University of Oxford Press, 2010).

[41] Colin S. Gray, *Air Power for Strategic Effect* (Maxwell: Air University Press, 2012).

[42] This was particularly the case of Charles Dobbie's and Philip Wilkinson's work on *Wider Peacekeeping*.

In terms of the historical approach, academics paid attention both to the exploration of the historical development of doctrine and the meaning of historical experience in doctrine. The first aspect was reflected in Oliver Daddow's historiographic toolkit. He argued that doctrine is a historical document reflecting the combination of four diverse factors influencing its preparation: international context, domestic politics, networks and writers.[43] The history in terms of the development of military skills was presented by Charles Grant, Eliot A. Cohen and Douglas Porch. Grant argued that the lessons of history are crucial for the understanding of what can be achieved.[44] Eliot Cohen argued for the necessity of 'a historical mind', suggesting that an individual was supposed not to rely heavily on the meaning of lessons learned but to *'appreciate the variability of people and places, conditions and problems.'*[45] Douglas Porch emphasised the role of history in debates of the connection between strategy and policy-making, with reference to the example of the Global War on Terror (GWOT)[46].

In terms of the conceptual approach, articles can be divided into the following categories of inquiry: the nature of doctrine and its meaning; the influence of doctrine on the military environment and doctrinal development. An article by Andrew Methven is an example of the first category, examining the nature of doctrine, purposes, factors influencing the evolution of doctrine and its problems.[47] One of the focal points of the article is the continuation of the discourse introduced in I.B. Holly's 1989 article. Holly emphasised that doctrine was about fighting wars today, while concepts were about fighting wars tomorrow.[48]

The best example of the doctrinal debate is represented in an article by Colin McInnes[49] and the following response by Neville Parton.[50] McInnes is sceptical about

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[43] Oliver J. Daddow.'Facing the Future: History in the Writing of British Military Doctrine', *Defence Studies*, vol. 2, no 1 (Spring 2002), 163.
[44] Charles Grant, "The Use of History in the Development of Contemporary Doctrine," in *The Origins of Contemporary Doctrine*, ed. J. Gooch, The occasional No.30 (Camberley: TSO for the Strategic and Combat Studies Institute, 1997): 7-17.
[45] Eliot A. Cohen "The Historical Mind and Military Strategy", 575.
[46] Douglas Porch "Writing History in the "End of History" Era – Reflections on Historians and the GWOT," *The Journal of Military History*, vol. 70, no 4 (October 2006):1065-1079.
[47] Andrew Methven, "It Is Not High Time The Doctrine Industry Published Its Doctrine On The Limits Of The Utility Of Written Doctrine" *Defence Studies*, vol. 3, no 3 (Autumn 2003):133.
[48] I.B. Holly, "Concepts, Doctrines and Principles – Are you sure you understand these terms?" *Air University Review* (Jul/Aug, 1984): 90-93.
[49] Colin McInnes, "The British Army's New Way in Warfare: A doctrinal Misstep?" *Defense& Security Analysis*, vol. 23, no 2 (June 2007):127-141.

the very functionality and productivity of doctrine, suggesting that its retrospective nature does not prepare personnel for future wars. Parton justifies doctrine, considering it productive in the delivery of best practice as a formal teaching. Thus, it trains personnel for future wars.

In his works on strategy, Colin Gray pays attention to military doctrine as a tool of the military institution's unification of personnel and the development of common principles. It might be both useful and harmful in terms of creativity and adaptability to changing circumstances. In this regard, he starts from the perception of doctrine as a dogma and a rather counter-productive phenomenon in terms of strategy.[51]

One of the most systematic researches on British doctrine was conducted by Markus Mäder. The main emphasis of his PhD thesis and the following book was placed on the study of reasons for doctrine writing after 1989. In this context, he explored *'change of attitude towards doctrine, which events and perceptions, which debates and schools of thought drove the evolution of Britain's military-strategic doctrine.'*[52] Consequently, doctrine was studied in the framework of strategic, political and societal changes, in the time frame of 1989 - 2001. The distinctive feature of the book is that it did not study doctrine as an abstract subject but paid attention to its conceptual development and subsequent textual embodiment.

The empirical perspective on the topic includes an article based on an interview with Major General Tony Milton, the first Director General Joint Doctrine and Concepts, who suggested that doctrine was about using historical experience in training people fighting current wars, while concepts were hypotheses on fighting wars of tomorrow. He stated that the development of joint publications did not aim at the crucial modification of single-service doctrines but at the harmonisation of tri-service cooperation under the conditions of different environments.[53] Julian Lidley-French analysed doctrine in the framework of the political struggle between France and the UK for the leadership in Europe. However, this time doctrine was addressed in the aftermath

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[50] Neville Parton, "In defence of Doctrine... But Not Dogma" *Defense& Security Analysis*, vol. 24, no 1 (March 2008):81-89.

[51] Colin S. Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999).

[52] Markus Mäder, *In Pursuit of Conceptual Excellence. The Evolution of British Military-Strategic Doctrine in the Post-Cold War Era, 1989-2002.* (New York: Peter Lang Publishing 2004), 23.

[53] Tony Milton, "My Job: Director general Joint Doctrine and Concepts" *The RUSI Journal*, vol.145, no 2 (April 2000):15-19.

of 9/11 and in terms of the European Common Defence and Security Policy.[54] J.J.Widen devoted his research to tracing a connection between Corbett's ideas and their actual implementation in the text of the British Maritime Doctrine.[55]

In terms of the verification of doctrine efficiency, an article by Claudia Harvey and Mark Wilkinson is of a particular interest. It assessed the value of doctrine for British officers in the case study of Afghanistan.[56] An entirely different perspective of doctrinal research was presented by Alexander Alderson. In his article, Alderson aimed at showing a connection between the successful development of a single-service, Army doctrine and the structure of the Army.[57]

The perspectives of the services

The relevance of the Navy and the Army works on doctrine for this thesis is due to the following considerations. First of all, the tendencies in doctrine development within the other two services reflect the general doctrinal environment within the British Armed Forces of the time. Realisation of doctrinal tendencies and the general attitude to doctrine within other two services provides a systematic understanding of how jointery was further implemented both in terms of doctrinal and operational aspects. Secondly, even before the advancement of jointery, the three services had to cooperate in the actual warfighting environment, reflecting certain lessons learned regarding such cooperation in doctrinal documents. Thus, looking into the analysis of doctrines by the other two services provides this thesis with a more systematic overview of the operational performance of the British Armed Forces, tendencies in perceptions of doctrine within each service and a subsequent correlation between the three services in the doctrine writing of each service. In other words, it should be understood that just as the doctrines of the three services are related, so is their analysis in professional and academic literature.

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[54] Julian Lidley-French, "Fighting Europe's wars the British way: The European politics of British defence doctrine, "*The RUSI Journal,* vol.147, no 2 (April 2002): 74-76.
[55] J.J. Widen, "Julian Corbett and the Current British Maritime Doctrine," *Comparative Strategy*, vol. 28, no 2 (April-June 2009): 170-185.
[56] Claudia Harvey & Mark Wilkinson, "The Value of Doctrine," *The RUSI Journal*, vol. 154, no 6 (December 2009): 26-31.
[57] Alexander Alderson, "The Army Brain: a historical perspective on doctrine, development and the challenges of future conflict," *The RUSI Journal*, vol. 155, no 3 (June 2010): 10-15.

The Royal Navy

The main source of professional discourse in the Royal Navy is *The Naval Review.* [58] Irrespective of the relevance of this journal for an understanding of professionals' critical thought on the doctrinal subject, it was limited by the time frame of 1990−2003. The first article of 1995 was written by Simon Hollington, who concentrated on the explanation of what doctrine itself was and its meaning under the conditions of the changing Post-Cold War military environment. [59] James J. Tritten followed the general explanatory pattern of Hollington but placed emphasis on the historical dimension of doctrinal development and the lessons relevant for today. The main lessons to consider include: irrespective of the joint approach, each service should keep its own way of task performance; the development of different doctrines for various circumstances and the levels of warfare; attention to the role of individual commanders and the involvement of non-military participants in reviewing stage. [60] In the next article, Alston addressed jointery not in a general conceptual way but rather from a practical and functional perspective. He argued that the involvement of professionals from various services would contribute to the economy of limited manpower and development of flexibility of the future change of specialisation. [61] In the last available article, the author GoCo addressed doctrinal functionality in the environment of scarce financing of national defence. [62]

The RAF perspective

In the case of the Royal Air Force too, the availability of resources on doctrine was constrained by time. The only difference is that, while more data on the Navy was available for the first post-Cold War decade, the Royal Air Force "*Air Power Review"* covered the second post-Cold War decade.

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[58] The Naval Review originated as a quarterly journal for a Naval Society formed in 1912, which served for "correspondence on professional matters." Today, it remains a forum for discussion of the recent professional matters by serving staff of the Royal Navy and Royal Marines. The main feature of the journal is that publications of articles and memos do not require preliminary approval from MOD. Due to this, The Naval Review is a valuable source of professional opinions on the contemporary subjects, which might be different from an official position of MOD (http://www.naval-review.org).

[59] Simon Hollington, "The Royal Navy Needs Doctrine," *The Naval Review*, vol. 83, no 1 (January 1995):12-16.

[60] James J. Tritten, "Navy Doctrine: Lessons for Today," *The Naval Review*, vol. 84, no 1, (January 1996): 18.

[61] Ibid., 227.

[62] GoCo, "A New Doctrine For A New Century," *The Naval Review*, vol. 88, no 1, (January 2000): 23-26.

The first article, of 2000, was written by Professor Richard Overy. He analysed the dogmatic context of doctrine through its historical nature. Although he did not suggest that doctrine was useless, he argued that '*doctrine tends to solidify like a slowly moving lava flow.*'[63] Overy's historical analysis of doctrine showed that the development and application of doctrine are influenced by five factors: wider politics, technological changes, lessons of experience, the requirement that doctrine be modified and reviewed when a need arises and the '*eccentricity factor.*'[64]

The most remarkable researcher in the field of air power doctrine is Group Captain (Retired) Peter W. Gray. In the first article, he aimed at stimulating debate on how the future aerospace doctrine of 2010 might look. In this regard, he concluded that although government might decide not to finance and develop certain technologies, future doctrine would be characterised by joint inter-service and allied operations.[65] In his other article, Peter Gray suggested that '*we cannot expect to be able to apply doctrine to every military situation with the precision and utility of a Delia Smith recipe. But it should always be there as a guide to our actions.*'[66]

In the third article, Peter Gray paid attention to a correlation between air power and joint doctrine from the RAF's point of view. His main conclusion was that, despite of the benefits of relatively easy cooperation of air power doctrine with the other two services; it is incapable of overcoming one crucial obstacle which can only be dealt with on the common/joint level. Irrespective of the contribution which the representatives of the various services bring to the table of common decision-making and operational planning, they also bring the baggage of their own services, '*whether this be differing interpretations of history or unhealthy doses of dogma.*'[67] In this regard, the best way to develop "dogma-free thinking" is the establishment of '*inherently joint and consistent*' training and programmes under the authority of the Joint Services Command and the Staff College.[68] Following the works of Peter W. Gray, the Air Force emphasis in

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[63] Richard Overy, "Doctrine Not Dogma: Lessons from the Past," *Air Power Review*, vol. 3, no 1, (Spring 2000): 33.
[64] Ibid..
[65] Peter W Gray, "Air Power or Aerospace Doctrine 2010?" *Air Power Review*, vol. 3, no 2, (Summer 2000): 7-21.
[66] Peter W Gray, "Air Power in the Modern World", *Air Power Review*, vol. 3, no 3, (Autumn 2000): 11.
[67] Peter W Gray, "Air Power & Joint Doctrine: A RAF Perspective", *Air Power Review*, vol. 3, no 4, (Autumn 2000): 7.
[68] Ibid., 10.

doctrinal study shifted towards specific and conceptual dimensions. While Alister Monkman concentrates on the manoeuvrist approach and coalition warfare,[69] Richard Lock-Pullan pays attention to the concepts of strategic effect and centres of gravity.[70]

Overall, the Royal Air Force writing on the matter of doctrine can be characterised as evaluative rather than developmental as is the case with the Royal Navy. In this regard, the relevance of doctrine is not doubted. Attention is paid to the problematic areas of its application, such as a need for a constant revision and modification, differences in the interpretation of doctrine by various services and a subsequent need for a re-evaluation of the conceptual framework of its application. In other words, RAF writers concentrated on the current requirements of the doctrine rather than phenomenological matters of its origin. Therefore, they explored doctrine as a tool which might contribute to the resolution of existing problems in the single-service and joint environments. In regard to this research, the RAF writers' approach can be viewed as an example of critical analysis.

The Army perspective

In terms of the Army perspective it can be argued that, unlike the two other services, the doctrinal aspects of the previous operations were covered in more detail in academic and professional literature. In this regard, the most popular topics referred to two types of doctrines: COIN and PSO.

COIN doctrine was much looked into in the second post-Cold War decade. The attention to it was triggered by the events of Iraq and Afghanistan. According to Christopher Tuck, the historical perspective of analysing the British approach to COIN can give a clear comprehension of the strengths and weaknesses of any counter-insurgency doctrine, including the current one.[71] The problems of theory/practice dichotomy and the case-oriented nature of COIN doctrine were discussed in an article by Thomas Mahnken.[72] The already mentioned Colonel Alexander Alderson devoted various aspects of his research to the relevance of British COIN doctrine to the

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[69]Alister Monkman, "Manoeuvrist Approach and Coalition Warfare", *Air Power Review*, vol. 5, no 2, (Summer 2002): 12-42.

[70] Richard Lock-Pullan, "Redefining 'Strategic Effect' in British Air power Doctrine", *Air Power Review*, vol. 5, no 3, (Autumn 2002): 59-69.

[71] Christopher Tuck, "Northern Ireland and the British Approach to Counter-Insurgency," *Defense & Security Analysis*, vol. 23, no 2 (June 2007):165.

[72] Thomas G. Mahnken, "The British Approach to Counter-Insurgency: An American View," *Defense & Security Analysis*, vol. 23, no 2 (June 2007): 227-232.

requirements of Iraq and Afghanistan and future warfare.[73] The position of Warren Chin is quite similar to Alderson's. He does not consider that British COIN doctrine was initially wrong and failed in Iraq. He argued that the traditional British approach of 80% political means and 20 % military support of counterinsurgency simply did not correspond to the reality of either Afghanistan or Iraq.[74]

Another way to address COIN doctrine in the framework of recent conflicts is through its application in the "Long War on Terror" (WOT) or, as it was often called, the "Global Insurgency". Scholars who consider terrorism an example of the global insurgency include David Kilcullen, Thomas Mockaitis, David Barno and John Mackinlay.[75] On the other hand, Michael Howard, James Kiras and Matthew Kowalski argue that terrorism is an abstract phenomenon and cannot be identified as an insurgency.[76] Bard E. O'Neill[77] discussed the development of insurgency and terrorism in terms of revolutionary warfare. A vivid example of a comparative analysis of the two doctrines is an article by Karsten Friis.[78] On the other hand, he placed the main emphasis upon a comparative analysis of UN peacekeeping "capstone" doctrine and counterinsurgency doctrine of the US Army.

Concerning the PSO doctrine, the main discussion of doctrine modification was taking place before, during and right after the publication of the Wider Peacekeeping (WPK) doctrine in 1994. Charles Dobbie argued that a new doctrine was needed in order to accommodate the Army to the new realities of the post-Cold-War

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[73] Alexander Alderson, "The Validity of British Army Counterinsurgency Doctrine after the War in Iraq 2003-2009". (PhD thesis, the Cranfield University, 2009).
[74] Warren Chin, "British Counter-Insurgency in Afghanistan" *Defense& Security Analysis*, vol. 23, no 2 (June 2007): 212.
[75] For further information see David J. Kilcullen, "Countering Global Insurgency," *Journal Of Strategic Studies*, vol. 28, no 4 (August 2005):181-185; Thomas Mockaitis, *British Counter insurgency in the Post Imperial Era* (Manchester: Manchester University Press 1995); David W. Barno, "Challenges in Fighting a Global Insurgency," *Parameters*, (Summer 2006):15-29; John Mackinlay, "Is UK Doctrine Relevant to Global Insurgency?" *The RUSI Journal*, vol. 152, no 2 (May 2007): 34-39.
[76] For further information see Michael Howard, "A Long War," *Survival*, vol. 48, no 4 (Winter 2006-2007): 7-8; James Kiras, "Terrorism and Globalisation" in *The Globalisation of World Politics: An Introduction to International Relations*, eds., John Baylis and Steve Smith, (Oxford: Oxford University Press, 2007): 479-499; Matthew Kowalski, "Global Insurgency or Global Confrontation? Counter-Insurgency Doctrine and the "Long War" on Terrorism," *Defence & Security Analysis*, vol. 24, no 1 (March 2008): 65-71.
[77] Bard E. O'Neill, *Insurgency and Terrorism: Inside Modern Revolutionary Warfare* (Dulles: Potomac Books, 2001).
[78] Karsten Friis, "Peacekeeping and Counter-insurgency – Two of a Kind," *International Peacekeeping*, vol.17, no 1 (February 2010): 51.

era. This could be achieved by drawing a broad line between the first two categories of peacekeeping operations and the third one, meaning between peacekeeping, wider peacekeeping and peace enforcement.[79] On the other hand, Philip Wilkinson argued that peace enforcement could not be simply equated to war fighting and that a distinction had to be made.[80] Richard Connaughton argued that the first flaw of the doctrine was the vague notion of consent, which could be interpreted in various ways depending on the inter-state or intra-state context.[81] As a protagonist of the WPK, Allan Mallinson suggested that expectations from this interim and tactical level doctrine were pushed to the level of an operational one. He argued that consent at the tactical and operational levels had a different meaning; while, on the field, consent might be lost for various reasons, it should not be dismissed on the operational one.[82]

An article by Rod Thornton outlined the development of a debate and the shift of attention from the need for PSO doctrine and clarification of the status of peace enforcement to the importance of cooperation with NGOs in the framework of complex emergencies.[83] The connection between two types of operations and subsequent doctrines was explored by Philip Wilkinson mentioned previously. This time, he analysed the international dimension with reference to British PSO doctrine and traditional UN peacekeeping methods.[84] Already mentioned, John Mackinlay and Randolph Kent published a couple of articles on the British complex emergencies doctrine, in the context of the changing international and strategic environments.[85] The discourse of Wilkinson, Mackinlay and Kent was further continued by a Danish scholar Peter Viggo Jacobsen, who also referred to the doctrine of grey area operations. However, he emphasised the abstract modification of military doctrines in respect to the

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[79] Charles Dobbie "A Concept for Post-Cold War Peacekeeping," *Survival*, vol. 36, no 3 (Autumn 1994):121-148.

[80] Phillip Wilkinson "Letters," *The Officer,* vol. 10, no 3 (May/June 1998): 3.

[81] Richard Connaughton, 'Quo Vadis?' *The Officer*, vol. 10, no 2 (March/April 1998): 30.

[82] Ibid., 6.

[83] Rod Thornton, "The role of peace support operations doctrine in the British Army," *International Peacekeeping*, vol. 7, no 2 (Summer 2000): 45.

[84] Phillip Wilkinson "Sharpening the Weapons of Peace: The Development of a Common Military Doctrine for Peace Support Operations," *International Peacekeeping* vol. 7, no 1 (Summer 2000): 63-79.

[85] John Mackinlay & Randolph Kent, "Complex emergencies doctrine: the British are still the best" The *RUSI Journal*, vol. 142, no 2 (April 1997): 39.

national specifics of the Western tradition.[86] Another way to view PSO is from the perspective of a single service. In this context, Rob McLaughlin's article on the meaning of the Navy in PSO can be of particular relevance.[87] The most prominent scholar who referred to the recent events is Stuart Griffin of King's College, London. In terms of British PSO doctrine, he stated that the 2004 revision of PSO and the addition of counterinsurgency and counter-terrorism to the common umbrella of PSO might have been counterproductive.[88]

From the analysis of the literature it can be concluded that the research topic exists on the edge between two fields of studies: British air power, in its wider and more specific aspects, and British military doctrine, in its inter-service characteristics. Although there are a lot of materials on various aspects of each field, the volume of literature referring particularly to the studied topic is quite small. In other words, although significant attention was paid to the reflection of operational experience of different services, the driving forces for the development of air power doctrine of the last two decades were not reflected in detail and the material did not cover the most recent time. Such a conclusion again suggests the necessity of this research in order to cover the existing gap in the literature.

Sources

Since the topic of this research is about temporal changes in official documents, the first source to be used for this research is **doctrinal documents**. In this regard, attention is paid not only to the RAF environmental doctrines of 1999 and 2009, but also to all previous RAF doctrines. They are used in order to reflect the historical changes within the service and the transformation of the shape of doctrine. Other doctrinal documents from sister services are used in order to analyse the existing strategic environment and prevailing tendencies in the national strategic culture, with the following explanation of inter-service cooperation in the joint environment. Joint publications are used both in order to explain tendencies in jointery, their subsequent reflection in environmental doctrines and also as a source for factual information on

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[86] Peter Viggo Jakobsen, "The emerging consensus on grey area peace operations doctrine: Will it last and enhance operational effectiveness?" *International Peacekeeping*, vol. 7, no 3 (Autumn 2000): 36-56.

[87] Rob McLaughlin, "Naval Force and the Conduct of Peace Support Operations," *International Peacekeeping*, vol. 9, no 4 (Winter 2002): 114.

[88] Stuart Griffin, "British Peace Support Doctrine and Iraq: Implications for the Future," (paper presented at the annual meeting for the International Studies Association, 2006), 1.

doctrines. For the same reason, allied and American doctrinal documents were used. Other official documents include non-doctrinal publications of DCDC and MOD. They reflect the wider strategic context of each studied time of doctrine writing. In terms of evaluating the internal political environment and the RAF's performance in previous operations, learned lessons and implications on financing, **official ministerial reports** were studied. In this regard, reports, oral and written evidence and uncorrected oral evidence of the House of Commons Defence Committee (HCDC) were of particular relevance.

Despite the large number of official documents and diversity of aspects they could cover in terms of this research, for in-depth research, they are not enough. The main limitation of this type of sources is in their nature. They demonstrate the official position on the studied topic. Although due to the diversity of issuing institutions for these official documents they provide different perspectives on the same subject, they still cannot provide a multifaceted picture. One of the hazards of official documents is that inevitably they will reflect opinions in terms of the existing organisational culture and the official view of a certain organisation. Therefore, official documents have to be studied in their organisational contexts, which often might not provide an entirely exhaustive analysis but rather organisation's perspective on the studied topic. The reliance on official documents alone, especially from a single organisation might result in subjectivity and concentration of the research mainly on theories and perceptions. Thus, official materials require a practical perspective of verification.

In order to overcome these potential disadvanatages of official documents and to bring practical aspects into the picture, **interviews with various stakeholders in the process of doctrine writing** were conducted. However, a focus on doctrine writers alone could also be limiting and subjective. That is why interviewees included academic specialists in the field of air power, who were involved in doctrine discussion groups, doctrine authors, and military personnel who had to incorporate doctrine into training courses and teach it to cadets. The interviews with the key commanders of the recent operations gave more case-sensitive, operational insights into the use of air power and its changing roles in recent warfare. Although interviews are a crucial source of practical information, like official documents used on their own, they could result in subjectivity. On the other hand, the combination of both is conducive to a more objective perspective and also cross-verification of data.

Scope and Methodology

Taking into account the outlined chronological gap, **the choice of timeframe** requires an explanation. Although it would have been rational to start from the time when previous academics finished their research and thus to include the first post-Cold War editions of RAF doctrine, the choice of timeframe was conditioned by a few other considerations. First of all, the chosen timeframe corresponds to the dates when the 3rd edition of RAF air power doctrine[89] and joint UK air and space doctrine[90] were published, meaning 1999 and 2013, respectively. This timeframe also includes the publication of the 4th edition of RAF doctrine in 2009.[91] Within the constraint on the length of the thesis, widening the timeframe to 1991 and including the first two editions of RAF doctrine would inevitably compromise the depth of analysis. In this regard, quantity was overruled by quality considerations. The second and the main reason for choosing three specific doctrines and subsequent timeframe was conditioned by a background process taking place in the Armed Forces from 1998 onwards, meaning the intensification of the three services' cooperation on jointery. In this context, the three chosen doctrines reflect the RAF's response to jointery in various stages of its development. The final stage covered in this research is a joint authorship of environmental doctrine, which was JDP 0-30 in 2013. Therefore, the chosen timeframe provides an opportunity to trace a continuous and profound theme in the RAF's response to the tendencies in the national strategic environment.

There is another important consideration in terms of timeframe. Although the main emphasis of the research is the specified timeframe, the previous decades are not left out. The century-long pre-history of RAF experience with doctrine is explained in a separate chapter, the outline of which will be given further. This chapter will include the first two editions of AP 3000; thus, the historical background will serve as an explanation of certain predominant tendencies within the service and attitudes towards doctrine *per se*. On the other hand, the gap years between 1993, when AP 3000 2nd edition was published, and 1999 are taken into account in terms of the events which had direct or indirect impact on the doctrine preparation process and what eventually

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[89]*British Air Power Doctrine (AP 3000), 3rd edition.* Prepared under the Direction of the Chief of the Air Staff (London: TSO, 1999).
[90]*UK Air and Space Doctrine* (Joint Doctrine Publication 0-30). Prepared under the direction of the Joint Forces Commander and Chiefs of Staff (Shrivenham: DCDC, July 2013).
[91]*British Air and Space Power Doctrine* (AP 3000) 4th Edition. Prepared under the direction of Chief of the Air Staff (Shrivenham: Air Staff/MOD, 2009).

became the 3rd edition of AP 3000. Therefore, the research aims to be inclusive in terms of historical background, which this author considers to be a key to understanding contemporary tendencies in doctrine preparation, teaching and implementation.

The scope of this thesis is exclusively air power doctrine. It is important to emphasise this direction, because the last two editions of studied doctrine also include space power. The omission of space power from the scope of this thesis by no means suggests that space power is of secondary importance in contemporary warfare. The main rationale for its omission is conditioned by its increasing significance. Consequently, it would require a profound research of its own, which was not possible within a single PhD thesis. Therefore, despite the presence of conceptual framework for space power within two editions of the studied doctrine, attention is paid exclusively to air power content.

Daddow's approach

The methodology of this research is heavily based on Oliver Daddow's historiographic approach to doctrine writing, yet not limited to it. He argued that doctrine should be treated as a historical document of its time, which reflects the influences of a wider historical environment, intellectual and political atmospheres and also the contributions of doctrine writers.[92] Daddow explains his approach from bottom to top, starting with authors. In terms of writers, he suggests that the doctrine is shaped in accordance with their overviews, experiences and inspirations. They explain *'the orientation of doctrine.'*[93] Although writers are the final arbiters of what comes into the final draft of the doctrine, *'they have to work in the context of military and political structures that can affect both what they write and how they go about it.'*[94] Daddow outlines three potentially influential elements within networks: academics, editorial boards and review structures. First of all, authors are involved in cooperation with academics, exchanging ideas and considerations about the existing strategic environment and how each service functions in it. The impact of editorial boards and review structures is that they provide unanimity of common values and new trends in doctrines in order to correspond to the overall doctrinal process in the UK.[95]

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[92] Oliver J. Daddow, "British Military Doctrine in the 1980s and 1990s," *Defence Studies*, vol. 3, no 3 (Autumn 2003): 105.
[93] Ibid., 107.
[94] Ibid..
[95] Ibid..

In terms of the third factor, Daddow suggests that *'doctrine cannot be isolated from the domestic political context of its time... [and that it is]* *affected by nature of the domestic political environment within which it was written.'*[96] In this regard, he argues that the major constituent elements of this factor would be the existing strategic culture in the form of the national way in warfare. This would inevitably affect writers and their way of writing; resource allocation, meaning the correlation between public policy and military budgets; and ministerial/official input, what Daddow called the *'Whitehall Game.'*[97]

The final factor is the international context, which influences doctrine in two fundamental ways. First of all, the impact of world events affects doctrine through the previous conflicts in the form of operational experience. The second way in which international context affects doctrine refers more directly to the writers' level, *'and pertains to the transmission of both technology and doctrinal concepts across states borders, especially between the US and Britain.'*[98]

How and why was Daddow's approach modified for this research?

Although Daddow provides a systematic way of exploring doctrine preparation in its historical environment, he does not provide practical suggestions for how to apply his approach. Examining Daddow's approach holistically, this author had to determine which aspects of Daddow's factors could be verified and how. Accordingly, each of his factors had to be specified for the benefit of this research. First of all, the order of factors analysis was changed from inductive to deductive (from common to specific), in order to show how wider factors affected the individual ones. In other words, the exploration of the external and internal environments could explain the atmosphere in which academics, practitioners and writers had to prepare doctrine.

In terms of the external environment, the primary attention is paid to operational experience as the main influence on doctrine. The second way the external environment affects doctrine is analysed in terms of writers' personal connections and subsequent contacts within and across states' borders. In this case, another consideration was that conceptual and technological exchange between American and British practitioners is often classified. Another element of external context, mentioned by Daddow, like current International Relations (IR) events, was omitted due to the practical

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[96]Ibid., 108.
[97]Ibid..
[98]Ibid., 110.

considerations of this research. Since IR events set the geostrategic context for policy and subsequent doctrinal development, they affect doctrine indirectly by means of policy and settings of the geostrategic environment. Therefore, due to the holistic nature of this thesis and the emphasis of this research on the direct stimulus of doctrine preparation, IR events are not analysed in detail as a separate factor, because their effect is indirect and is conducted through the existing national policy and defence objectives as a response to the posed threats conditioned by IR events.

The impact of foreign doctrines was not taken into account mainly because each national doctrine reflects specifics of the national Armed Forces and peculiarities of the strategic culture. Additionally, in the course of research, no institutionalised doctrine consultations, as part of the process of doctrine preparation, were found. The impact of the NATO doctrine is even more complex; it would require a thesis of its own. However, with each stage of the institutionalisation of jointery, it is demonstrated that the role of NATO doctrine becomes more important for the national doctrinal practice. Consequently, since its impact becomes stronger with the new doctrinal cycle, a detailed analysis of the correlation between NATO doctrine and national environmental doctrine would be advised in a more contemporary timeframe rather than the chosen one. This is again conditioned by the development of the national realm of jointery.

In terms of domestic politics, the area is narrowed to the internal factors outside the RAF. In this regard, general policy towards the Armed Forces, governmental evaluation of previous campaigns, budgetary considerations and behind-the-scenes motives of certain decisions are analysed. The reason why the emphasis is placed on the political dimension outside the RAF is mainly because of the lack of information applicable for public disclosure. Although interviews provide a practical insight into the studied area, the fact that this is a military institution should not be forgotten.

While Daddow suggested that a strategic culture has both direct and indirect impacts on writers and therefore on what goes into the final document, he did not suggest any ways of its exploration. In this regard, the exploration of the development of RAF doctrine in the context of RAF history was the answer to this question, and is explained in a separate chapter. In this regard, a comparison of doctrinal texts in terms of the reflection of actual events in the RAF history was conducted. The further aim was to show how and why the doctrine was treated within the service.

In terms of networks, the research has to concentrate on the role of academics in the process of doctrine preparation, mainly because information on review boards and previous drafts of doctrines is not available. Hence, the stages of doctrinal revisions and changes could only be traced through interviews with people involved and from their words rather than physical evidence of drafts on different stages of amendments. On the other hand, the involvement of academics can be traced through interviews with authors and officials involved. Their indirect impact is also traced through the materials published after air power workshops arranged by the Air Power Centre and DDS.

The authors of doctrine are explored in terms of the contribution of their personal background and career directions to doctrine's final appearance. The degree of writers' actual freedom within the institutional framework is of a particular interest. It is explored through personal interviews. Another aspect emphasised in this factor is the authors' personal evaluation of factors which influenced their decision-making and motivations. The main target of Daddow's approach is a single-service doctrine with a potential application to joint doctrines. In terms of this research, the offered factors of influence can be used as tools to explore the shift from single-service to joint authorship of environmental doctrine. Thus, although Daddow developed a conceptual framework of exploring how and why a doctrinal document was written, it is our aim to think how to implement it in practice, in other words, which methods to use to apply this approach.

Methods

Documentary analysis is used for the textual exploration of what was written in doctrine and how it corresponded to its historical context. In this context, the embodiment of some factors of Daddow's approach can be traced through the text. This was conducted both in terms of content analysis and cross-referencing to other official documents. In the first case, the use of certain words showed the emphasis which was placed in this or that doctrine in respect to the particular influence of the studied factor. For instance, the use of joint and international cooperation discourse in the 3rd edition of AP 3000 suggested that changes in internal politics with further introduction of jointery were extremely influential in doctrine preparation and its final purpose.

Tracing the cross-referencing of other official documents and doctrines in the text of the studied doctrine was used in order to find out how the authors viewed the existing strategic, political and doctrinal environments of the time. In other words, it

gave an opportunity to see how a particular doctrine fitted into the existing doctrinal hierarchy and whether that hierarchy was recognised on the first place. In both cases, textual analysis gives an opportunity to see the influence of historical context and its embodiment in doctrinal documents.

Benefits of this method include an opportunity to work with authentic, official documents of a particular time, which are both the subject and supportive tools for its exploration. Documentary analysis provides this research with a wider variety of perspectives[99] on the process of doctrine writing. Concerning the traditional limitations of this method, pertaining to authenticity, credibility, representativeness and meaning,[100] they were taken into consideration. Most of the documents were taken from official resources and archives. Another aspect of this problem is that the timeframe is limited to the last 20 years, and most of the studied documents are online or issued by official institutions. The research does not look into personal diaries or letters of a remote history.[101] The same is the case with credibility and representativeness. The studied documents represent the analytical perspectives of publishing institutions, which are taken into consideration when the meaning of documents and their purposes are analysed.[102]

Elite Interviewing

Since any qualitative research is by nature holistic, process driven and aims at gaining new knowledge through *'an ongoing interplay between theory and method, researcher and researched,'*[103] the choice of interviewing as a research method was inevitable, like that of document analysis. The main rationale for using interviews is that it gives an opportunity to gain in-depth understanding of the studied topic and discover aspects of the topic that were not initially anticipated.[104] In the case of data availability for the process of doctrine preparation, as Daddow outlines in his article,[105] there is very

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[99] Peter Burnham, Karin Gilland Lutz, Wyn Grant and Zig Layton-Henry, *Research Methods in Politics, 2nd edition* (Basingstoke: Palgrave Macmillan, 2008), 208.
[100]Ibid., 209.
[101] Norman Fairclough, *Analysing Discourse: Textual Analysis for Social Research* (London: Routledge, 2003).
[102] Ibid..
[103] Sharlene Nagy Hesse-Biber and Patricia Leavy, *The Practice of Qualitative Research* (London: SAGE, 2006), 5.
[104]Jarol B. Manheim, Richard C.Rich, Lars Willnat, Craig Leonard Brians and James Babb, *Empirical Political Analysis, 7th edition* (Harlow: Pearson Education, 2012), 301.
[105] Oliver J. Daddow,"British Military Doctrine in the 1980s and 1990s," *Defence Studies*, vol. 3, no 3 (Autumn 2003): 103-113.

little in-depth publically accessible information on the subject. In the case of this research, some aspects of doctrine preparation were particularly unclear, such as the interconnection between academics, review boards, authors, people responsible for doctrine preparation; those officials with veto right and final decision-making in the approval of doctrines and cooperation with foreign counterparts. The situation was even more complicated due to the ongoing changes in the process of doctrine preparation in terms of the advancement of jointery. Under the conditions of situational changeability and its discrete nature, interviews with people who were involved in the process and wrote doctrine made an immense contribution to the general pool of data for analysis.

Interviews are elite not only because of the high status of interviewees in the RAF and academia, but also because they are top specialists in the studied subject.[106] Among interviewees, there were people who wrote doctrine, academics and practitioners involved in doctrinal workshops (discussions of what would go into the final draft and what was irrelevant), former and current Directors of Defence Studies for the RAF, retired practitioners who dealt with doctrine or took part in operations which affected doctrine and American counterparts who could be responsible for the exchange of ideas. The main reason for such diversity of interviewees is that their unique experience and different relationship to the process of doctrine preparation meant that they could fill in the gaps in existing knowledge on the topic and provide data for a systematic analysis of doctrine development. Another reason for the diversity of interviewees corresponds to the initial objective of interdisciplinary approach and the aim to overcome a crucial problem of interviewing − subjectivity.[107] In this context, the material obtained during interviews is treated, not as factual data, but rather as contextual opinion based on personal experience.[108] In other words, interviewees' perspectives need to be judged in terms of personal background, service affiliation and political behavioural specifics.[109] Thus, every opinion has its context and reasons for it. Understanding these reasons gives a researcher a more systematic and realistic picture of reality.

[106] Peter Burnham, et al., *Research Methods in Politics*, 233; Jarol B. Manheim, et al., Empirical *Political Analysis*, 302-303.
[107] Lisa Harrison, *Political Research: An Introduction* (London: Routledge, 2001), 101.
[108] Jarol B. Manheim, et al., *Empirical Political Analysis*, 303.
[109] Bill Gillham, *The Research Interview* (London: Continuum, 2000).

During the research, interviews were conducted in various ways − face-to-face meetings, telephone calls, e-mail exchange and Skype conversations. Personal interviews, both semi-structured and unstructured type, proved to be the most productive. The interview's structure was more complex and systematised the closer an interviewee was to the process of doctrine preparation. This consideration was due to the obvious depth of knowledge and availability of details. Also, some additional questions were asked as an interview was taking place, due to emergent findings that were new for the researcher, revealing new dimensions of the topic. Although personal conversations are more beneficial for both sides, due to the physical and geographical restraints, some interviews were conducted via telephone calls, e-mail exchange and Skype conversations. They were not less efficient but rather less personal.

Comparative analysis of 3 case studies

The sequential choice of cases for comparative analysis is entirely conditioned by the temporal development of doctrine as the main focus of this research. The general rationale for choosing this method for doctrine exploration was determined by the complexity of the studied phenomenon, which required constant preservation of its real-life context. This intention corresponds to the nature of the case study method, which *'allows investigators to retain the holistic and meaningful characteristics of real-life events.'*[110]

Another crucial factor in the choice of doctrines for the cases was the consideration of the available information. In this regard, choosing environmental-level doctrine provided this author with relatively unrestricted access to the doctrinal documents and related materials. For instance, if tactical level doctrine had been chosen, the author would not have had access even to the doctrinal documents not to mention an opportunity to discuss the issue with practitioners. On the other hand, environmental, strategic and joint doctrines are open to the public and are more accessible in terms of data collection.

Another aspect is that in order to achieve credibility of the chosen case studies, they should have certain constant similarities which would not affect doctrine each time in a different way.[111] In other words, for the case studies to be comparable, the constant elements should be present. That is why three editions of the same single-service

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[110] Robert K. Yin, *Case Study Research: Designs and Methods, 4ᵗʰ edition.* (London: SAGE, 2009), 4.
[111] Peter Burnham, et al., *Research Methods in Politics*, 83.

doctrine, of the same hierarchical level, within the same service were chosen. Furthermore, the choice of these three case studies was influenced by some other considerations. The reason why the 3rd and 4th editions of AP3000 were chosen was because they both were a part of the jointery process, and contained the features of the entirely new strategic reality, in contrast to the first two post-Cold War editions. These cases show the place of RAF doctrine at different stages of the incorporation of jointery into military practice. In this regard, the third case of JDP 0-30, which is an equivalent of the previous editions of AP 3000, but of joint authorship, demonstrates the preservation of the same influential factors in the doctrinal environment of jointery.

The design of case studies is influenced by the factors emphasised in Daddow's approach. Unlike Daddow's perspective, the case studies start from the international context, followed by domestic politics, networks and authors. This order is considered to be more practical for this research, since it gives an opportunity to see how each layer was formed and affected people shaping the final draft of doctrine. The main limitation of this method could be the wrong choice of case studies with too many variables, which could not be quantified, resulting in no applicable knowledge at all. That is not the case of this research, because the RAF and the chosen timeframe correspond to the process of the institutionalisation of jointery from its very beginning in 1998 to the present.

On the other hand, like any thesis, this one also has its **limitations**. First, the analysis of all three case studies could benefit from a more detailed inside-out story of internal politics within the RAF, which had an impact on dominance of this or that concept and approach. Consequently, from the academic perspective, such information would contribute to a more systematic exploration of the doctrine preparation process. However, from the political perspective, involvement in polarisations within the service or in inter-service rivalry would diminish the academic value of analysis. On the other hand, interviews with more actual participants of doctrine preparation process and the actual authors like Stuart Peach would have contributed to understanding of procedural specifics of doctrine preparation process. Therefore, the second limitation of this thesis is the restricted availability of the key participants of the doctrine preparation processes. The third limitation, which is partly derived from the first two, is that although the level of the chosen doctrine is unclassified, various materials and procedures behind it still remain restricted to the public. Therefore, this thesis reflects what its author managed to

collect and was allowed to present for public discussion. However, this limitation is common for topics related to the military sphere, so it is nothing new. In fact, this author was surprised to get in touch with so many people in such a short period of time.

Structure of the thesis

The thesis consists of 7 major chapters. This part of the thesis has provided on introduction and explained the rationale for this thesis and its consequent structure. In **Chapter One**, this author considers it to be appropriate to outline the notion of doctrine, and supporting terms used in the research. The main functions of doctrine, its correlation with policy and strategy, doctrinal hierarchy, doctrinal dilemmas, and the changing functionality of doctrine are also identified. In this regard, the emphasis is placed on official documents as sources of relevant, trustworthy and up-to-date information. Furthermore, some critical materials on the practical implementation of doctrine are presented in order to achieve a systematic understanding of the phenomenon of doctrine, which is based on the analysis of the secondary sources. In other words, the chapter answers the question of what military doctrine is.

Chapter Two is on the history of the issue. The main aim of the historical chapter is to outline the development of RAF doctrine. In this regard, the history of the service and air power are contextual to the main topic of doctrinal development. They will be introduced according to their relevance and influence on the doctrinal changes. Thus, the RAF history is viewed through the prism of doctrine. The chapter traces the history of doctrine from the first doctrine CD-22, *The Operations Manual*, in July 1922, till AP3000 2nd edition in 1993. In this regard, the service's reluctance to accept doctrine in the 1990s is explained through the initial emphasis on doctrine as a political tool for the service's self-justification and explanation to a wider audience. Thus, the chapter also provides an insight into organisational culture, which helps to understand the place of doctrine within it.

Chapter Three is devoted to the first case of AP 3000, 3rd edition. The chapter covers the timeframe of 1994-1999, mainly due to the time when the previous doctrine was published and preparatory process of the new edition took place. In this regard, attention is paid to two major factors influencing doctrine preparation. The first is the external environment, embodied in the experience of the previous and ongoing operations (still the lessons of the Gulf War and Bosnia, in terms of PSO). The second factor is internal politics outside the RAF. In this regard, the consequences of the New

Labour Strategic and Defence Review of 1997 and the following introduction of cost-efficiency approach embodied in jointery are analysed.

Chapter Four is a continuation of the first case study. Unlike the previous chapter, this one concentrates on two other influential factors of doctrine preparation. In this context, the role of networks and authors in the doctrine preparation process is explained. The chapter has to show that, although academics' involvement might seem secondary, it shaped the way of thinking and contributed to creativity and systematic use of air power in accordance with the specifics of the strategic environment. Academics and review boards also influence authors' thinking on what and how should be put into the final draft. The implications of authors' background for the intellectual characteristics of doctrine are also explained in this chapter.

Chapter Five is devoted to the 4th edition of AP 3000, published in 2009. The chapter explains what the driving forces for a new edition of the doctrine were, and how the process of doctrine preparation was different from the previous one. The main peculiarity of this edition was the relatively limited number of people involved in doctrine preparation, mainly RAF CAS and DDS and a few more specialists. The situational character and purposefulness of this doctrine in terms of eight years of fighting counterinsurgencies in Iraq and Afghanistan and the upcoming SDSR are of particular interest. The correlation between size and contents of the doctrine is explained in terms of authorship and prevailing tendencies in teaching courses at that time.

Chapter Six is on the most recent edition of air power doctrine, JDP 0-30. Unlike previous editions, this one was written under joint authorship. The chapter explains what affected the process of doctrine preparation in this case and which aspects were dominant. In this context, the implications of the Libyan campaign, the results of the SDSR and subsequent budgetary arrangements are analysed. Further structural and functional changes in jointery are analysed in terms of their implications for the process of doctrine preparation, particularly in terms of the systematization of doctrinal cycles in respect to the SDSR. The main tendencies in doctrine preparation of the studied period are outlined in this chapter.

CHAPTER I: THEORY

'At the very heart of war lies doctrine. It represents the central beliefs for waging war in order to achieve victory. Doctrine is of the mind, a network of faith and knowledge reinforced by experience which lays the pattern for the utilization of men, equipment, and tactics. It is fundamental to sound judgement.'[1]

General Curtis E. Le May

Definition of Doctrine

Just as every story has its beginning, every game has its rules, so every research has its starting point. In order to understand any type of inquiry and a reason for exploration, it is essential to understand the rules of the game and potential reasons for an inquiry that lead to the beginning of exploration. In order to understand the rationale for exploring doctrine in its developmental perspective, it is essential to understand what exactly is meant by military doctrine and how it is perceived in a wider discourse. This chapter seeks to explain military and formal doctrines, the functions of doctrine, doctrinal hierarchy, correlations between doctrine, policy, strategy and technology, traditional dilemmas of doctrines, and changes of its functionality. Therefore, its main role in the research is to be a basis for understanding the field of doctrinal studies.

'Doctrine' is often confused with 'dogma', meaning prescription of behaviour, rigidity of mind and actions. When a non-professional is asked to consider a military doctrine, general knowledge would dictate that a military doctrine is the same as religious doctrine, meaning dogma, but applied in a military context. In order to avoid further misperception, a distinction between the two should be made. Even the dictionary meaning of the general word 'doctrine' does not impose obedient following of prescribed norms. The Oxford Dictionary gives the following definition:

'*Doctrine/ˈdɒktrɪn/noun a belief or set of beliefs held and taught by a Church, political party, or other group: the doctrine of predestination.*'[2]

This definition corresponds to the origins of the word, which comes from the Latin '*doctrina*' meaning 'teaching, learning'. However, the word 'dogma' stands for '*a principle or set of principles laid down by an authority as incontrovertibly true.*'[3] Therefore, the two words cannot be equally substituted for one another. While doctrine embodies a set of perceptions and ideas of a particular institution, dogma aims at

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[1] Quoted in Wray R. Johnson, "Doctrine for Irregular Warfare: Déjà Vu All Over Again," *Marine Corps University Journal*, vol. 2, no.1 (Spring 2011): 40.
[2] Angus Stevenson, *Oxford Dictionary of English* .3rd Edition.(Oxford: Oxford University Press, 2010), 516.
[3] Ibid., 517.

making norms to be followed unconditionally. While the word '*doctrine*' has preserved its initial meaning of teaching, dogma has evolved from its initial Greek meaning of 'opinion' and 'suggestion'. Thus, linguistically, both doctrine and dogma reflect a set of principles established by a certain institution. However, the higher level of prescription, unarguable authorization and denial of deviation are in the term 'dogma', rather than 'doctrine'.

Understanding the general complexity in distinguishing the difference between doctrine and dogma, doctrinal documents of various levels usually contain definition and explanation of what military doctrine is and what it is for. This is done not only in order to explain the meaning of doctrine to a wider audience, but also make it more accessible and acceptable for the military audience, as well. No matter how strange it may seem, unlike the historic-religious use of the word 'doctrine', in military terms, the phenomenon of doctrine is more flexible in its contents and application. The most commonly used definition of doctrine is derived from NATO joint discourse:

> '*Military doctrine is fundamental principles by which military forces guide their actions in support of objectives. It is authoritative, but requires judgment in application.*'[4]

From this definition, it can be concluded that doctrine is not simply about indoctrination of traditional thoughts and following of old-fashioned modes of action. It is about the provision of common ground for officers and staff to act under the conditions of warfare. Accordingly, a military doctrine seeks to provide potential ways of task accomplishment, but it is up to an individual to decide how a certain doctrinal principle is applicable to a specific situation. In other words, unlike dogma, doctrine aims at provision of common ground for adaptability to the rapidly changing environment of warfare.

Keeping in mind the definition of military doctrine, it is essential to outline the forms in which military doctrine might exist. In this regard, historically, doctrine, as a set of principles existed in a form of best practice, know-how passed from one generation of serving personnel to another.[5] In this regard, doctrine was rather oral or

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[4]*British Defence Doctrine* (Joint Warfare Publication 0-01), 2nd Edition. Prepared under the direction of the Director General Joint Doctrine and Concepts on behalf of the Chiefs of Staff (Shrivenham: JDCC/MOD, 2001), 1-1.
[5] Neville Parton "The Development of Early RAF Doctrine," *The Journal of Military History*, vol., 72, no 4 (October 2008): 1158.

semi-oral, while certain principles of action were written in service manuals. However, in contrast to historical or regiment-based doctrinal traditions, there is also a written or formal doctrine. The distinguishing features of the latter are that it is often written in a single document, issued by an authoritative body and reflects top-to-bottom delivery of general principles and best practice. It can be argued that a formal doctrine is more authoritarian in its nature than an unwritten one; however, it usually contains the same principles, but is more centralized in its dissemination. Formal doctrine also reflects the official position of military specialists on a subject matter and is more universal in its application. Although oral and written doctrines might often correspond to each other, this thesis will examine formal/written doctrine.

The Purpose of Doctrine

From the point of an ordinary non-professional, the second most common question would be – what is the purpose of military doctrine? The aim of any military doctrine is to provide knowledge about a certain subject to a target audience, to stimulate action. In this context, the sole purpose of military doctrine is to *'describe how the Armed Forces go about military activities but not about why they do what they do (which is the realm of policy).'*[6] In this regard, joint doctrine writers designated two purposes of doctrine use: educative and informative.[7] Such differentiation is conditioned by the existence of two different target audiences which doctrine aims to reach. The first audience is military personnel in their early career, who need to learn the basics of a service's principles and best practice. The second audience consists of various stakeholders interested in how the Armed Forces go about their business. They include journalists, politicians, academics, public figures, allies and even adversaries, since doctrine explains the principles the Armed Forces fight for. Although there are two different target audiences, the main purpose of doctrine is to educate. Therefore, there are no separate sections for audience one and audience two.

The military audience

According to the Joint Warfare Publication 0-01, '*military doctrine is targeted principally at members of the Armed Forces.*'[8] Doctrine aims at the education of military officers in the initial stages of their careers. It is supposed to provide a basis for further development of creative thinking and decision-making. In this regard, doctrine

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[6]JWP 0-01 (2001), 1-1.

[7] Ibid..

[8] Ibid..

usually includes an explanation of national strategy and a correlation between strategy, policy and military objectives in the contemporary military environment. It also contains a detailed explanation of the national way of warfare and how it can be accomplished under changing circumstances. It also outlines generalities and specifics of potential operations in which the Armed Forces might be deployed and how these operations fit in with the Utility of Fighting Power.[9] Historically, the first military doctrines were more prescriptive and uniform in their nature. They aimed at formation of a uniform way of thinking and therefore acting. The first RAF doctrinal manual stated:

> *'The Royal Air Force will be trained in peace and led in war in accordance with the doctrine contained in this volume. The principles of this doctrine should be so thoroughly impressed on the mind of every commander that, whenever he has to come to a decision in the field, he will instinctively give them their full weight.'*[10]

On the other hand, gradually the perception and functionality of doctrine changed. Nowadays, the essence of doctrine is to give general guidance, based on experience, best practice and universal principles of warfare, which remain relatively the same, irrespective of technological or environmental changes. In other words, it provides the Armed Forces with basic knowledge of how a potential mission can be fulfilled and conducted. Therefore, it can be argued that doctrinal contents and perceptiveness evolve together with the Armed Forces and society. In the last decade, new doctrinal trends can be distinguished: doctrinal texts began to include ethical and moral discussions, paying attention to incorporation of the Armed Forces into civil society discourse. Thus, doctrine can also be viewed as a means of understanding service's philosophy. Colin Gray suggests that doctrine can be used in order to understand a military institution itself:

> *'Doctrine may not provide a thoroughly reliable guide to probable military practice, but it does provide clues, and more, to understanding the current credo of military institutional stakeholders.'*[11]

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[9] JWP 0-01 (2001), 6-1.
[10] *Operations Manual, Royal Air Force* (Confidential Document 22). Prepared by Command of the Air Council for Air Ministry (London: Air Ministry, July 1922), 1.
[11] Colin Gray, *The Strategy Bridge: Theory for Practice* (Oxford: Oxford University Press, 2010): 77-78.

Although doctrine is based on best practice and thus is directly connected with past events, it is not a retrospective account of how wars were fought in the past. In contrast, it aims at the application of relevant and accessible knowledge '*today and in the immediate future; it is dynamic and is constantly reviewed for relevance.*'[12] This official emphasis is essential because it positions doctrine writers and the institutions behind them in the critical discussion of whether doctrine is relevant or not. This statement refutes the first argument against doctrine that it is about the past, and thus is irrelevant for the future. Colin McInnes argued that what was considered the British way of war was the main limitation on doctrine; opposing a conviction that since previous campaigns were successful, the techniques by which they were won can be successful today. McInnes also added that, due to the national strategic culture or prevalence of the British approach, doctrine was characterised by '*positivist and ahistoric understanding of the nature of war*'[13] and '*cherry-picking*' of successful campaigns in support of the British approach.[14]

On the other hand, other academics argue that history is vital for military education. Charles Grant emphasised that, in the development of doctrine, historical lessons are the basis for understanding what needs to be achieved.[15] Eliot Cohen paid attention to the meaning of history in shaping the '*historical mind*' of militaries.[16] According to Cohen, doctrine's role is in educating personnel how to use historical experiences in evaluation of contemporary situations.[17] Douglas Porch argued that militaries should learn from history. On the other hand, he outlined a new potential threat history might pose – incorrect interpretation of history or its misuse for political reasons.[18]

The diversity of critical discourse on the historical core of doctrine shows both the strengths and limitations of doctrine, but like any other historical document, doctrine

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[12]JWP 0-01 (2001), 1-1.

[13]Colin McInnes, "The British Army's New Way in Warfare: A doctrinal Misstep?" *Defense & Security Analysis*, vol. 23, no 2 (June 2007):136.

[14]Ibid..

[15] Charles Grant "The Use of History in the Development of Contemporary Doctrine", in *The Origins of Contemporary Doctrine*, ed., J. Gooch, (Camberley: TSO for the Strategic and Combat Studies Institute, 1997), 7-17.

[16] Eliot A. Cohen "The Historical Mind and Military Strategy", *Orbis*, vol. 49, no 4(Fall 2005): 575-588.

[17]Cohen "The Historical Mind,"576.

[18]Douglas Porch "Writing History in the "End of History" Era – Reflections on Historians and the GWOT" *The Journal of Military History*, vol. 70, no 4 (October 2006):1067.

is a document of its time; yet, it is also timeless since it contains enduring knowledge on constancy in warfare, like principles of war. Whether it is dogmatic, retrospective or forward-looking, intellectual or accessible depends on the particular circumstances in which it was written and to what purpose. Doctrine is studied not in an attempt to justify a particular political or military position, but to find out how the functionality and application of doctrine can be improved and how it can be used to its fullest capacity. Without constant revisions, it might result in rigidity of thinking and simple following of an old-fashioned tradition. Doctrine aims at showing how wars can be fought today utilising all available experience and knowledge, but it does not provide an exhaustive manual of actions in all possible situations. The relevance of theory and doctrine for a practitioner was well-defined by Clausewitz. He argued that a positive doctrine was unattainable: *'We must remind ourselves that it is simply not possible to construct a model for the art of war that can serve as a scaffolding on which the commander can rely for support at any time.'*[19] In other words, doctrine cannot be universally applied for all cases of war; rather, it suggests certain modes of behaviour which have proved to be successful in the art of war, yet might not be applicable under all circumstances. On the other hand, in order to achieve a broader overview on the subject, theory is helpful because it is not case-sensitive and provides a wider variety of alternatives. Theory is a learning tool, not an action manual:

> '*Theory then becomes a guide to anyone who wants to learn about war from books; it will light his way, ease his progress, train his judgement and help him to avoid pitfalls... Theory exists so that one need not start afresh each time sorting out the material and plowing through it, but will find it ready to hand and in good order. It is meant to educate the mind of the future commander, or, more accurately, to guide him in his self-education, not to accompany him to the battlefield; just a wise teacher guides and stimulates a young man's intellectual development, but is careful not to lead him by the hand for the rest of his life.*'[20]

Consequently, although both doctrine and theory are aimed at educating one's mind in fighting wars and provide options for actions, they are different. Theory is wider than doctrine; it provides more alternatives than a doctrinal document. Doctrine suggests the best practice and a framework for military thinking within the national way

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[19] Carl von Clausewitz, *On War* (Princeton: Princeton University Press, 1989), 140.
[20] Clausewitz, *On War*, 141.

of warfare, while theory tends to be more neutral towards the national context of fighting war.

The Wider Audience

Although the UK Joint Doctrine outlines the second wider purpose of doctrine to be directed towards providing wider information, in fact, the purpose is the same - to educate; it is the audience and extent of the necessity of that education is different:

> *'BDD has a wider secondary purpose. Members of Parliament, academics, industrialists, journalists and members of the general public, all of whom have a legitimate interest in the way the UK's Armed Forces go about their business, will find BDD of interest.'*[21]

In this regard, doctrine is used as a source for explaining the British way of warfare to a wider audience within the ruling authority, internal and external parties. In this context, Ministers and Governmental departments, which have to deal with military affairs, use doctrines in order to understand how certain military activities are conducted. JWP 0-01 targets such departments as the Foreign Office (FO), the Department of International Development (DFID), the Home Office, the Department of Trade and Industry (DTI)[22] and the Treasury.[23] From the public perspective, doctrine serves as a portfolio for the Armed Forces and explains the services to academics, journalists, entrepreneurs, potential recruits and the general public. In this regard, doctrine explains not only what war is, but also the means of its conduct by the Armed Forces in accordance with national ways. It both contributes to a better understanding of militaries' jobs at home and also eases subsequent business interactions between governmental and private sectors.

In terms of external interested parties, doctrine aims at the description of military strategy, ethos and the national way of warfare for traditional allies and potential partners in order to achieve a better mutual understanding:

> *'Doctrine is of value to allies and potential coalition partners who will benefit from an understanding of the UK's military ethos and general approach to strategic and military issues.'*[24]

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[21]JWP 0-01 (2001), 1-1.

[22] In 2007, this department was replaced by two separate ones: The Department for Business, Enterprise and Regulatory Reform and the Department for Innovation, Universities and Skills.

[23]JWP 0-01 (2001), 1-1.

[24] Ibid..

Accordingly, doctrine seeks to harmonise coalition cooperation and subsequent joint operations. It can be also argued that doctrine seeks to confirm allied commitments. In the case of the British defence doctrine, it should not contradict NATO doctrine.[25] The correspondence of national doctrines to the Allied one is achieved in a number of ways. First of all, it can be achieved through correspondence of the main conceptual framework and general contents. However, doctrinal hierarchy can be outlined within the doctrinal document.[26] In terms of a wider audience, doctrine is also aimed at potential adversaries of the UK:

> *'It also conveys a message to potential opponents and adversaries that the UK is military well-prepared; by doing this BDD contributes to deterrence in the broadest sense.'*[27]

Therefore, doctrine itself is a means of enhancing security. JWP 0-01 states that although the secondary purpose is relevant, *'doctrine has to be written around the principal purpose of conducting effective military operations.'*[28] Military doctrine should aim at educating military personnel for more effective performance in future operations. Thus, stretching doctrinal functionality can threaten its ability to achieve the primary role − reaching a military audience.

The most functional way of studying doctrine is by a certain example. For the RAF, doctrine is an overarching framework that contains the concept of Air Power. It also outlines the constituent elements required to practice air power. The concept of combat air power is expressed as *'military capability in terms of a conceptual component, a moral component and a physical component'*[29] (See Figure 1).

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[25]*Allied Joint Doctrine*, AJP - 01 (D). Promulgated by the Director of NATO Standardization Agency (Brussels: NATO Standardization Agency, December 2010), 1-1.
[26]*Operations.* (Army Doctrine Publication) Prepared under the direction of the Chief of the General Staff (Shrivenham: DCDC, November 2010).
[27]JWP 0-01, (2001), 1-1.
[28]JWP 0-01, (2001), 1-2.
[29]*British Air Power Doctrine (AP 3000), 3rd edition.* Prepared under the Direction of the Chief of the Air Staff (London: TSO, 1999), 1.2.13.

AIR POWER
(The ability to exploit the medium)

THE CONCEPTUAL COMPONENT
(The thought process)

THE MORAL COMPONENT
(The will to fight)
Leadership, Morale, Core Values

Principles of War · Air Power Doctrine · Air Strategy

TRAINING

THE PHYSICAL COMPONENT
(The means to fight)

Military Air Resources Logistics · Industry · Civil Air Resources Personnel
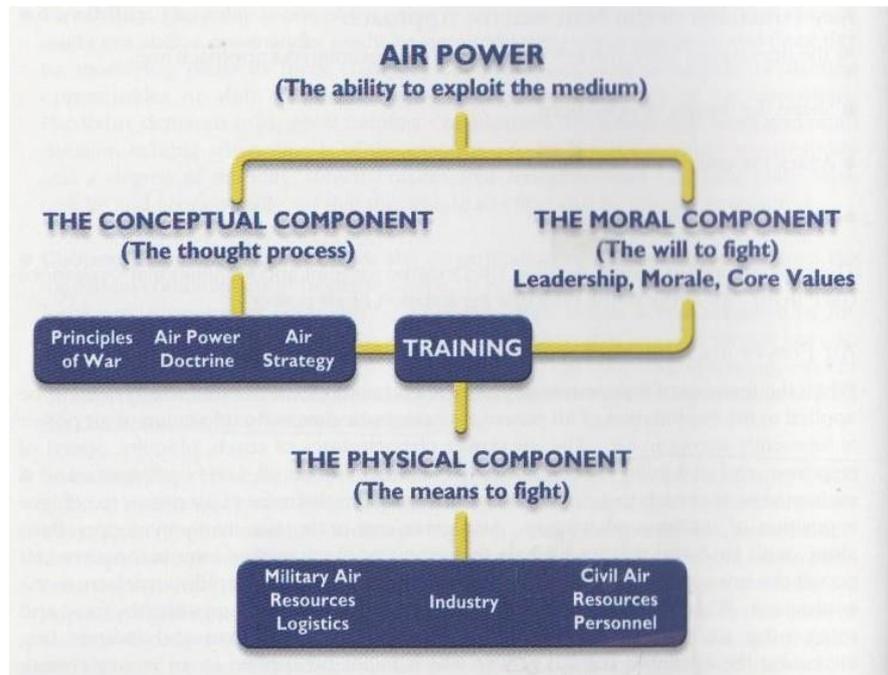
Figure 1 − The Concept of Air Power[30]

As the figure above shows, doctrine is a part of the thought process. Together with experience, doctrine contributes to knowledge, which *'acts as a guide in the process of training and educating airmen, staff officers, and current and future commanders at all levels.'*[31] The importance of this example is not just in showing that doctrine is about teaching the concepts and lessons of the past, but that it shows that doctrine is only a constituent part of building a service's capability. This component is as crucial as the physical one, because while the physical provides the means to fight, the conceptual component provides the thought process which creates decision-making capacity which is then implemented. The two components in isolation are useless; it is their systematic functionality that makes them relevant and so vital.

Doctrinal instrumentalism

Looking at the matter from a more instrumental perspective, Colin Gray summarises doctrinal purposes in terms of the roles for the service as an institution. In this context, he argues that *'doctrine provides a common basis of understanding of what its issuing organization currently believes to be best military practice... doctrine*

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[30]AP 3000 (1999), 1.2.14.
[31]Ibid..

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provides guidance, in some military cultures it provides mandatory guidance, not merely strong suggestions, on how soldiers should proceed on the basis of lessons learnt from historical experience, sometimes on the basis only of deduction from first principles, while occasionally it reflects nothing more solid than the commander's intuition.[32]

In other words, doctrine is the embodiment of the strategic culture absorbed and processed by the issuing institution, in terms of its usefulness and applicability for the personnel of this institution. Therefore, the doctrines of two different services would have a different emphasis on lessons learned from previous operations, mainly because their experiences were different. The subsequent roles and functionality of doctrine depend largely on existing practice, historical tradition and strategic culture, not only within the Armed Forces of a particular nation, but also in each service within a nation. Thus, for a researcher, it is vital to understand that doctrine is not only a historical document, reflecting the strategic environment of its time. It is also an instructional and cultural document of a particular issuing service, and therefore it reflects how the service can respond to particular threats posed by the existing strategic environment. These two characteristics of doctrine should always be kept in mind, and each doctrinal document should be analysed in its dual situational specifics.

The shift of a target audience or the substitution of functionality

Irrespective of the obvious representative benefits, an instrumentalist approach to doctrine might have rather negative and counter-productive affects. In this regard, if the primary audience, military personnel, which should be educated in the ways of the service or national strategic culture, is substituted by a wider audience, particularly, politicians and members of the public, the doctrine threatens to become a single-purpose political document. The single purpose of such a document would be the service's self-justification. In this regard, the purpose of the doctrine would not be to explain the service to a wider, secondary audience, but to justify the service under particular conditions. In such circumstances, doctrine becomes a simple bureaucratic tool for getting a larger piece of the budgetary cake. In this context, the main issue is not stretching doctrine's purposefulness, but substitution of one purpose with another. In this context, doctrine's purpose of educating personnel in how to fight and win wars might become simply a political document to resolve certain political-budgetary issues

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[32] Colin Gray, *The Strategy Bridge,* 77.

within the national system of defence. Major Andrew Methven comes to a very gloomy conclusion:

> '...culture sets the managerialist context, to which doctrine is a response. Doctrine is no longer for the practitioner. It is there to satisfy the demands of those above for auditable, hence written, method. It is a bureaucratic tool, primarily in the field of acquisition. The doctrine industry is now less concerned with fighting and winning on the battlefield today; instead it provides ammunition for the bureaucratic process of winning in the imaginary battlefields of the future.'[33]

This statement shows the negative side of doctrinal instrumentalism, if doctrine is developed in the closed environment of beuraucratic domestic politics, without the adoption of experience gained in previous and ongoing operations, and subsequent cross-verification and subordination of doctrines in a joint hierarchy. In other words, doctrine can become not only dogma but a situational political document, if it is not revised according to operational experience. New operational experience becomes the driving force for doctrine to remain what it is intended to be − a guide for military personnel on how to fight present wars and potential future ones in the framework of the existing strategic culture. Inevitably, it has to reflect each service's place in the national defence system and serve as means to preserve its unique strategic culture. Yet, through the adoption of new operational lessons, doctrine becomes a means to adapt traditional strategic culture to new strategic realities. Thus, it can become the means of preserving the common ground of the past, while reaping the benefits of contemporaneity. Irrespective of wide-spread criticism of strategic culture,[34] it is a foundation on which national Armed Forces can build their training courses and into which new practices can be incorporated. Thus, doctrinal instrumentalist functionality is somewhere in-between self-justification of a service's nation's traditional way of warfare, and adoption of contemporary lessons learned in the new strategic environment. However, in both cases, the primary audience should remain military personnel.

Correlation between Policy, Strategy and Doctrine

Paying due attention to the doctrinal discourse, it should be outlined that although doctrine answers the question of how services should go about conducting

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[33] Andrew Methven, "It Is Not High Time The Doctrine Industry Published Its Doctrine On The Limits Of The Utility Of Written Doctrine" *Defence Studies*, vol. 3, no 3 (Autumn 2003):146.
[34] Colin McInnes, "The British Army's New Way in Warfare": 134.

military operations, it does not explain why and how exactly they should act in situations that are not envisioned by doctrine. Although from the systematic perspective, these questions are crucial for assessing the applicability of doctrine in particular situations, the answer to the why question is given by policy, while strategy answers the how question.

The aim of policy is to embody *'the nation's response to the prevailing strategic environment, reflecting the Government's judgement of what is necessary and possible in pursuit of the national interest.'*[35] Policy can be both fluid and enduring. In terms of its impact on the military field, this might mean a rapid review of military strategy and the Armed Forces' roles, or continuation of certain trends in handling threats with a subsequent shaping of a traditional strategic thinking on the subject matter.[36] The correlation between policy and doctrine is direct. The American guidance on joint doctrine development gives the following explanation:

> *'Policy can direct, assign tasks, prescribe desired capabilities, and provide guidance for ensuring the Armed Forces of the United States are prepared to perform their assigned roles; implicitly, policy can therefore create new roles and a requirements for new capabilities. Conversely, doctrine enhances the operational effectiveness of the Armed Forces by providing authoritative guidance and standardized terminology on topics relevant to the employment of military forces.'*[37]

From this description of the policy-doctrine relationship, it can be concluded that policy drives doctrine, which is the most usual case. On the other hand, the existence of a particular capability might also trigger the necessity for a subsequent policy. In any case, it is the requirement of doctrine writers to ensure that doctrine is consistent with the established policy. Regarding rapidly changing policy situations, doctrine's ability to cope depends largely on the type of doctrine. The most sensitive to policy changes and thus less enduring are joint doctrines, which have to be modified when crucial political changes occur. Although the chain reaction of changes could be triggered by such events, before the introduction of the most recent doctrine preparation

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[35] JWP 0-01, (2001), 1-5.

[36] Ibid..

[37] *Joint Doctrine Development System*, (Chairman of the Joint Chiefs of Staff Instruction 5120.02C). Promulgated by the Director of Joint Staff (Washington: JCS/DOD, 13 January 2012), p. A-3.

cycle, single-service doctrines could remain without modifications if the change in political objectives is not fundamental. In other words, minor amendments could be made to an existing element of the doctrine. Another aspect to consider in this context is that the lower the level of doctrine, the more enduring it will be, irrespective of the political changes. In other words, no matter how policy changes, the number of flights a single jet can conduct and the number of targets it can physically reach cannot change, without changes of actual capabilities. Therefore, different levels of doctrine would change in different ways depending how close they are to the political dimension. Regarding the policy and doctrine correlation, it does not mean that policy statements should be quoted throughout the doctrinal document. The NATO doctrine development guide suggests the following:

> *'Policy guides doctrine development by providing the baseline for the doctrinal principles or fundamentals. It is the job of the custodian to interpret that policy guidance and elaborate upon it in such a manner that it becomes doctrine.'*[38]

Therefore, policy identifies goals and prescribes subsequent roles to the Armed Forces, while doctrine accepts these goals and roles and explains how they can be achieved on the basis of existing practice and national military capabilities. So, policy answers the 'what' and 'why' questions, while doctrine answers the 'how' question. The mediator between the two is military strategy:

> *'The UK's military strategy draws together Defence Policy (which must reflect the realities of the strategic environment) and military strategic doctrine (which provides guidance on the military means of support of policy). An alternative way of defining military strategy is to describe it as the bridge linking policy and operational effects.'*[39]

In the general public discourse, the terms 'strategy' and 'policy' are often mutually replaceable, but in the case of military discourse such substitution is a massive mistake and the reason for misunderstanding the roles of both. The main difference between defence policy and military strategy is that defence policy *'establishes the ends of military strategy and, in the normal course of events, shapes the structures and*

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[38]*Allied Joint Doctrine Development AAP-47 (A). Supplement to AAP-3(J)* Promulgated by the Director of NATO Standardization Agency (Brussels: NATO Standardization Agency, September 2011), 1-3.
[39] JWP 0-01 (2001), 1-5.

capabilities of the Armed Forces within resources and other constraints.[40] On the other hand, the role of military strategy is to wage the use of force in terms of potential advantageous or harmful political consequences and tackling threats.[41] In this context, military strategy aims at selecting the way of using force from the existing arsenal and best practice, suggested in doctrine, in order to suit the existing political objectives in a particular operational environment. Thus, as Colin Gray has stated, doctrine is one of the dimensions and constituent elements of strategy.[42]

In this context, military strategy does not only have to consider available ways of achieving posed political objective, but also evaluate them in terms of cost-efficiency. In this regard, it can be argued that through doctrines, military strategy can evaluate services' correspondence to a particular objective, with subsequent preference of the most suitable or cost-effective. The Joint Doctrine of 2008 is quite clear about this aspect: *'Military strategy is concerned with the allocation, prioritization and balancing of military resources between concurrent and competing operational demands.'*[43] In this case, the main problem is to keep the balance between long-term implications, immediate restraints in resources and short-term contingencies.

The alternative way to link policy and strategy is through the situational characteristics of a specific operation. In this regard, strategy aims at facilitation of existing political objectives into framework of a particular operation with a desired operational effect:

> *'As such, it consists of an approach to the delivery of policy within the prevailing strategic circumstances. Military strategy is, therefore, a reflection of both what the UK's Armed Forces will do and how they will do it.'*[44]

Thus, the main difference between strategy and doctrine is that doctrine provides potential guidance on how to use military force outside the specifics of a particular operation or of the strategic environment. However, military strategy offers a variety of ways applicable to specific circumstances of a particular operation in support of the existing political framework.

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[40]*British Defence Doctrine* (Joint Doctrine Publication 0-01), 3rd Edition. Promulgated by the Chief of the Defence Staff (Shrivenham: DCDC/MOD, 2008), 1-3.
[41] Ibid..
[42] Colin Gray, *The Strategy Bridge,* 25.
[43] JDP 0-01 (2008), 1-4.
[44] JWP 0-01(2001), 1-5.

So, where does doctrine stand in respect to policy and strategy? Doctrine gives the answer to the question *how* political objectives can be achieved through the available military means; '*military strategic level doctrine is informed by fundamental lessons learned over time about the ways in which military forces can be used effectively in support of policy.*'[45] Thus, doctrine explains the traditional problem-resolution principles of how certain political objectives were achieved in the past. It speaks about traditional ways of resolving certain problems, but it is strategy that gives a situational answer to how to act under particular circumstances and whether best practice corresponds to operational characteristics. This distinction is shown in the diagram below.

Policy
- what? and why?
- objectives

Doctrine
- how it was done before?
- best practice of capabilities use

Strategy
- how to do it in this particular situation?
- available means and situational requirements of their apllication
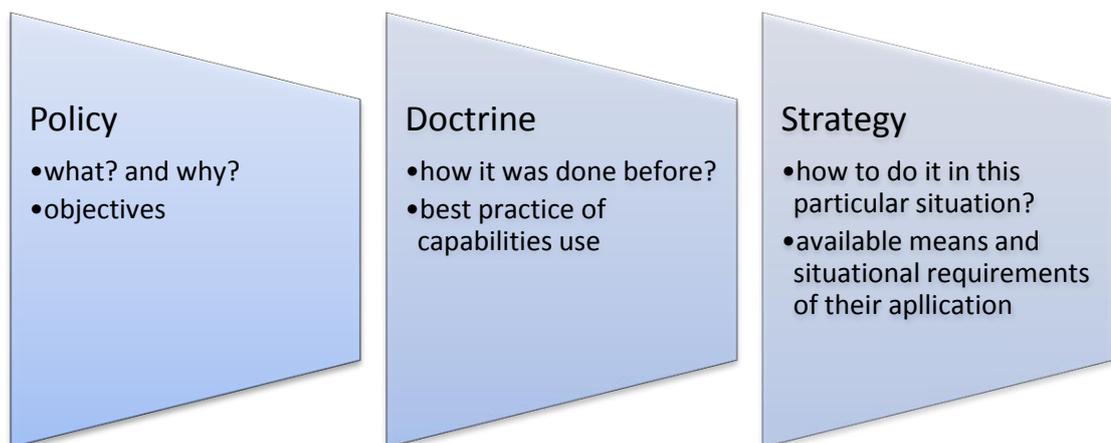
Figure 2 − Correlation between Policy, Doctrine and Strategy

Correlation between Doctrine, Technology and Policy

In the framework of the above mentioned correlation between doctrine, strategy and policy, of particular importance is the connection between doctrine and technology through policy. The main relevance of technological improvement to the general military discourse is in its contribution to future military capabilities. In turn, new capabilities can widen the range of potentially achievable objectives, both political and strategic. From the doctrinal perspective, the significance of technology is that it is one of the reasons for doctrinal change, which occurs when political objectives are modified:

> '*Policy is developed in response to changing circumstances in the political-*
> *military strategic environment, agreed political guidance, practical lessons*

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[45] Ibid..

learned or new technology and is essentially prescriptive. Among other factors which influence the development of doctrine, it primarily evolves in response to changes in policy, warfighting capabilities and/or force employment considerations.'[46]

While official documents concentrate on explanation of general connection between elements, academics look into cause-effect correlation. In terms of technology and doctrine, three potential scenarios of interaction are possible. First of all, doctrinal requirements can speed up certain tendencies in technological development; secondly, emerging technologies might force doctrinal changes. However, a certain symbiosis of cooperation between the two is possible, which results in balanced and gradual shaping of future capabilities.[47]

In terms of the retrospective analysis of interconnection between doctrine and technology, Roger Thomas concluded that, firstly, developing technologies contributed to an improvement of military capabilities, but their subsequent correct application required an appropriate doctrine. Secondly, emerging military technologies are often derived from private sector research. In this regard, potential capabilities also carry unpredictable risks in terms of security and information espionage, not to mention means of delivery of the final products and the additional need for transparency in financial transactions. Consequently, the private sector brings the additional uncertainty of commercial competition, with the spread of new sophisticated weapons and systems in conflicts of different intensity.[48] Thirdly, although the experience of air power development in WWI suggests that the experience of war can be vital for boosting and testing new technologies and analysing their impact on warfare,[49] Roger Thomas argues that a war is not needed for an evaluation of new technologies' significance; consequently, the relevance of technological improvement is in its correspondence to strategic concepts, political objectives or the national interest, in general.[50] Fourthly, while comparative advantages of the new technology are not long-term and competitive advantages for militaries are seldom calculated, appropriate doctrine with a long-term

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[46] AJP - 01 (D), 1-1.

[47] Roger Thomas, "Doctrine and Technology: Engaged, To Be Married?" *The Naval Review*, vol. 86, no 3, (July 1998): 217.

[48] Tony Mason, "The Technology Interaction" in *Perspectives on Air Power: airpower in its wider context,* ed.,S. Peach (London: HMSO, 1998), 132.

[49] John R. Glock "The evolution of Air Force Targeting," *Air & Space Power Journal*, vol.20, no 2 (Summer 2006): 22.

[50] Roger Thomas, "Doctrine and Technology": 218.

evaluation is of a particular use. Finally, an emerging technology ought to be financially sustainable.[51] No matter how advanced and promising technology might be, it still does not mean that it is universally applicable. The gap between technical feasibility and operational utility should always be taken into account:

> *'That a given capability is technically feasible does not always mean that it is operationally useful in the demanding world of actual combat.'*[52]

Doctrine can be also a means of covering this gap. Existing on the edge between past and future, doctrine also brings togather old and new experiences for the benefit of future accomplishments. In terms of a technological discourse, doctrine unites the lessons of historical experience with the theory of technological change. Doctrine describes not only the lessons history teaches about general principles of war, but also operational best practice and human experience of dealing with technologies in their various stages of development. In turn, this experience shows both the utility of new technologies and their limitations through the operational history of the Armed Forces. In this regard, doctrine can serve as a means of sobering over-enthusiastic perspectives on the immediate adoption of ultra-new technologies. However, it is not always the case.

On the other hand, in terms of systematic guidance reflecting historical best practice and contemporary new acquired technologies, doctrine serves as a mediator of human experience and machine technologies. In this regard, in its essence it brings together a century of human knowledge of warfare, together with new means of its conduct, which provides military personnel with a flexible framework of potential actions applicable to a given situation. In other words, doctrine serves as '*a dialogue between the past and the present for the benefit of the future*'[53]; it contains enduring principles of warfare and guidance for application of new technologies under the conditions of unpredictability and situational character of warfighting. Another substantial function of doctrine in terms of technological discourse is that it reminds about the permanence of war – irrespective of the means, the cornerstone of warfighting is a human being. Until the futuristic Star wars of clones and robot-battles, representing

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[51] Roger Thomas, "Doctrine and Technology: Engaged, To Be Married? - II," *The Naval Review*, vol. 86, no 4, (October 1998): 344.

[52] D. Watts, "Doctrine, Technology and Air Warfare," in *Air Power Confronts an Unstable World*, ed., R. Hallion (London: Brassey, 1997), 28.

[53] Tony Milton, "My Job: Director general Joint Doctrine and Concepts," *The RUSI Journal*, vol.145, no 2 (April 2000): 17.

opposite sides, become the reality, doctrine will remain human-centred and thus enduring.

Doctrine Hierarchy

From all that is mentioned above, a person not acquainted with doctrinal studies might become convinced that doctrine might be something of an army bible, applicable in all situations. In other words, it may seem that doctrine is a single book of Tolstoy's 'War and Peace' format, meaning that all military wisdom and advice are contained in a single volume. In reality, British military doctrine is contained within numerous publications, which explain the specifics of a particular service, operational requirements, detailed logistics and tactics. In this regard, the diversity of doctrinal publications is the outcome of a variety of military specialisations and subsequent requirement of the relevant knowledge for mission performance and day-do-day efficient functioning. Depending on the needs of the target audience, doctrine has different contents, language and degrees of prescription. The diversity of doctrinal publications is not chaotic, a certain hierarchy exists. This hierarchy is based on the three levels of warfare: strategic, operational and tactical. Subsequently, the highest authority is within the strategic level and publications of the next few levels should correspond to the general principles of the strategic level.

Another substantial difference between doctrinal levels is that higher level doctrines describe *'the philosophy and principles underpinning the approach to conflict and military activities.*[54] This type of doctrine aims at general comprehension of the nature of military instruments and their efficient application in the evolving strategic environment. However, lower level doctrines concentrate on practices and procedures applicable in specific operations and particular theatres of warfare.[55] Subsequently, lower level doctrines are larger, more detailed and concrete. The correlation between different levels of doctrine refers to the connection between philosophy and procedures. Philosophy as an interdisciplinary, conceptual and descriptive matter aims at understanding. In this respect, principles are the key points of the philosophical thought on the subject matter. Just as war itself is enduring, so is its philosophy. Consequently, the most continuous elements of joint doctrines are the Principles of War. However, *'practices describe the ways in which activity is conducted. Procedures link practices*

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[54]ADP *Operations*, 2-5.
[55] Ibid..

together. Both are intended to be prescriptive.'[56] In this regard, the prescriptive nature of lower level doctrines is conditioned by the continuity of physical characteristics of possible and impossible actions. For instance, AP 3000 3rd edition outlined universal principles of war and armed conflict, which are derived from centuries of experience; it incorporated the manoeuvrist approach (which was introduced in joint doctrine and was accordingly meant to be applied in subordinate publications) into the specific environment of the service's functioning. It also contained a modernised concept of air power for strategic effect.[57]

The best way to look at doctrinal hierarchy is through the Army example. British joint doctrine hierarchy consists of capstone, keystone, functional, environmental, thematic doctrines and tactical manuals. The top level, capstone doctrine is British Defence Doctrine under the code of Joint Doctrine Publication (JDP) 0-01.[58] The essence of the publication is the description of defence philosophy, the correlation between national power, strategy and military capabilities; outlining the British way in warfare and its correspondence to the contemporary threats and use of military means as a response to these threats. It also emphasises the importance of a comprehensive approach to efficient accomplishment of new security tasks. A particular feature of this type of doctrine is that it is largely connected with both political and strategic publications. Unlike subordinate doctrines, the joint capstone doctrine largely correlates with National Security Strategy, Strategic Defence and Security Review and Defence White Papers etc.[59] It creates a tone for the subordinate doctrines to follow.

The next in the hierarchy is a joint keystone publication, which is *Campaigning* (JDP 01).[60] Its main function is to outline a framework for joint campaigning in terms of the comprehensive approach. It is *'based on enduring principles and good practice, updated to reflect recent experience, it provides guidance to JFC on contemporary military operations and how best to understand operational level challenges.'*[61] At the

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[56] Ibid..

[57] AP 3000 (1999), 2.6.1.

[58] *British Defence Doctrine* (Joint Warfare Publication 0-01), 2nd Edition. Prepared under the direction of the Director General Joint Doctrine and Concepts on behalf of the Chiefs of Staff (Shrivenham: JDCC/MOD, 2001).

[59] ADP *Operations*, 2-6.

[60] *Campaigning* (Joint Doctrine Publication 01). 2nd Edition. Promulgated as directed by the Chiefs of Staff (Shrivenham: DCDC, December 2008).

[61] Ibid., v.

operational level, the joint keystone publication is complemented by joint supporting publications, which are categorised as functional, thematic and environmental doctrines.

❖ Functional doctrines (J1-J9 categories) are intended to deal with the joint approach at the operational level. In this regard, each specific doctrine describes a certain aspect of task accomplishment. For instance, functional doctrines describe the importance of knowledge-based approach (JDP 2-00 *Understanding and Intelligence*[62]), principles of execution (JDP 3-00 *Campaign Execution*[63]), logistics (JDP 4-00 *Logistics for Joint Operations*[64]), planning (JDP 5-00 *Campaign Planning*[65]), importance and use of communications and information systems (JDP 6-00[66]). In this regard, JDP 3-00 pays separate attention to harmonisation and synchronisation of joint operations in terms of national tri-service and multinational allied operations in the framework of operations execution and further assessment.

❖ Thematic doctrines can be viewed as a contextualisation of the functional doctrines in terms of a specific operation type or for a certain contingency. For instance, JDP 3-40 *Security and Stabilisation: The Military Contribution*[67] brings the functional doctrine of Campaign Execution into the specific requirements of a thematic operation, in this case the security and stabilisation type. In this regard, doctrine does not only refer to means of particular conduct of operations but also their context, in terms of historical development and international relations. Thus, the text of doctrine is divided into three chapters − the current context, an approach to stabilisation and stabilisation planning and campaign management[68]. Another

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[62]*Understanding and Intelligence Support to Joint Operations* (Joint Doctrine Publication 2-00). 3rd Edition. Prepared under the direction of the Chiefs of Staff (Shrivenham: DCDC, August 2011).

[63]*Campaign Execution* (Joint Doctrine Publication 3-00). 3rd Edition. Prepared under the direction of the Chiefs of Staff (Shrivenham: DCDC, October 2009).

[64]*Logistics for Joint Operations* (Joint Doctrine Publication 4-00). 3rd Edition. Prepared under the direction of the Chiefs of Staff (Shrivenham: DCDC, April 2007).

[65]*Campaign Planning* (Joint Doctrine Publication 5-00). 2nd Edition. Prepared under the direction of the Joint Forces Commander and Chiefs of Staff (Shrivenham: DCDC, July 2013).

[66]*Communications and Information Systems Support to Joint Operations* (Joint Doctrine Publication 6-00). 3rd Edition. Prepared under the direction of the Chiefs of Staff (Shrivenham: DCDC, January 2008).

[67]*Security and Stabilisation: The Military Contribution* (Joint Doctrine Publication 3-40). 3rd Edition. Prepared under the direction of the Chiefs of Staff (Shrivenham: DCDC, November 2009).

[68] JDP 3-40.

example of this type of doctrine is JDP 3-50 *Military Contribution to Peace Support Operations.*[69]

❖ Environmental doctrines aim at contextualisation of functional and thematic doctrinal principles in terms of specific environments: the maritime, land, air, space, information, cyberspace and electromagnetic environments.[70] Examples include BR 1806 *The Fundamentals of British Maritime Doctrine*[71] and AP 3000 *Air Power Doctrine.*[72]

❖ Tactical level manuals aim at further detailing and practical implementation of the above doctrines through prescription of the best ways of task accomplishment and efficiency in procedures. In the case of the Army, the lower level doctrines are embodied in Army Field Manuals (AFMs), from which flow *'tactical doctrine notes, tactical aide memoire and handbooks, and standard operating procedures and instructions.'*[73] One of the most prominent examples of this type of doctrine is Army Counterinsurgency (COIN) doctrine Army Code 71876.[74]

Although the aforementioned hierarchy seems to be exact and clear, its practical implementation over the last two decades has proved to be more complex. For example, different resources mean different things by environmental doctrine. The aforementioned definition of environmental doctrine was taken from the Army doctrine publication (ADP) *Operations*, which emphasised the following distinction between environmental and single-service doctrine:

> *'It describes doctrine within the context of the surroundings of conditions within which operations occur. This distinguishes environmental doctrine from single-Service doctrine. However, a single-Service's doctrine may be dominated by one environment in particular, so that service may take the lead - as it does with ADP Operations - to turn the result into its own capstone publication.'*[75]

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[69]*Military Contribution to Peace Support Operations* (Joint Doctrine Publication 3-50). 2nd Edition. Prepared under the direction of the Chiefs of Staff (Shrivenham: DCDC, June 2004).
[70] ADP Operations, 2-8.
[71]*The fundamentals of British Maritime doctrine: BR 1806.* Prepared by Command of the Defence Council (London: H.M.S.O., 1995).
[72]*British Air Power Doctrine (Air Publication 3000), 3rd edition.* Prepared under the Direction of the Chief of the Air Staff (London: TSO, 1999).
[73] ADP *Operations*, 2-8.
[74]*Countering Insurgency. British Army Filed Manual Volume 1 Part10* (Army Code 71876). Prepared under the direction of the Chief of the General Staff (London: MOD, October 2009).
[75] ADP *Operations*, 2-8.

In other words, the main distinction between single-service and environmental doctrines is that single-service doctrine concentrates on the activities of a single service, which might concentrate on the particular environment of its activity. On the other hand, ideally, environmental doctrine should concentrate on the environment itself and the activities of all three services within this particular environment; in other words, joint efforts within this environment. Theoretically, the distinction is exact; practically the situation is different.

Although single-service doctrines concentrating on the particular environment of services' functionality existed and were revised accordingly, environmental doctrines that would reflect proportionate three-service, joint actions within each environment were not published until recently. Due to this fact, in the general doctrinal discourse, a single-service doctrine is sometimes referred to as an environmental one. The studied AP 3000 editions were the main concern for this research. The 3rd and 4th editions of AP 3000 *Air and Space Power Doctrine* were under the RAF authorship and reflected the service's use of air power in existing strategic circumstances. In terms of practical use, AP 3000 was referred to as environmental doctrine for two reasons. The first is the aforementioned absence of a three-service environmental doctrine until the publication of JDP 0-30 *UK Air and Space Doctrine*,[76] which was introduced in July 2013, under the joint authorship of DCDC, rather than the single-service authorship of the RAF.

According to practitioners and academics, the second reason is that irrespective of single-service authorship and a general emphasis on RAF performance in air and space environments, the efforts during the preparation of the doctrinal publications were three-service and joint.[77] In this regard, the two other services were consulted about their views on air power use and functionality, which was reflected in chapters on joint operations within AP 3000 editions.[78] Although there are different sides to this argument, for the purpose of this research, the AP 3000 editions will be considered and treated as environmental doctrines, which corresponds to the generally accepted practice of the last two decades.

From the multinational perspective, national doctrines should correspond to the allied doctrine of NATO, which is achieved through the introduction of an umbrella

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[76]*UK Air and Space Doctrine* (Joint Doctrine Publication 0-30). Prepared under the direction of the Joint Forces Commander and Chiefs of Staff (Shrivenham: DCDC, July 2013).
[77] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.
[78] Chris Finn, interview with the author, RAF College Cranwell, 7 November 2013.

joint publication − AJP - 01 (D) *Allied Joint Doctrine*, which is a capstone doctrine for Allied Joint Operations:

> '*Commonly accepted and allied doctrine is necessary for effective coalition building. A common NATO doctrine is essential to enhance interoperability, both at the intellectual level, allowing commanders from different nations to have a common approach to operations, and at the procedural level (so that, for example, land forces from one nation can request and direct air support from another).*'[79]

However, when certain aspects of doctrinal advice differ from AJP - 01 (D), than national doctrines '*remain the authoritative source of doctrine for UK Operational level commanders.*'[80] Apart from sharing common doctrinal specifics with NATO, the MOD also emphasised the importance of framework doctrinal correspondence for efficient implementation of ABCA (American, British, Canadian, Australian and New Zealand Armies) programme, which aims '*to improve current and future interoperability, mutual understanding and commonality of doctrine and concepts, in support of coalition operations.*'[81] Thus, doctrine is viewed as a means for improvement and synchronisation of coalition activities.

Doctrinal Dilemmas

Following from the above, it can be argued that the phenomenon of doctrine is quite complex and doctrinal efficiency largely depends on the situational characteristics of its preparation, application and also teaching. Depending on the combination of factors affecting doctrine and changes in the military environment of its introduction, doctrine might have diverse effects, and thus can cause various arguments on its application and functionality. The most common controversy over doctrine concerns bias in its writing, form of existence and application: dogma vs. creative thinking, asset vs. liability, brief vs. long, detailed vs. accessible, written vs. tacit, static vs. dynamic.

1. Dogma vs. creative thinking

As was mentioned before, doctrine is not the same as dogma: it does not aim to create a rigid mind. However, its very aim of presenting a unified perception of best practice, universal principles of warfare and the specifics of one acceptable way in warfare - the national approach, gave substantial ground for professionals and

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[79] AJP - 01(D), 1-1.
[80] AJP - 01(D), vii.
[81] ADP *Operations,* 2-6.

academics to argue whether doctrine was creative in its effect or aimed at simple unification of minds and following orders. As stated above, Colin McInnes suggests that doctrine ties military doctrine with the national way in warfare, and argues that as an envelope for the British way in warfare, doctrine contributes to rigidity of mind and concentration on past rather than present and future operations.[82] He argues that the very recommendation of certain principles is prescriptive in its nature, since alternative options are not presented.[83] Andrew Methven argues that the dominance of the managerial approach in national culture causes dogmatisation of doctrine and a shift of its functionality towards bureaucratic struggles.[84]

Colin Gray suggests that while strategic theory aims at creation of intellectual structure for rational and justified decision-making in the military field, *'doctrine states beliefs.'*[85] In this regard, he opposed the official perception of doctrine as a guide on how to think and not what to think. He argues that doctrines of various levels are about what to think, and therefore what to do. The rationale of his conclusion was reflected in the following statement:

> *'Military organisations have to develop and employ doctrine - whether written,*
> *or culturally transmitted orally or by example - if they are to train large*
> *numbers of people with equipment in sufficiently standard modes of behaviour*
> *for them to be predictable instruments of the commander's will.'*[86]

In this context, Colin Gray views doctrine from an institutional perspective, suggesting that it reflects the Armed Forces desire for and, in fact, the vital necessity of, unifying personnel's thinking and providing them with an equal amount of knowledge and subsequent development of skills. Colin Gray is entirely correct in suggesting that doctrine is about providing equal training and incorporating newcomers into the national approach to warfare. He is also right in suggesting that soldiers should be predictable and follow the orders of their commanders. After all, the Armed Forces are about subordination and following orders.

However, the crucial element of the British approach is in mission command. In this context, *'the fundamental guiding principle is the absolute responsibility to act or,*

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[82] Colin McInnes, "The British Army's New Way in Warfare":127-141.
[83] McInnes, "The British Army's,"131.
[84] Andrew Methven, "It Is Not High Time":130-148.
[85] Colin S. Gray, *Modern Strategy* (Oxford: Oxford University Press, 1999), 36.
[86] Colin S. Gray, *Modern Strategy*, 36.

in certain circumstances, to decide not to act, within the framework of a superior commander's intent. This approach requires a style of command that promotes decentralised command, freedom and speed of actions and initiative, but which is responsive to superior directions when a subordinate overreaches himself.[87] It may seem that mission command contradicts Colin Gray's definition of doctrine's functionality. In fact, it corresponds to it. Doctrine functions as a means of teaching the basics and making sure the lower level subordinate knows how to use this basic knowledge, but since the most characteristic feature of warfare is unpredictability, it is vital for subordinates to know the intent of the commander, the expected outcome and that their creative approach according to circumstances will not be punished afterwards. In this regard, doctrine provides both informal knowledge and the way of creativity – mission command.

Looking at the phenomenon from a different angle, it can be also argued that doctrine teaches both how and what to think. At the initial level, an individual learns the basics for and a certain mode of behaviour under known circumstances. So, as Colin Gray has outlined, doctrine contributes to standardisation of group behaviour for efficient task accomplishment. However, on the basis of initial knowledge and acquired mode of thinking/acting, one applies 'the how knowledge' to circumstances which were not predicted by a doctrine or a specific principle. Thus, one would act according to the circumstances, but within the learned experience of doctrinal teaching. Accordingly, each decision and subsequent action can be judged only in terms of the situation and final outcomes.

In the doctrinal discourse, the aforementioned dilemma is embodied in the phrase "thinking outside the box", meaning thinking creatively. In this regard, in terms of the institutional perspective, Colin Gray suggested that doctrine is, in fact, an empty box which military institutions fill with whatever is required for their subordinates to know: *'doctrine per se is a box empty of content until organisations decide how much of it they want, and how constraining they wish it to be.'*[88] In fact, this is true. However, Neville Parton argued that in order to think 'out of the box' one should realise that the box exists to think outside.[89]

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[87]JDP 0-01, (2011), 5-4.
[88] Colin S. Gray, *Modern Strategy*, 36.
[89] Neville Parton, "In defence of Doctrine... But Not Dogma" *Defense& Security Analysis*, vol. 24, no 1 (March 2008): 84.

Another aspect to be considered is the existence of informal doctrine, which is a certain 'know-how' passed from one military generation to another at the levels as small as squadrons or inter-personal contact. Barry Watts writes *'because no one goes to war with a blank mind- with John Locke's tabula rasa ('blank slate') - informal doctrine is inescapable.'*[90] In this regard, the knowledge basis taught by the formal doctrine is detailed by the practical advice of seniors and brushed further by individual judgements in a particular situation. Inevitably, the knowledge of previous generations is passed to the new ones. What formal doctrine can do, and does, is explain the official practice against which individuals' personal experience and informal doctrine's lessons should be waged.

Looking at the matter of creativity and indoctrination in terms of changeability and development, each doctrine embodies a box of different characteristics. With each new edition of a particular doctrine, new ideas are incorporated according to changes of the surrounding environment. If doctrine is changed in due time, with the crucial strategic changes, it provides a sufficient box to store knowledge in for a time before the next one is published, and a subsequent update is conducted. Accordingly, if doctrine is updated in due time with changes in strategic realities, i.e., if it keeps up to date, then doctrine contributes to the expansion of the existing box with each new edition. The revision of the box according to requirements of the time, also demonstrates what set of skills and the depth of knowledge the personnel should possess.

2. Asset vs. liability

In general, irrespective of personal preferences or background, sceptical or favourable attitude to doctrine, it cannot be denied that in this or that way it says something about the Armed Forces and how they go about their business. Although, as was mentioned above, doctrine might be entirely used as it is written and its influence might be limited, it still serves as the Armed Forces' means of communication with various audiences, including potential adversaries. In this context, irrespective of the official position that doctrine serves as a means of deterring potential enemies, some scholars argue that doctrine can become a threat to national security because it would expose the practical aspects and ways of conducting warfare; thus, it can be used as intelligence and an asset of an enemy. In this context, doctrine is viewed in its military

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[90]D. Watts, "Doctrine, Technology and Air Warfare", in *Air Power Confronts an Unstable World*, ed., R. Hallion (London: Brassey, 1997), 21.

purposefulness, as a means to bring military personnel to a common ground on the basic principles of war. In this regard, doctrine contains the national ways of transforming military theory into potential practice. Although it does not prescribe exact actions and case-sensitive details of operations, it can be used to understand the way of thinking of the national Armed Forces as a means of predicting their future actions. In other words, doctrine can be viewed as a model of thinking and ways of acting on the ground and therefore, can be examined with a view to predicting potential military behaviour on the ground. Addressing this aspect, Colin Gray analyses a paper by a former head of the military intelligence for the Israel Defence Forces, Yehoshavet Harkabi, who argued that:

> 'Doctrine cannot be kept secret, for doctrines are means to socialisation of an army, especially since complying with their precepts is by definition repetitious. Doctrine would thus serve to divulge the commander's plan to the enemy, much as an enemy intelligence agent would. Doctrine may also impoverish thinking and creativity by diverting attention from alternative courses of action.'[91]

The focal point in this argument is the predictability of actions, which is derived from repetition and dogmatisation. On the other hand, as mentioned above, dogmatisation and repetitiveness can be avoided through timely revision of doctrine and incorporation of required changes. Thus, under the conditions of constant updates, the necessity of wider overview and creativity in application would be inevitable.

On the other hand, although Colin Gray agrees with Harkabi, he argues that the main reason why doctrines are not *'fuel for failure'*[92] is due to the human factor, meaning a reluctance of commanders to follow doctrine which they consider to be irrelevant or simply do not agree with.[93] In this context, doctrine can be ignored for a number of reasons. Firstly, it might represent the ideas and certain principles of the policy which do not reflect the existing practice at the tactical level. In this context, there might be a difference between strategic and tactical doctrines in their very essence and purpose. Secondly, the doctrine might not yet have been incorporated into existing practice. Finally, the circumstances may require a different mode of action than doctrine had envisioned, which again returns us to the point that doctrine should not be prescriptive or dogmatic in its nature, leaving enough space for creativity of actions and

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[91]Yehoshavet Harkabi, quoted in Colin Gray, *The* Strategy *Bridge*, 79.
[92] Colin Gray, *The Strategy Bridge*, 79.
[93] Ibid..

correspondence of these actions to the situational requirements. In this context, Peter Gray states that *'doctrine is manipulated or it is changed in the battlefield.'*[94]

Apart from the aforementioned pros and cons, there is another perspective to consider on this dilemma. It was mentioned in the section referring to doctrine hierarchy that there are different levels of doctrine, and each level has a different degree of openness. The more joint and general the doctrine is, the more widely spread and open it is. On the other hand, the closer the doctrine is to the ground and mode of specific actions, the more secret it is; *'the lower you get, the more classified it is.'*[95] Tactical level doctrines are usually secret and accessible only by the personnel of the Armed Forces. Therefore, adversaries cannot predict exact operational and tactical manoeuvres from the doctrines that are available to a wider audience, mainly because joint, strategic, operational and environmental doctrines do not contain such information. Professor Peter Gray explains this phenomenon in the following way:

> "*When doctrine transcends the barrier between the general and the fundamental principle into the realm of technology, tactics and procedures, the reach of damages is correspondently greater and the material is classified accordingly. Supplementary to that, the more the high-level doctrine has been influenced by network production, when they have according input, the more likely it is that they had been published and the thinking was exposed to wider audiences. Arguably, it is in a field of official historics when academic authors have had an access to privileged information, that there is any sensitivity at all. The same may be said about academic work that has been published by authors who had been influential in the field of policy formation and from this work are more aware explicitly or intuitively of which areas are the most sensitive.*'[96]

3. Written vs. Tacit

Another controversy of doctrine is its form. In this regard, the problem is not in doctrinal phenomenon itself, but rather in the correlation between traditional bottom-end practices, modernising and contemporary initiative from the top. In other words, the form of doctrine is directly connected with interaction between various levels in the command structure. In this regard, the historical form of doctrine in the British Armed Forces was usually oral, best practice communicated within regiment or squadron;

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[94] Peter Gray, interview with the author, Birmingham, 18 June 2013.
[95] Ibid..
[96] Ibid..

seldom written doctrinal documents in the form of tactical level manuals Standard Operational Procedures (SOPs) were issued when the situation or environment required such publication. However, authorisation of such publications and verbal doctrinal practices were conducted by single services or even on various structural levels within each service.

This way of knowledge transfer was influenced by various factors particular to each service. For instance, in the Army, the existence of 'verbal doctrine' was conditioned by the practical existence of two armies, meaning the Continental Army with conventional tasks of the Cold War deterrence and potential war fighting in Europe; and the specialised Army, which was accustomed to expeditionary, low-intensity, COIN operations in the colonies.[97] In this regard, the lack of a unified doctrinal framework for actions was the result of the entirely different nature of the functions and subsequent requirements laid upon each army within their traditional operations. Thus, each army was likely to develop its wisdom and best practice of task accomplishment.

In the case of the Royal Navy, excessive prescriptions were considered to be counter-productive since historically and culturally, the ideal standard was considered to be Admiral Nelson and his mission command approach to the command structure. In this regard, the *'Nelson effect'* was in the supremacy of charismatic leadership, which Nelson exercised so effectively that his subordinates knew exactly what was expected from them and were capable of independent although extremely efficient performance without detailed directions on task accomplishment.[98] So, Markus Mader argued that organisational culture of the Royal Navy was characterised by '*widespread aversion against written doctrine.*'[99] It does not mean that the Navy did not have the experience of written doctrines. Various procedure manuals and tactical-level doctrines of naval warfare were numerous; it was the strategic level doctrine that would conceptually frame the service's performance that was missing. From the perspective of naval commanders, the introduction of a doctrine would result in additional prescription of the suggested concept. It was even considered dangerous for the Admiralty to be bound by

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[97]Markus Mäder, *In Pursuit of Conceptual Excellence. The Evolution of British Military-Strategic Doctrine in the Post-Cold War Era, 1989-2002.* (New York: Peter Lang Publishing, 2004), 108.

[98] James J. Tritten, "Navy Doctrine: Lessons for Today," *The Naval Review*, vol. 84, no 1, (January 1996): 18.

[99] Mäder, *In Pursuit of Conceptual Excellence,* 162.

a certain framework.[100] On this specific issue, Eric Grove stated that higher strategic level doctrine was not largely supported because it could endanger two primary principles of the maritime environment: flexibility and freedom of action, which were incorporated into decentralised approach to command and control of the Royal Navy.[101]

Finally, in the Royal Air Force, written doctrine was opposed for three reasons. First of all, the very nature of the service required exact description of machines' application and subsequent prescriptions of squadrons' cooperation and subordination in the air. Additional documentation restating what was practised on an everyday basis with some deviation from squadron to squadron was again viewed as bureaucratic redundancy.[102] However, the second reason for opposition to formal/written doctrine was the *'complex of the junior service,'*[103] which has developed throughout the history of the RAF. Accordingly, the reintroduction of written doctrine might have been considered as an attempt to diminish the freedom of the RAF and fit it into a narrow theoretical framework.[104] The final reason was the previous negative experience of written doctrine of 1957, which was published in terms of an inter-service struggle for a nuclear deterrence role.[105] In this regard, written doctrine was also associated with the RAF's subordination to the Royal Navy.

In terms of the aforementioned organisational culture, the main advantage of written doctrine is not the efficiency of information dissemination or its prescriptive nature. Written doctrine itself embodies commonality and unification, which historically were not traditional to the British Armed Forces. In this context, the introduction of written/formal doctrine after Bagnall's reforms, in 1990s, as a response to the end of the Cold War, and a subsequent change in the strategic environment, resulted in the RAF's opposition to the written form of doctrine and the subsequent joint message it aimed to send both within and between services.

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[100] Ibid..

[101] Eric Grove, '*Themes in Navy Doctrine*' (paper presented at the 1st Meeting at the British Military Doctrine Group, Shrivenham, February 3, 2002).

[102] Thompson Redvers T.N. "Post-Cold War Development of United Kingdom Joint Air Command and Control Capability" *Air & Space Power Journal,* vol. 18, no 4 (Winter 2004): 76.

[103] John Ferris "Achieving Air Ascendancy: Challenge and Response in British Strategic Air Defence, 1915-1940" in *Air Power History: Turning Points from Kitty Hawk to Kosovo*, eds., S. Cox and P. Gray (Oxon: Routledge, 2002), 30.

[104]Andrew Vallance, interview with the author, London, 11 July 2013.

[105] Tony Mason, interview with the author, Cheltenham, 19 June 2013.

After two decades of written doctrine practice, the contemporary British military environment is still characterised by a dispute over the functionality of doctrine. While in the beginning, the question was posed whether written doctrine is needed and whether it is productive or counterproductive for certain actions of some services,[106] in the next two decades, the issue was framed in terms of the functional specifics of existing doctrines. In this regard, the main questions of controversy were: do single-service doctrines contribute to general jointery or are counterproductive;[107] should single-service doctrines be written by a service's staff or the Development, Concepts and Doctrinal Centre (DCDC);[108] does institutionalisation of jointery mean potential redundancy of single-services' doctrinal relevance and subsequent importance of services themselves; to what extent does doctrine emphasise a service's identity, efficiency and overall contribution to joint operations?[109]

4. Brief vs. Long/ Detailed vs. Accessible

One of the crucial dilemmas of doctrine *per se* is its efficiency in reaching the target audience. As was mentioned above, the target audience is Armed Forces personnel. One of the main problems in teaching military personnel is that people come to the Armed Forces from different backgrounds, go to different services, which have their ways of doing business, and afterwards proceed with different careers within these services or approach a joint path. Under such conditions, doctrine has to accommodate all these differences and achieve a common outcome - basic knowledge for all. In order that personel get the most from what they have, doctrine writers have to balance between brief and too general doctrine and a long, but too detailed document. In this regard, the brief vs. long discourse is complicated by the existing struggle within each service – the struggle between intellectuals and practitioners. Since the aim of this research is to explore RAF doctrine, it is logical to concentrate on the RAF example of this struggle.

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[106]Barry, Watts. *The Foundations of US Air Doctrine - The Problem of Friction in War.*(Maxwell AFB: Air University Press, 1984), 56.

[107]Tony Milton, "My Job: Director general Joint Doctrine and Concepts" *The RUSI Journal*, vol.145, no 2 (April 2000):15-19.

[108]Alexander Alderson, "The Army Brain: a historical perspective on doctrine, development and the challenges of future conflict," *The RUSI Journal*, vol. 155, no 3 (June 2010): 10-15.

[109]Peter W Gray, "Air Power or Aerospace Doctrine 2010?" *Air Power Review*, vol. 3, no 2, (Summer 2000): 7-21; "Air Power & Joint Doctrine: A RAF Perspective," *Air Power Review*, vol. 3, no 4, (Autumn 2000):1-15.

Due to the history of the service, which will be discussed in the next chapter, the service was divided between intellectuals, who encouraged creative thinking on air power and thus suggested wider education for RAF personnel, and practitioners with pilot and navigator backgrounds, who argued that training courses should be more practical and tactics-oriented. Practitioners argued that over-excessive intellectualism was distracting from the main aim of training courses − teaching air power skills. Philip Sabin argues that *'this was attributed primarily to the more highly technological nature of the Service... the skills needed to perform missions and other tasks at the tactical level were seen as more distinct from the demands of operational and strategic warfighting than was the case in the Army.'*[110] In terms of doctrine, the intellectual approach argued for more depth and incorporation of systematic outcomes of air power use. In this regard, doctrinal documents were usually of larger volume, paying attention to correlation with other services, and the significance of certain actions for the changes in the strategic environment. In other words, the intellectual approach to doctrine writing aimed not only at teaching ways of using air power but also an understanding of its implications and connections with wider strategic objectives and even political considerations.[111] Thus, the intellectual approach argued for diversification of the basic knowledge taught to cadets.

Practitioners suggested that doctrine had to be less intellectual and more accessible, although it was not meant to be a manual of tactical procedures either. The main concern, in this regard, was the diverse audience, which was meant to digest information within a short period of time. Thus, practitioners argued that a long, over-intellectual document was redundant. It could not reach the audience and they had no time to spend on its prolonged study. Since proponents of both approaches still exist within the service, preparation of each doctrinal document has to go through this argument. In each doctrinal document, it can be easily identified whose views were predominant and who had more power in deciding on its final contents.

It may seem that it is up to an institution to decide what it wants its new personnel to know, but it is not simply diversity of knowledge which is at stake. It is the efficiency of unified training. In this context, training is aimed at providing a general, uniform basis for future members of the Armed Forces. Chris Finn suggested that

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[110] Philip Sabin, "Perspectives from within the Profession," *Air Power Review*, vol. 8, no. 4 (Winter 2005): 23.
[111] AP 3000 (1999), introduction.

people coming to the RAF College Cranwell differ in their background, age, subsequent career goals and physical training.[112] Therefore, the 9-months programme might be easy for one category of students, while more complicated for others, and the final result still needs to be the same − to prepare future members of various branches of the RAF. In order to achieve common ground and transfer basic knowledge of the service, documents like doctrine should be precise and short.[113] In this case, they can reach the audience and be accepted by individuals with diverse background. However, again the dilemma lies in finding the middle way between contents and accessibility, which is either resolved on a case-to-case basis or one is sacrificed for the sake of the other. The effects of this struggle will be shown in particular cases of the studied doctrines.

5. Static vs. Dynamic

Finally, it is often argued whether doctrine itself is static or dynamic in its nature and subsequently whether it contributes to institutionalisation of tradition or is one of the driving forces for improvement and introduction of new practices in everyday activity. One line of argument is that doctrine becomes irrelevant the moment it is published, mainly because it represents the reality of the last few years and not the immediate requirement of the day.[114] This perspective is based on the time required for initiation of a new doctrine's writing, preparation of the draft and subsequent publication, dissemination and final introduction of the document into military practice both in terms of training and use in combat. In other words, from the antagonistic perspective, although doctrine might reflect the strategic reality of the time when it was initiated, it might be outdated by the time it is read and applied.

As a response to this idea, it should be first outlined that various levels of doctrine are revised in different timeframes, while joint doctrines are more directly connected with policies and more frequently changed according to shifts in priorities of foreign and defence policies; they are more likely to change in the timeframe of 5-6 years.[115] However, tactical level doctrines are more influenced by technologies and best practice of the previous campaigns, which are incorporated into new doctrinal publications depending on the new experiences. Another aspect of this discourse is that

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[112] Chris Finn, interview with the author, RAF College Cranwell, 7 November 2013.
[113] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.
[114] Robert Cassidy, Peacekeeping in the Abyss: British and American Peacekeeping Doctrine and Practice after the Cold War (Westport: Praeger, 2004), 110.
[115] Strickland, P. "USAF Aerospace-Power Doctrine Decisive or Coercive?" *Air Power Review*, vol. 4, no1 (Spring 2001): 21.

any kind of doctrine is not the same as a political manifesto, which can be published in a week and spread among interested parties. Doctrine publication has a consequential impact on the military field. It is not only aimed at informing a commander, but also teaching further levels of command. Thus, it should also be incorporated into training programmes. Accordingly, for a doctrine to be realised and used, some time is required. In this regard, from the sceptical perspective it can be argued that since doctrine cannot provide immediate acquaintance with the specifics of the recent and ongoing operations then it is useless and has failed. However, doctrine is not about description of what is happening on the field of ongoing operations, it is about updating the existing knowledge on the subject in the context of the new strategic environment and experiences of recent operations.

In the context of this dilemma, doctrine fits in between the static and dynamic. It is not static because it is not written once for good, mainly because, irrespective of the constancy of nature of war, the characteristics of war evolve together with human civilisation. However, it is not inherently dynamic. It may remain outdated and even counterproductive[116] if it is not updated according to the new experiences and changes in the strategic environment. Professor Richard Overy argued that *'doctrine tends to solidify like a slowly moving lava flow.'*[117] Thus, for doctrine not to become a dogma, it should be revised and modified according to changes in the strategic and political environments.[118] Overy's historical analysis of doctrine shows that the development and application of doctrine are influenced by five factors. First of all, wide politics are usually the main reason for a doctrine not to work properly, since strategic objectives and priorities change faster than doctrine. However, there is also a political issue between services, which is usually more complicated than the wider dimension. Secondly, doctrine cannot remain the same and relevant, due to technological changes, which have become particularly decisive in modern warfare.[119]

Thirdly, effective doctrine requires lessons of experience, which are derived from past events. In this context, the main danger is that experience requires a certain mindset, which corresponds to the specifics of a single situation in the past; thus,

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[116]resulting in rigidity of mind and overreliance on traditional ways in the new environment.
[117] Richard Overy, "Doctrine Not Dogma: Lessons from the Past" *Air Power Review*, vol. 3, no 1, (Spring 2000): 33.
[118] Ibid., 34.
[119] Ibid..

teaching and passing on these experiences becomes extremely difficult without context. Fourthly, doctrine should be modified and reviewed when the need arises. In this context, it should be reviewed only when the military environment and technology change, but not because the time of the next review has arrived. Finally, Overy outlined the existence of the '*eccentricity factor*', meaning the existence of abnormal individuals in the sense of intelligence and strategic thinking, who are beyond the normality of the doctrinal level.[120]

A Wider Perspective of Doctrinal Functionality

Military aspect

At the end of the Cold War, many aspects of military performance and functionality were fixed in stone. Substantial changes were required and were on the way after 1991. In terms of military doctrine, the lack of continuous doctrinal publications was due to the constancy of the Cold War strategic environment. With the end of the Cold War era, doctrine became a necessity for services' transformation and adaptation to rapid change. Doctrine was needed because there was no longer a contingency of the Cold War. Moreover, doctrine was a response to the problem of uncertainty. The end of the bipolar world created an environment of unpredictability and uncertainty about potential adversaries and new unconventional conflicts and asymmetry in warfare. Under these conditions, the return to doctrine can be viewed as a means of services' adaptation to the changes, yet not exclusively. The main role of the first post-Cold War doctrines was not the usual adaptation of best practice and learning the lessons of ongoing operations. The functional aim of these documents was to equip the services with means to deal with unpredictability. At the time when policy was still quite uncertain and vague, doctrine had to inform personnel of the vital questions of where and how to fight. Thus, the doctrine was meant as a substitute for the Cold War theory of thinking.

Public aspect

Over the last two decades, doctrine has had to deal with the intensification of media and public involvement in military field, caused by improvement in media technologies and social networks. From the socio-political perspective, doctrine became a certain facilitator of the Armed Forces into civil society.

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[120] Overy, *Doctrine Not Dogma*, 46.

The necessity of explanation and incorporation into civil society was due to the assumed pacification of international relations and hopes for peace dividend, conditioned by the end of the Cold War and subsequent normalisation of relations in the Europe. In this regard, the lack of a direct threat from nearby or from a massive state like the Soviet Union was convincing proof for many that Cold War military structures required cutting. Although the necessity of the Armed Forces transformation was inevitable, social pacification reached quite extreme levels. In this regard, the phenomenon of *'marginalisation of Western military culture in their host societies'*[121] took place. In this context, the public perception of the Armed Forces' importance diminished due to the shift from generalisation to personalisation of war.[122] In other words, public opinion became more interested in the human side of warfare, meaning that seeing war in terms of tragedies of individual people resulted in a desire to make war bloodless and more civilised instead of a means for achievement of political objectives. The inconsistency between the public ideal perception of war and the continuing, unchanging, bloody nature of war resulted in additional pressure on the Armed Forces in terms of *'the CNN effect.'*[123] In the light of the postmodern public perception of militaries, the Armed Forces need to explain themselves better and make the public understand what they deal with in the battlefield and in which operations they are involved. In this context, joint, single-service and some operational doctrines keep the necessity of this dialogue in mind.

The potential disadvantage of such a tendency would be in substitution of the primary audience with the secondary and transformation of doctrine into a socio-political document rather than the guidance for military personnel. In this regard, Tony Mason argued that the functionality of doctrine has not changed, but rather its significance has increased due to diminishing resources, existential threats, post-Cold War reorganisation and the fact that *'we fight wars away from home.'*[124] Moreover, he argues:

> *'All these factors increase doctrine's importance as socio-political phenomenon, but I would not say that doctrine loses its primary functionality. Doctrine provides the cohesion, determines the practices in which the operations take*

[121] Mader, *In Pursuit of Conceptual Excellence,* 71.
[122] Andrew Hoskins and Ben O'Louqhlin, *War and Media* (Cambridge: Polity Press, 2010), 41.
[123] Mader, *In Pursuit of Conceptual Excellence,* 74.
[124] Tony Mason, interview with the author, Cheltenham, 19 June 2013.

place. It provides an intellectual framework, it does not exist in isolation, and it is not static, so it does not become simply a socio-political document.[125]

Conclusion

Overall, this chapter aimed at an explanation of what military doctrine is and where it fits in the Armed Forces discourse. From all that was mentioned above, it can be concluded that doctrine is a multi-purpose official document which can be of higher internal or external functionality, depending on the changes in the environment of its creation. Doctrine can be more directed towards serving personnel, or wider stakeholders, if it is required by the issuing body. It can be used exclusively for teaching the principles of the service or as an explanation of the national way in warfare. Doctrine can be abused and turn into a dogma, or it can be revised in time and contribute to systematic training of personnel and their subsequent readiness to make decisions according to what they were taught under the changing circumstances of the surrounding environment.

Doctrine can be written with an intention to boost creativity and systematic learning or it can stop at teaching general basics in order to achieve a unified level of knowledge. Thus, it can be long and complex or brief and simple in its contents. Doctrine can be an asset if it contains the right information for the right audience, or it can become a danger if the rules of classified information are not followed. Doctrine can exist in various forms, and can be spread in horizontal or vertical ways, incorporated into training courses or become a condition for further career development. All those aspects depend mainly on who prepared a doctrine, for which purpose and under which temporal circumstances. In other words, the characteristics of a particular type of doctrine can be understood through exploration of its preparation process.

To understand the success or failure of the doctrine, it is not enough to explore the doctrine preparation process. The understanding of why some doctrines are accepted within the services, while others are ignored can be achieved through the development of the prevailing organisational culture within a studied service. So, each service has its own traditions, unwritten modes of behaviour and characteristic perceptions, which originate in services' history. In order to understand the organisational culture of doctrine perception, the role of doctrine in the service's history should be examined. Therefore, the next chapter is devoted to the history of RAF doctrine development.

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[125] Ibid..

CHAPTER II: THE HISTORICAL CONTEXT

'Study the past if you would define the future'

Confucius

'The farther backward you can look, the farther forward you are likely to see'

Winston Churchill

This chapter is aimed at the description of the development of RAF air power doctrine through the entire history of the service. Attention is paid to doctrinal manuals, time of publication, situational functionality and subsequent implications for the service. This historical discourse is aimed at understanding of the meaning of doctrine in terms of RAF history as a key to its reformation in the post-Cold War era. This chapter should also demonstrate how doctrine can be misused and turned into dogma. In the long-term, it should also make a basis for understanding the contemporary scepticism to doctrine *per se* within the service and the difficulty of its revival in the post-Cold War period.

Preconditions of the First RAF Doctrine

In order to understand how a service can exist without a founding guiding document for four years, the history of RAF creation should be taken into account. In the beginning of World War I, air power was young and was hardly recognised as a crucial military capability. In the UK, the first official aeroplane flight was conducted by an American, Samuel Franklin Cody on 16th of October 1908 and entered history as British Army Aeroplane No 1.[1] Since air power was not viewed as a crucial military capability either by the War Office or the Treasury, no centralised actions were taken to incorporate its potential. The old Balloon Section of the Army was expanded into an Air Battalion in 1911. The next year, in 1912, the importance of aviation was realised, and the Royal Flying Corps was created on 13th of March 1912.[2] The lack of conceptual and practical knowledge on air power potential and budgetary considerations resulted in the introduction of supplementary units into two traditional services − the Army and the Navy. Although the pre-war government aimed to create a centralised institution of the Royal Flying Corps (RFC) with two separate Naval and Military Wings;[3] the experience of the war resulted in a complete separation of the two wings: the Royal Naval Air Service (RNAS) was subordinate to the Admiralty, while the Army wing became the

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[1] AP 3003, (2004), 1.
[2] AP 3003, 4-5.
[3] Ibid..

RFC, subordinated to the War Office.[4] This differentiation resulted not only in a supplementary status of both wings, but also in entirely different tasks assigned. The main task of the RFC was to assist in expeditionary missions:

> *'The Military Wing concentrated on building a reconnaissance force to work closely with the Army, and on convincing the Army staff that the aeroplane could get accurate and quick information to the land commander - not an easy task when the Cavalry still dominated the War Office.'*[5]

In this regard, the main function of air power was limited to reconnaissance. The very ability to observe panoramas of the battlefields, the location of troops, railroads, and supply stores made airplanes the main source of the most up-to-date information.[6] A further function of airplanes was in spotting for artillery. The Naval Wing took a different direction − the air offensive and consequently long-range bombers were developed. The practical application of the air offensive was used in the battle of the Somme in July 1916.[7] Just as the reconnaissance function of air power was developed in practical cooperation with the Army, so was the offensive in terms of practical consideration of the Admiralty:

> *'thinking in terms of the offensive use of military aircraft as long-range bombers, especially against the Zeppelin bases, since the Navy's own dockyards and arsenals at Chatham and Portsmouth appeared to be open invitations to Zeppelin raids should war break out with Germany .'*[8]

Therefore, this division resulted in concentration of the RFC on land warfare while the RNAS cooperated with allies in expanding of pre-emptive strikes on enemy aircraft and *'the long-range bombardment of enemy resources.'*[9] The Air Force remained divided throughout the entire war. The complexity of proto-service status was not only in the lack of resources and subsequent constant possibility of a wing being cut back or even abolished. It was unpopular also due to the high rate of human losses among the

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[4] Eric Grove, "The Case for The RAF", in *The Question of Security*, eds., M. Codner and M Clarke , (London: RUSI, 2011), 212.
[5] AP 3003, 9.
[6] Tami Biddle, "Learning in Real Time: The Development and Implementation of Air Power in the First World War" in *Air Power History: Turning Points from Kitty Hawk to Kosovo*, eds., S. Cox and P. Gray (Oxon: Routledge), 5.
[7] E.R. Hooton, *War Over the Trenches: Air Power and the Western Front Campaigns 1916-1918* (Birmingham: Midland Publishing), 29.
[8] AP 3003, 10.
[9] Biddle, "Learning in Real Time," 8.

RFC.[10] Another crucial problem was an inner conflict regarding what should be prioritised homeland defence or long-range attack. The head of the RFC, Major-General Sir Hugh Trenchard, regarded the Admiralty's focus on a long-range attack as likely to drain resources from the RFC; and thus opposed it.[11] Accordingly, without consulting the RFC, the RNAS worked with the French on common long-range bombing operations. As a result of this inter-service friction, RNAS' No 3 Naval Wing, responsible for long-range bombing operation, was abolished.[12]

The First World War is an example of how situational requirements of war boost adaptability, evolution of technology and power application. Apart from air reconnaissance, stimulating the development of communication technologies[13] and air offensive boosting the development of bomber aircraft, other operational experiences had resulted in consequent technological changes and new roles of air power. The initiative of reconnaissance planes to strafe trenches during the Battle of Somme 1916 introduced ideas for Close Air Support (CAS) and a need for a ground-attack aircraft.[14] Further on, the Battlefield Air Interdiction (BAI) as *'ground strafing missions'* was practised on the Western Front.[15] BAI also proved to be decisive in the air campaign against Turkish forces in Palestine.[16] Consequently, apart from air superiority achieved on the Western Front:

> *'several other doctrinal air power roles had been established during this bitter*
> *conflict including Counter Air (both defensive and offensive), Close Air Support,*
> *Air Interdiction, Tactical Reconnaissance, Photographic Reconnaissance,*
> *Maritime Patrol and Air Supply. Supporting roles had also been developed that*
> *included Air Command and Control, Intelligence, Tactical Communication,*
> *Engineering Support and Logistics.'*[17]

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[10] Peter Hart, *Somme Success: The Royal Flying Corps and the Battle of the Somme 1916* (Barnsley: Pen & Sword Military, 2012), 32.
[11] Christina J.M. Goulter, "The Royal Naval Air Service: A Very Modern Service" in *Air Power History: Turning Points from Kitty Hawk to Kosovo*, eds., S. Cox and P. Gray (London: Frank Cass, 2002), 58.
[12] Ibid..
[13] Hooton, *War Over the Trenches*, 45.
[14] Peter Hart, *Somme Success*, 73.
[15] R. Hallion "Battlefield Air Support: A Retrospective Assessment", *Air Power Journal*(Spring1990): 8.
[16] Phil Carradice, *First World War in the Air* (Stroud: Amberley Publishing, 2012), 56.
[17] AP 3003, 35.

Thus, the First World War was a starting point for the development of air power both in technological and conceptual frameworks, the wartime doctrinal reality at the tactical level was characterised by constant changes and adaptations to the technological modifications and purposeful use of aircraft.[18] Consequently, tactical doctrinal manuals could change on a monthly basis.[19] From the institutional perspective, recognition of air power's potential after the Gotha Raids of 1917 prompted British air power reformation. The governmental response to the situation was an immediate reformation of air structure and introduction of a single service of the Royal Air Force (RAF), based on the conclusion of the two Smuts reports on 19th and 17th August 1917.[20] The legal framework of the initiative was the Air Force Constitution Act which was passed in November 1917, followed by composition of the Air Council in January 1918 and subsequent formation of the independent RAF in April 1918.[21] Consequently, Hugh Trenchard was appointed the first Chief of Air Staff (CAS).

Once independent, the RAF had to establish itself in the national system of defence. However, the next 20 years were characterised by *'the fight for survival against the government economy cuts and the desires of the other 2 Services to see their air arms returned to them; this conflict reached its climax in 1923.'*[22] Only two years after its creation, the service suffered tremendous cuts of personnel and the dismantling of some of its institutions, such as the Women's RAF and the RAF Nursing Service: *'more than 23,000 officers, 21,000 cadets (potential pilots) and 227,000 other ranks had been demobilised.'*[23] The next three years 1920-1923 were characterised by paper wars in ministries, where each service justified its existence and functionality in British defence. It was exactly the time when the first RAF doctrine was published.

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[18] J.R .Ferris, "Catching the Wave: The RAF Pursues an RMA, 1918-1945" in *The Fog of Peace: Military and Strategic Planning under Uncertainty*, eds., Tufts M. and Talbot I. (Oxon: Routledge, 2006), 78.

[19] James L. Cate, "Development of Air Doctrine 1917-41," *Air & Space Power Journal* vol. 26, no 2 (March/April 2012): 135.

[20] General Han Christian Smuts was ordered by Prime Minister Lloyd George ' to solve the air defence problems of Britain - quickly' (AP 3003, p. 24).

[21] Biddle, "Learning in Real Time", 11.

[22] AP 3003, 54.

[23] AP 3003, 55.

The First RAF Doctrine

The first RAF formal doctrine was Confidential Document (CD) 22 under the official title of *Operations Manual, Royal Air Force.*[24] Although it is quite difficult to find out the exact details of the preparation process of the first publication or who had initiated the process and due to which considerations, according to Neville Parton, the document was *'well under way by mid-1921.'*[25] The preparation process included diverse senior officers. However, the authorship is attributed primarily to two junior officers: Flight Lieutenant C.J Mackay and Squadron Leader E.L. Tomkinson.[26] They both worked within the Directorate for Operations and Intelligence. The divided nature of the service and its day-to-day cooperation with two other services was reflected in the doctrine preparation process and division of duties between authors. Tomkinson was responsible for the Navy section, while Mackay wrote the rest.[27] This feature of the doctrine preparation process confirms the divided nature of the RAF and consequent need for approval of the other two services. Accordingly, the acceptance of common principles and tactical procedures of cooperation required the approval of the other services. For instance, the Navy insisted on keeping the document classified, while the Army agreed mainly on *'the tactical level issues, in terms of strategical and operational level considerations, it is evident that there was considerable disagreement over whether there should be separate Air Force.'*[28] Thus, from the very beginning the document was doomed to reflect inter-service rivalry.

Although CD 22 was meant to unify and re-establish the main principles of services' actions and training of its personnel; instead, CD22 exacerbated divisions within the service and reflected its inferior position to the other two services. On the one hand, it can be argued that the document was truly historical and reflected the reality of its time. However, it can be also suggested that the main reason why the document was not very efficient as a doctrinal manual was due to its initial political purpose and subsequent target audience. These considerations will be explained through the further analysis of the doctrinal text.

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[24]*Operations Manual, Royal Air Force* (Confidential Document 22). Prepared by Command of the Air Council for Air Ministry (London: Air Ministry, July 1922).
[25]Neville Parton, "The Development of Early RAF Doctrine", *The Journal of Military History*, vol. 72, no 4 (October 2008):1163.
[26] Ibid..
[27] Neville Parton, "The Development of Early RAF Doctrine", 1164.
[28] Ibid..

As already mentioned, the doctrine preparation process was characterised by a necessity to influence opinion and to obtain the agreement of two other services. This was further reflected in the structure of the document. Although some chapters referred to the practical aspects of RAF personnel training, like quarters, orders and reports in the field, aerial operations and aerial fighting, most of the document was devoted to the division of roles between the three services, particularly the Navy and conduct of operations with the other sister-services. The feature of the document is that the independent role of air power in Counterinsurgency and Peacekeeping operations, which were quite successfully conducted in British Somaliland and further in Iraq and Transjordan, was reflected in the brief final chapter of the document, *'Aircraft in Warfare against an Uncivilised Enemy.'*[29]

CD 22 noted the independent status of the service indirectly but emphasised cooperation with the other two services, for instance, the support of tanks or cooperation with the Navy. The independent and unique environmental nature of air power was outlined in indirect statements. For instance, the 3rd paragraph of the introduction stated: *'The independence necessitated by aerial warfare tends ever to increase the responsibility of subordinates...'*[30] This is a good example of the gradual attempt to distinguish air power from the other two environments. The main impression of the document is that, although the new service is established and it is independent in its status; practically, it has to show that it is capable and is eager to work with two other services. In order for CD 22 to be approved by two other services, such caution in wording and emphasis on cooperation were essential.

That is why it is not surprising that CD 22 heavily relied upon publications of the two other services: the British Army's Field Services Regulation and Royal Navy Confidential Air Orders; only 3 of the 11 chapters were written by the RAF.[31] Thus, it could be concluded that, as the first doctrinal document of an independent service, it failed to show the independence and subsequent developing functionality of the service. For instance, even in the last chapter devoted to justification of a new role of air power and its contribution to the Imperial policy, particularly in terms of preserving order in the overseas territories, the wording is quite cautious:

'The role of aircraft in operations of this nature will be a major one, though it is

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[29] CD 22, 128-133.
[30] CD 22, 1.
[31] Neville Parton, "The Development of Early RAF Doctrine", 1165.

unlikely that they will be in a position to undertake a campaign entirely

independent of military assistance.'[32]

It may be argued that the main role of doctrine is to serve as a guide for training courses, and thus the doctrine should not justify the service's independence or have any other political functionality in an inter-services discourse. However, this doctrine had more holistic purposes. Like a contemporary doctrine it targeted two audiences: RAF personnel and a wider audience. In regard to the primary audience, this document was intended to unify the divided personnel of the service, showing that the new service could cooperate with the other two services and still preserve its independence and uniqueness. For the secondary audience of the other two services and political decision-makers, the doctrine was meant to demonstrate the eagerness of the service to cooperate with the other two services, yet express its different potential in contrast to them, again through its uniqueness. This uniqueness was meant to be expressed not in constant emphasis on the service's independence but through a function/role distinctive to air power and not to any other service − strategic bombing.

In this regard, looking at the document from the point of political functionality, it was more purposeful in political struggle than in preparation of cadets. Although the general discourse of the document does not express the independent role of the service and proclaims cooperation with the other two services, it achieved its publication, although under a classified status and the proclamation of the RAF-unique concept of strategic bombing, which would work as a justification of service existence and expansion in the next 16 years. In this regard, the document served as a means for this concept's materialisation and further indoctrination within the service. This suggestion requires further contextualisation.

Conceptual perspective of the time and its reflection in CD 22

The introduction of an independent single service was not only about the merging of two branches from within two sister-services, but also about creation of a service with a distinct philosophy, role and aim. It required a unique conceptual framework for its existence. In his report, Smuts paved the way for independent air power conceptualisation and the future doctrine of the RAF:

'There is absolutely no limit to the scale of its future independent war use. And

the day might not be far off when aerial operations with their devastation of

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[32]CD 22, 126.

enemy lands and destruction of industries and populous centres on a vast scale
may become one of the principal operations of war, to which the older forms of
military and naval operations may become secondary and subordinate.[33]

Clearly, this could not be accepted by the elder services, and in order to establish the RAF as a self-sustained service, a more detailed and fresh concept was required. As the first CAS, Hugh Trenchard was the person to establish such a core concept and to make sure it was followed within the service. The functional approach of Hugh Trenchard as applied to the service's conceptual framework can be demonstrated by the fact that he opposed the concept of strategic bombing when it was first developed by the RNAS, because it was counter-productive for the force under his command. However, for the new service, a concept suggesting unique functionality could unify it and provide required financing and its survival.

In terms of external self-sufficiency, Trenchard's approach to air power and what was later called the 'Trenchard doctrine' concentrated on the socio-political implications of strategic bombing rather than on its destructive impact on the enemy's industrial infrastructure and military targets.[34] He argued that the main aim of air power was to destroy enemy's 'morale' and willingness to fight; no distinction was made between moral and industrial targets but a preference for the former was emphasised. Bombing adversary's territory aimed at destroying his will to fight.[35] The main task for the RAF in the interwar years was to decide how air power should be used to its optimum effect. The main argument within the service was whether air power should concentrate on the development of offensive or defensive capacity. Although Trenchard was the CAS, had most of the authority within the service and was known to be quite a strict and charismatic person, in decision-making, he listened to the opinions of various levels of officers, and even junior pilots.[36] Personally, Trenchard did not believe in air defence, and considered that only offensive action such as bombing the adversary's territory

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[33] AP 3003, 25.

[34] Philip S. Meilinger, "Trenchard and 'morale bombing': The evolution of Royal Air Force doctrine before World War II" *Journal of Military History*, vol. 60, no. 2 (April 1996): 245.

[35] Philip S. Meilinger, "Trenchard and 'morale bombing': The evolution of Royal Air Force Doctrine Before World War II" *The Journal of Military History*, vol. 60, no.2 (April 1996): 256.

[36] J.R. Ferris, "Achieving Air Ascendancy: Challenge and Response in British Air Defence, 1915-1940", in *Air Power History, Turning Points from Kitty Hawk to Kosovo*, eds., Sebastian Cox and Peter Grey, (London: Frank Cass, 2002), 26; Allan D. English "The RAF staff college and the evolution of British strategic bombing policy, 1922-1929" *Journal of Strategic Studies*, vol. 16, no3, (1993): 408-412.

would result in the demoralisation of the enemy's will. Consequently, his followers or *'bomber purists'*[37] argued for less investment in defence, and for paying more attention to the offensive. Thus, the essence of the entire argument was a correlation between the number of fighters devoted to defence and the number of bombers used for the offensive.

Accordingly, the first RAF doctrine practically embodied Trenchard's conceptual vision of air offensive. In the very first pages of the document, one of the outlined principles of war (actually the 2nd one) was offensive action:

> *'Victory can only be won as a result of offensive action; the adoption of any other policy re-acts not alone on the morale of the force itself, but on that of all other arms.'*[38]

Chapter VII is entirely devoted to *'Aerial Operations and Aerial Fighting.'*[39] This is probably the only chapter where the word 'aerial' can be easily substituted for 'independent,' since they are so often used together. This again has certain features of Trenchard's symbiosis of strategic bombing and the service's independence:

> *'Independent operations comprise the destruction of the aerial forces of the enemy either in the air or on the ground, or on the other hand, attacks on ground objectives such as munition factories, strategic railway junctions or other suitable targets, the destruction of which will influence the course of the war...The destruction of his* [enemy's] *air forces at their bases on the ground is the most effective method of attaining the main object...Munition factories and other targets are, therefore, subsidiary to air objectives and should not be included in the aerial offensive until a serious reverse has been inflicted on the enemy.'*[40]

The implications of CD 22

What does Trenchard's concept as a cornerstone of the main chapter on air power use tell us about the doctrinal document itself? First of all, it means that the document reflected the predominant conceptual framework of the time and corresponded to the political intentions of the CAS, outlining his authority in the doctrine preparation process. Secondly, the document was a part of Trenchard's political

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[37]Ferris, J.R., "Achieving Air Ascendancy", 28.
[38] CD-22, 2.
[39] CD-22, 54-67.
[40] CD-22, 54-55.

campaign of the RAF's self-justification as an independent service, yet a very eager team player, which in the eyes of the Government was a favourable move. Thirdly, the dominance of the concept of strategic bombing in the doctrine as the main interpretation of air power's independent role also reflected rigidity in strategic thinking. The dominance of strategic bombing eventually contributed to a dogmatisation of the concept and subsequent perception of doctrine as a dogma. It does not mean that there was no alternative thinking on air power. The main arguments of the proponents of air defence were represented by T.C.R Higgins and J.A. Chamier. Having experience in homeland defence and air support in India, they both suggested limitations of strategic bombing. In this regard, they argued that under the conditions of fast technological development, sooner or later, aircraft would be forced into individual combats.[41] Thus, strategic bombing might not prove to be effective until an adversary's air fleet was destroyed. Contrary to Trenchard's idea of the moral effect of strategic bombing, Higgins argued for what is called today air control. He considered that the bombing of targets could be achieved only if supported by fighters during the air combat. He argued, *'As a result of these battles* [between fighters] *one side would probably in time obtain a fighting superiority, which would carry with it a concomitant bombing superiority.'*[42] In this regard, the conceptualisation of air power was going beyond existing technological and material capacities. On the other hand, these conceptualisations were driving forces for further technological improvements and subsequent materialisation of air power potential.[43]

Wing Commander and later Marshal of the RAF Sir John Slessor, in his work *Air Power and Armies* argued for joint campaigns, in which air power served in support and mainly protection of land forces attaining land warfare objectives.[44] The main emphasis of his work was on a detailed description of air superiority and air intelligence. However, the most important contribution of his work to strategic thinking was his statement that air power was not simply a tactical means, that it had a huge strategic potential which could be achieved through *'concentration on disruption,*

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[41]Ferris, "Achieving Air Ascendancy", 27.
[42]Quoted in Ferris "Achieving Air Ascendancy", 27.
[43] Ferris, J.R., "Fighter Defence Before Fighter Command: The Evolution of Strategic Air Defence In Great Britain, 1917-1934", *The Journal of Military History*, Volume 63, (October 1999): 847.
[44]AP 3000, (1999), 3.12.5.

destruction and neutralisation of enemy armaments and supplies.[45] Thus, he argued for a different set of targeting priorities than Trenchard suggested.

Although it can be argued that the existence of different conceptual ideas in professional discourse and the inclusion of aerial home defence and aerial fighting roles into doctrinal text suggest that a more systematic and holistic approach was adopted, the reality of training courses was different. The systematic approach was doomed to defeat due to the dominance of Trenchardian ideas among the leading teaching staff of the RAF Staff College, established at Andover in April 1922. Alan English argues that *'the first courses at the Staff College, followed a syllabus that reflected the preferences of the commandant, Brooke-Popham.'*[46] Both he and the second commandant Ludlow-Hewitt argued that the main aim of the air force was to target vital centres in order to effect the morale of the enemy's population in order to force their Government seek for peace.[47] Thus, the Trenchardian approach was still predominant in strategic thought within the RAF of the time.

Nevertheless, it should not be thought that RAF doctrine was the only publication to reflect conceptual thought on air power, at the time. Various aspects of air force practical application were embodied in minor doctrinal publications both in terms of Air Staff Manuals (ASM) and the CD series. According to the results of Neville Parton's research, over the first five years of the service's existence, 38 ASM's were published, four of which belonged to the CD series.[48] These findings show that, despite the prevalence of a single idea in the main air power discourse, conceptual and tactical thinking on air power did not stop. Slowly but constantly the field was evolving. However, the progress was quite slow in contrast to the other two services. Consequently, RAF officers' contribution to RUSI Journal was only 6% at the time.[49]

In the summary of doctrine analysis, Neville Parton has concluded that irrespective of what was written in the doctrine, the service was developing in an entirely different direction. In this regard, he asked a few very profound questions:

> *'why the RAF would produce doctrine if it was then going to ignore it - and as second order issues, if it did produce bad doctrine, why did it do so, and if the*

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[45] Ibid..
[46] English "The RAF Staff College", 412.
[47] English "The RAF Staff College", 413-416.
[48] Parton, "The Development of Early RAF Doctrine", 1173.
[49] Ibid., 1174.

doctrine was in fact reasonable, why was it not followed?'[50]

The answers might be found in lessons of the first RAF doctrine. First of all, although the target audiences were RAF personnel, the other two services and political decision-makers, the purpose of the doctrine was untypical. Its principal aim was unification of the service through the conceptual embodiment of strategic bombing. Inevitably, this contributed to rigidity of thinking and the dogmatic nature of the first doctrine. In terms of the wider audience, the doctrine was used for the service's justification as an independent service rather than as means of mutual understanding and effective cooperation in a future war. This overstretching of doctrinal functionality resulted in the perception of doctrine *per se* as dogma among the RAF professionals. Secondly, the purpose of the first doctrinal manual was to defuse instead of pursuing a narrow and single-purpose: to guide personnel. This was also partly because different levels of warfare were mixed in a single document. In this regard, one document referred to aerial policy, campaign strategy, operation planning, including cooperation and division of duties with other services, procedures of orders, and report submission in the field. In other words, strategic, operational and tactical levels were combined in one document, regardless of the relevance for the audience. Therefore, such a multi-faceted document could not be adopted and implemented by RAF personnel, not to mention again that only three chapters were particularly RAF-oriented.

However, it was not a bad political document. It was a doctrinal document targeted at achievement of political objectives, when the service was in a constant fight for its survival:

> *'The most desperate years of the struggle to maintain independence were 1921-1923. In this period, there was no shortage of acrimony and bitterness amongst the 3 Service Chiefs as they presented their own views of the proper way for an air service to be organise*d.'[51]

On the other hand, the first RAF doctrine created a precedent/tradition for the dogmatisation of doctrinal principles, dominance of a single concept, rigidity of strategic thinking on air power, and the substitution of practical doctrine functionality with political in terms of inter-service rivalry. In retrospect, the experience of the first doctrine paved the way for an anti-doctrinal attitude within the service and partly

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[50] Ibid., 1161.
[51] AP 3003, 56.

contributed to a division of RAF personnel into two groups: intellectuals and tactic-oriented thinkers.

Air Publication (AP) 1300

In the next few years, RAF performance in support of colonial rule in overseas territories proved to be quite sufficient and more cost-effective than army presence.[52] Consequently, the service experienced a modest expansion in 1925-26: twenty-five squadrons were formed, yet even more important was that *'in 1925, the first 4 of the Auxiliary Air Force squadrons were formed thus bringing into being Trenchard's idea of an RAF reserve similar to the Territorial army, and the first of the University Air Squadrons (UASs) was formed at Cambridge; London and Oxford UASs followed soon afterwards.'*[53] This expansion was significant not only in terms of numbers but rather in political spheres of influence and subsequent public and academic recognition, which improved the status of the junior service and attracted talented individuals.

With the further development of the RAF, the dominant discourse of offensive function of air power prevailed. The concept of strategic bombing was considered to be the main role of air power in British defence. Although, as it was outlined earlier (See p. 77-78), certain independent thinking on air power existed in informal discourse, the concept was meant to prepare air power thinking in order to result in its successful implementation. The cause-effect relation between thinking and practising this concept was explained in Trenchard's address to the Imperial Defence College on the war aim of the Air Force Air Staff, known as CD 64.[54] First of all, he discussed the diversity in tri-service views on the functionality of air power in the war. He argued that the main reason of diversity in views was an inability to understand that in the next war, air power was not going to be *'confined to the armed forces, but will also be directed, as they were by all sides in the last war, against the centres of production of war materials and transportation, and communications, and of the war control and organisation of the country.'*[55]

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[52] David E. Omissi, *Air Power and colonial control: the Royal Air Force 1919-1939* (Manchester: Manchester University Press, 1990), 29.
[53] AP 3003, 61.
[54] *The War Aim of the Royal Air Force*. (CD 64. Air Staff Memorandum No. 43. S. 28279). (London: the Imperial Defence College, October 1928).
[55] CD 64, 3.

In such a way he reemphasised the independence and self-sufficiency of the service and its ability to perform military tasks on its own. The potential of other significant roles of air power, except for a strategic offensive, were ignored:

> 'And it also seemed to me that in some quarters an idea was held that the main efforts of the air forces should be directed to attack the opposite air forces, a view with which the Air Staff strongly disagree. The aim of the Air Force in concert with the Navy and Army is to break down the enemy's resistance. The Air Force will contribute to this aim by attacks on objectives calculated to achieve this end in addition to direct co-operation with the Navy and Army and in furtherance of the policy of His Majesty's Government at the time.'[56]

In this speech, Trenchard reflected the existing air power thinking environment − complete prevalence of a single concept in official discourse and its subsequent unquestionable implementation in all spheres. It is not surprising that such a crucial document as the service's next doctrine reflected the same conceptual framework.

The next modification of RAF doctrine was the Air Publication (AP) 1300, *the Royal Air Force War Manual*[57] of July 1928. Just as the service saw expansion and certain settling down in the national system of defence, so did the doctrine, as its reflection and embodiment. Although cooperation with two other services was included in this publication, as in CD22, chapters devoted to air power and air warfare expanded and became more service-oriented. Various parts of the text were identical to the CD 22, yet the contextual interpretations and meaning was more purposeful and directed towards the service's equal status with two other services and subsequent role in a future war:

> 'The aim of a nation at war is to compel the enemy as quickly and economically as possible to conform to its purpose or will. Thus, the ultimate aim of all armed forces is identical, though the means to achieve that aim may differ.'[58]

Furthermore, air power was argued to be capable to overcome defensive barriers of both land and sea environments, which was considered to be a preliminary victory of land and sea destruction of corresponding enemy forces.[59] In other words, this idea was

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[56] Ibid..
[57] Air Ministry, *Royal Air Force War Manual. Part I - Operations.* (Air Publication 1300). Prepared by the direction of Command of the Air Council (London: Air Ministry, July 1928).
[58] AP 1300, (1928), Chapter I, para 3.
[59] AP 1300, (1928), Chapter I, para 4.

a very masterful paraphrasing of destructing the morale of the enemy through attacking the focal points of his homeland, which again corresponded to Trenchard's approach of the effect of strategic bombing on morale. It followed that the capability of aircraft meant that the 'bomber will get through':

> *'Unaffected by the configurations of the earth's surface, aircraft have the ability to move freely in three dimensions; they are thus able to strike rapidly and directly at the vital centres of the enemy which may be any centre essential to the maintenance of any or all of the enemy forces.'*[60]

In other words, the doctrine suggested that aircraft were capable of reaching all forces, while the other two services were limited to their own environments and the enemy's corresponding forces. As with Trenchard, the doctrine argued for the inability of air defence to prevent direct attack, and that the best defence and the use of air power was again the air offensive:

> *'To this direct air attack it is extremely difficult for an air force itself to offer an opposing barrier, because the wide space of the air and the condition of cloud and wind confer unique powers of evasion on the attacking aircraft and renders their timely interception uncertain. Even should interception be effected, the defenders cannot be said to possess absolute stopping powers, and cannot altogether prevent the attackers reaching their objective if the attack is made with sufficient determination.'*[61]

The aforementioned description of air power's role in a future war was in the introduction to the doctrine and before any analysis of the principles of war or campaign planning. This straightforward presentation of air power's objective determined the main theme and tone of the entire document – unique capabilities in terms of an air power offensive. This tendency can also be traced through the analysis of structure of the document. The first six chapters out of total of fourteen referred to general considerations like principles of war, policy and plans, command, leadership and morale, the fighting services, movements and protection. The remaining eight chapters were devoted to air power, three of which corresponded to aircraft cooperation with the Navy (Chapter XI[62]), the Army (Chapter XII) and combined operations (Chapter XIII). Thus, five chapters were devoted exclusively to air power, which can be viewed as a

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[60] AP 1300, (1928), Chapter I, para 5.
[61] AP 1300, (1928), Chapter I, para 6.
[62] This chapter was in the course of preparation at the time of doctrine publication.

step forward in contrast to CD 22. These chapters corresponded to the introduction and general theme of the air power offensive. Although the chapter on Air Warfare included a division of duties between offensive and defensive actions; air superiority and defence actions had their own sub-sections, the essence could be summarised in one sentence: *'The maxim that offence is the best defence applies even more truly to air warfare than to any other operation of war.'*[63] In this discourse, separate chapters on bombardment, air fighting and air attacks on aerodromes were natural.

Successful experience in overseas operations[64] resulted in an expansion of the final chapter on *'Air Operations in Undeveloped and Semi-Civilised Countries'* (Chapter XIV). This chapter is important because it corresponded to the contemporary content and writing manner. In this regard, based on the experience of the previous operations, it explained the characteristics of *'semi-civilised enemy operations'*, the functionality of aircraft and their role in these operations, tactical considerations of the most effective actions (methods of air attack), cooperation with other services and employment of air forces in support of civil administration.[65]

Overall, the significance of the 1st edition of AP 1300 was that it reflected the strengthening of the service and the atmosphere prevailing within it. Although this atmosphere was characterised by a lack of systematic or creative thinking on air power's utility, it still showed a more profound consideration of air power use in terms of offensive actions. The doctrine was more service-oriented than its predecessor, which should be considered a step forward. In the meantime, like CD 22, the line between levels of warfare was still quite vague; tactical instruction could be in the same paragraph as strategic justification of air power. The purpose and target audiences of the doctrine were still divided between the military and political.

Thus, it can be summarised that the statement 'the bomber will always get through' prevailed in conceptual and doctrinal discourses. The enduring nature of the conceptual framework was also conditioned by external factors. Almost a decade after its formation, the service found itself struggling for means to survive in peacetime without precise objectives and a specific enemy to compete with. Constant budgetary

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[63] AP 1300,(1928), Chapter VII, para 5.
[64] Omissi, *Air Power and colonial control*, 58.
[65] AP 1300 (1928), Chapter XIV.

restraints originating from the 'Ten Year Rule' resulted in relatively the same level of RAF development in 1928, as in 1918.[66]

The early doctrines showed the ideas prevalent in the RAF, demonstrating rigidity of strategic thinking and limitation of actions. In other words, the doctrine of the air offensive and strategic bombing became a dogma.[67] In this regard, it is essential to emphasise that this dogmatic framework was necessary in order to build an independent service with its own strategic, conceptual and therefore doctrinal traditions. Doctrine served as a means of unification and establishment of the service as an independent and self-sufficient actor in the national defence system. This conceptual permenancy served as a demonstration of service's validity and rationale for its existence. On the other hand, a shift in doctrinal functionality from its primary guiding role towards a political manifesto, created an atmosphere of suspicion regarding the validity of doctrine as an authoritative guide for practitioners and as means of training the new generations of RAF personnel. The relevance of doctrine would be even more compromised during WWII, which showed inconsistency between policy-targeted concepts and the reality of warfighting.

The interwar doctrinal experience of the RAF also showed how dangerous rigidity of mind and the service's self-perception might be in warfighting. In this context, the 1930s showed new tendencies in air power development. First of all, new technological improvements of fighter aircraft manoeuvrability proved that, after all, the bomber might not always get through, and without fighter support they might become easy targets for enemy fighter squadrons.[68] Secondly, British bombers lacked precision and bombing capabilities. Finally, the RAF lacked any practical experience of joint operations under the conditions of actual warfare, such as possessed by *Luftwaffe* in Spain.

According to James Corum, *'there were two primary reasons for the German success in Spain: good strategic leadership and a superior war doctrine.'*[69] There were considerable differences in the way the RAF and Luftwaffe viewed that application of

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[66] Tami Davis Biddle, "British and American Approaches to Strategic Bombing: the origins and implementation in the World War II Combined Bomber Offensive" in *Airpower: Theory and Practice*, ed., John Gooch (London: Frank Cass, 1995), 101.

[67] Scott Robertson, "The Development of Royal Air Force Strategic Bombing Doctrine between the Wars: A Revolution in Military Affairs?" *Airpower Journal*, vol. 12, no 1 (Spring 1998): 43.

[68] Robertson, "The Development of Royal Air Force," 44.

[69] James S. Corum, "The Luftwaffe and the Coalition Air War in Spain, 1936-1939" in *Airpower: Theory and Practice, ed.* John Gooch (London: Frank Cass, 1995), 80.

air power. At the operational level, Germans learned not only how to plan support operation in protection of land forces, but also they managed to operate efficiently with international contingent of Italian and Spanish allies, irrespective of a difference in technological strategic cultures.[70] They had also verified the concept of moral effect of bombing and came to a conclusion that, instead of fear, bombing of civilians might result in an increase of willingness to fight. From a tactical perspective, *Luftwaffe* used its *Condor Legion* fighters to provide coverage for its bombers.[71] Another essential modification was switch from 'v' structure of air unit to a pair. This modification made it easier for the wingman to concentrate and protect the main aircraft. Such modifications were a huge surprise in battle. It should be also outlined that Luftwaffe achievements were largely conditioned by their previous investment into the analysis of WWI experiences and subsequent modification of air power doctrine.

On the example of successful night-time bombing of industrial targets in Coventry, November 1940, James Corum persuades that '*putting 450 bombers on target in the dark is scarcely the trademark of an air force that had been designed purely for army support.*'[72] Thus, it can be argued that Luftwaffe's concentration on itself as a self-sufficient service might be one of the reasons for a straightforward development of its doctrine and its subsequent application. However, as Williamson Murray points out, a sound military doctrine does not guarantee victory: the inconsistency between grand strategy, logistics and actual capability would impair even the most detailed and practice-oriented doctrine.[73] Furthermore, Murray noted that the Luftwaffe's defeat in the air war, in Europe, was conditioned by its inability to provide aviation production in required numbers in 1940-41.[74] As a consequence, although Luftwaffe doctrine embodied the analysis of best practice and suggested guidance for the lessons to be learned and applied under favourable conditions (this is exactly what doctrines should

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[70] James C. Corum, "The Luftwaffe and Lessons learned in the Spanish Civil War" in *Air Power History*, eds. S. Cox and P. Gray (Oxon: Routledge, 2002), 66-93.

[71] On the other hand, as the experience of WWII proved, they did not realise that without fighters' coverage, their bombers were quite vulnerable to attack.

[72] James S. Corum, *The Luftwaffe: Creating the operational Air power, 1918-1940* (Westbrooke: University Press of Kanzas, 1997), 6.

[73] Murray Williamson, *Strategy for Defeat: Luftwaffe 1933-1945* (Honolulu: University Press of the Pacific, 2002).

[74] Murray Williamson, *Luftwaffe* (Baltimore: Nautical & Aviation Publishing Company of America, 1985).

do); its doctrine could not overcome the reality of material scarcity and the mistakes of grand strategy.

AP 1300, 2nd edition (February 1940)

The new edition of AP 1300[75] was issued soon after the beginning of the Second World War, in February 1940. This time, the emphasis was placed both on the defensive and offensive use of air power. The whole tone of the document was different from the previous editions since it was more warfare-oriented. Chris Finn notes:

> *'The second edition of AP1300, published in 1940, dealt with the context of war at the strategic level in terms of the main roles of air warfare: the strategic air offensive; the strategic air defensive; and operations in support of the Navy and Army.'*[76]

The introduction was concise and stated that the document was targeted to explain the strategic level of warfare and contextualise air power into it. First of all, such a distinction made the document more intelligible and easy to interpret. Secondly, it demonstrated a practitioner-oriented approach to the subject-matter. It also suggested the existence of a certain hierarchy in doctrinal documents within the service, which again demonstrated further development of the service and doctrinal practice.

The doctrine no longer concentrated on the explicit proclamation of the service's independence; rather it was more systematic in explaining the current war, diverse implications of bombing targets and consequences of civilian casualties in war. In other words, the description of features of war for the nation and division of roles between the armed forces were included. Thus, the doctrine read like a contemporary environmental doctrine outlining the context first and details and means afterwards.

The most crucial change in the doctrinal discourse was the introduction of a chapter on strategic air defensive, which although can be considered a breakthrough in terms of strategic thinking, was rather the need of the strategic environment of that time. Although the emphasis was still placed on the dominance of strategic offensive, it was reluctantly admitted that *'air offensive measures will not afford immediate protection from the enemy's air attacks upon our territory. Therefore, other steps must be taken to*

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[75] Air Ministry, *Royal Air Force War Manual. Part I - Operations.* (Air Publication 1300). 2nd Edition. Prepared by the direction of Command of the Air Council(London: Air Ministry, February 1940).

[76] Chris Finn "British Thinking on Air Power – The Evolution of AP3000" *Air Power Review*, vol. 12, no 1, (Spring, 2009):57.

achieve the maximum defence practicable against air attack.[77] Accordingly, the chapter did not only state commitments to defensive actions but was, in fact, quite practical in the very nature. It looked into potential defence strategy, constitution of a force for air defence and strategic use of fighters.[78] The main components of air defence included a force of fighter aircraft, anti-aircraft artillery, aircraft warning organisation, searchlights, balloon barrages and intercommunication system.[79] General considerations of roles and potential obstacles of each component implementation were addressed. Another practical advantage of the new doctrine was attention to the importance of information and intelligence for air operations:

> *'The basis of all plans for air operations must be good information. Only if full, accurate and up-to-date information concerning the enemy is available can our air forces be economically and effectively employed against the enemy.*[80]

The chapter on intelligence emphasised the importance of relevant and accurate information for air operations. Furthermore, it paid attention to practical means of collecting accurate data and the ways of their processing and transition, including such details as duties of an Intelligence Section. In general, it can be concluded that the doctrine written during a war will inevitably be directed towards practical considerations dictated by the necessities of the wartime. This wartime doctrine was aimed at fighting an exact enemy and not preparing for the potential diversity of adversaries. On the one hand, the concentration on characteristics of a single war limited doctrinal function of analysing lessons of the on-going war instead of preparing personnel for the next one. On the other hand, this doctrine was written during a war and had to address the urgent matters of the on-going war, before considering preparation of the personnel for the future ones. In terms of the evolution of doctrine from a policy-oriented to a training, practical document, this doctrine was a step forward, since it demonstrated understanding of the application of air power and its training. Nevertheless, the doctrine was far from a systematic evaluation of air power potential, since it was still oriented towards strategic air offensive. Tami Biddle is precise in explaining the WWII RAF doctrine discourse as following:

> *'while RAF wartime and post-war rhetoric was influenced by its organisational*

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[77] AP 1300, (1940), Chapter IX, para 1.
[78] Ibid., Chapter IX, para 3-21.
[79] Ibid., Chapter IX, para 6.
[80] Ibid., Chapter XII, para 1.

and bureaucratic context, it was also shaped by genuine perceptions of the day
− all of which were oriented to the future, and all of which seemed to be heavily
conditioned by expectations about behaviour of civilians in war.[81]

AP 1300, 3rd edition (January 1950)

From the operational perspective, the Second World War was the great test of air power. The previously emphasised introduction of CAS into air warfare during the First World War was far from efficient and well-coordinated at the time of the Battle of France.[82] This was mainly due to the lack of effective communication technologies and the consequent coordination of action between services.[83] However, by the end of the war, CAS cooperation was improved through the establishment of RAF Army Cooperation Command and Forward Air Support Links to coordinate inter-service cooperation and procedures for request of air support.[84] On the other hand, the Battle of Britain demonstrated that over-reliance of the service's doctrine on a single-purposeful use of a service could result in its defeat, which was the case of the Luftwaffe:

'Perhaps the most glaring is the doctrinal bankruptcy of the Luftwaffe, which led
it to emphasise battlefield air support to the detriment of more significant
strategic air operations, together with its failure to develop an adequate force
structure, acquisition system and training apparatus to ensure that it got the
right weapons and the right people in sufficient numbers to do the job.'[85]

The Battle of Britain and the war in general have demonstrated the importance of air superiority and interdiction for strategic objectives. In this regard, Tony Mason argued, *'Air superiority was essential to permitting friendly concentration of forces and supply while denying them to an enemy. The battlefield had to be isolated by destroying enemy access to it: the process of interdiction.'*[86] The war also demonstrated another aspect of services' cooperation apart from CAS − airborne troops. A British airborne division was formed in 1941 after the Battle for France. Airborne Forces were involved

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[81] Tami Davis Biddle, "British and American Approaches...", 97.

[82] Robin Higham, *Unflinching Zeal: The Air Battle over France Britain, May-October 1940* (Naval Institute Press, 2012), 202.

[83] Ian Gooderson, *Air Power at the Battlefront: Allied Close Air Support in Europe 1943-45* (Oxon: Routledge, 1998), 87.

[84] Ibid., 89.

[85] Richard P. Hallion, "The Second World War as a Turning Point in Air Power", in *Air Power History, Turning Points from Kitty Hawk to Kosovo*, eds., Sebastian Cox and Peter Grey, (London: Frank Cass, 2002), 98.

[86] Tony Mason, "British Air Power" in *Global Air Power*, ed. J.A. Olsen (Washington: Potomac Books, 2011), 32.

in the Italian campaign and the Battle of Arnhem.[87] Consequently, it can be argued that the war did not test only decisive or supportive roles of air power but air power *per se* in its full spectrum.

The most crucial implication of the war for the service was in testing its conceptual framework. As the Battle of Britain demonstrated, air supremacy was essential for defence and subsequent victory. The cornerstone of RAF doctrine and function of the RAF – the concept of strategic bombing used in a few bombing operations of 1941/42 proved to be less effective than the Trenchardian doctrine has envisioned.[88] In this regard, night-time bombing of German cities had confirmed the *Luftwaffe* experience in Spain – unlike the expected results, bombing of civilian or industrial targets does not decrease the will to fight; instead, it creates anger and desire for vengeance. [89] The controversy over civilian casualties during the bombing of Dresden in February 1945 detracted the support for the strategic effect of air power.[90] Walter J. Boyle commented on the evaluation of strategic bombing after the Battle for Britain in a very precise way:

> *'Although the British were aware of just how imprecise the German bombing had been, how relatively little critical damage had been done, and how their British morale had been maintained during the Blitz, they did not profit from their knowledge. Instead Britain embarked upon a night bombing campaign against Germany, believing somehow that RAF bombers would bomb accurately, and that the German people would not be as morally tough as the British.'*[91]

This simple observation demonstrates to what extent the concept of strategic bombing was dominant among the RAF and decision makers during the war. Another significant implication of World War II for air power and the RAF was the introduction

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[87]John McManus, "The Sword of St. Michael: The 82nd Airborne in World War II" *Journal of Military History*, vol. 76, no1 (January 2012): 289; Sebastian Ritchie, "Learning the Hard Way: A Comparative Perspective on Airborne Operations in the Second World War," *Air Power Review*, vol. 14, no 3 (Autumn/Winter 2011): 11-35.

[88] Richard Overy, *The Bombing War: Europe 1939-1945* (London: Allen Lane, 2013), 443.

[89] Richard Overy, Allied Bombing and the Destruction of German Cities., in *A World at Total War: Global Conflict and the Politics of Destruction 1937-1945*, eds., Chickering R, and Forster S. (Cambridge: Cambridge University Press, 2005), 279.

[90] Sebastian Cox, "The Dresden Raids: Why and How" in *Firestorm: The Bombing of Dresden 1945*, eds., Jeremy A. Crang and Paul Addison (London: Pimlico, 2006), 45.

[91] Walter J. Boyne, *The Influence of Air Power Upon History* (Barnsley: Pen & Sword Aviation, 2005), 217.

of a new capacity of air power − a nuclear attack. It did not only make strategic bombing complete in its moral and material destructive capability, but also proved that air power might be able to win wars on its own.[92] Whether the benefits of using it outweighed the subsequent destructive consequences was an entirely different matter. Thus, from conceptual and evolutionary perspectives, air power was moving forward. On the other hand, from the RAF's perspective, the time for self re-examination had arrived. Although the service had proved its defence capacity during the War, it needed new theoretic-conceptual framework to work within. In this context, contemporary authors of AP 3000 (1999) argued that, irrespective of substantial changes in AP 1300, in accordance with experiences of the Second World War, *'above all, air power appeared as the ultimate arbiter in military operations since, should nuclear war break out, atomic bombs would be dropped by manned bombers.*[93] Thus, the new strategic environment required the service to reconsider its role and find a place where it could belong. The 3rd edition of AP 1300[94] was a good attempt at doing so.

The 3rd edition of AP 1300 reflected the RAF's experience and functionality through WWII and its subsequent potential in the new strategic environment. In this regard, the previous doctrinal structure was complemented with a more detailed explanation of the meaning of war for the nation after the previous experience of two World Wars, characterisation of the Armed Forces and where the RAF was standing, at that time. For the first time the notion of air power was given and the whole of Chapter 4 was devoted to it:

> *'Air Power means the use of the air to enforce the national will. It is a compound of air forces themselves and of all those things upon which air forces directly or indirectly depend such as the aircraft industry, civil aviation, the air traffic control system with its communications, the meteorological service, secure fuel supply, and so on.'*[95]

Further, the chapter explained the history of the service, arguing that, despite its young age, the service and air power had managed to achieve a lot, in the last war, and

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[92] S. Richards "The Decisive Role of Air Power in the Pacific Campaign of WWII," *Air Power Review*, vol. 6, no. 2 (Summer 2003): 62.

[93] AP3000 (1999), 3.12.7.

[94] Air Ministry, *Royal Air Force War Manual. Part I - Operations* (Air Publication 1300). 3rd Edition. Prepared by Command of the Air Council (London: Air Ministry, January 1950).

[95] AP 1300 (1950), 19.

that air power was *'the determining factor'*[96] in modern warfare. Although cooperation with the other two services and the necessity of diverse roles of air power were emphasised the main conclusion was still unchanged: *'But the basic weapon of the Air Force is the bomber, and the basic strategy of Air Power must be offensive.*[97] Although it can be argued that this document was once again institutionalizing the same concept of strategic bombing, it also reflected a widened functionality of air power. On the basis of roles performed during WWII, subsequent chapters were devoted to air defence, air transport operations, air reconnaissance, and air operations in the undeveloped world.[98] Technical aspects of air power support were also included in terms of protection of air force on the ground, intelligence considerations, signals, administrative factors affecting operations.[99] Thus, a more systematic analysis of air power roles and their necessary support was conducted.

It can also be argued that, under the conditions of diverse functionality of air power and complexity of the post-World Wars world, promotion and support of systematic use of air power could have been more beneficial for the service and its subsequent strategic thinking. However, this document corresponded entirely to the historic-political situation when it was written. In the environment of peace-time reorganisation, by April 1947, nearly a million personnel were demobilised, resulting in an overall strength of 300,000.[100] In terms of political changes, the first post-war years brought the withdrawal from Empire and the subsequent necessity of presence in the overseas areas of influence.[101] From the RAF long-term perspective, in order to secure a stable position in the national defence system, the emphasis on air power functionality exclusively in peacekeeping and counterinsurgencies in overseas operations would have been unimaginable.

On the other hand, ironically, the realities of the approaching Cold War suggested the necessity for strategic bombing as a means of the delivery of nuclear weapons:

'Alongside the draw-down of the RAF's strength, and in spite of the financial and

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[96]AP 1300 (1950), 19.

[97] Ibid..

[98] Ibid..

[99] Ibid..

[100] AP 3003, 191.

[101]Robert Self, *British Foreign &Defence Policy since 1945: Challenges & Dilemmas in a Changing World* (Basingstoke: Palgrave Macmillan, 2010), 42.

economic problems, plans were made to re-equip the RAF with modern jet
aircraft and atomic weapons: in 1947 the Government decided, in great secrecy,
to develop a British atomic bomb which could be delivered by an RAF jet
bomber.'[102]

In this regard, doctrine could not place the emphasis on anything other than the function which could provide the service with a ground position in the national defence system. If history was not ironical in its very essence, it could be concluded that Trenchard's strategic bombing achieved its goal and secured the RAF a dominant role in the nuclear programme and in the national system of defence. However, a short-term success paved the way to a long-term disappointment in this concept and doctrine as its vessel.

Nuclear Aspect and the 4th edition of AP1300 (March 1957)

The wave of post WWII changes in the service was influenced by financial considerations as reflected in Duncan Sandys Statement on Defence 1957. The main emphasis of the paper was on maintaining nuclear deterrent and *'a comprehensive reshaping of policy'*[103]. For the RAF, this brought about more rigidity in thinking, but this time on a centralised basis, following the prescription of the Minister of Defence, Sandys:

'The V-Force was to be 'supplemented by ballistic rockets'...The fighter force,
responsive only for the defence of V-Force bases since a more general task of
air defence was thought impossible, was to be 'in due course replaced by a
ground-to-air guided missile system.'[104]

This time was particularly disadvantageous for the service, due to the failure of the UK's nuclear programmes, which undermined the RAF's status even more. The entirely British project, the long-range ballistic missile Blue Streak was cancelled in 1960 due to its inflexibility, *'having already cost £100 million, in favour of the American-built Skybolt air-launched missile.'*[105] Unfortunately, Skybolt was the last nail in the coffin of RAF's nuclear role. It was cancelled by American counterparts due to major problems in development. On 22 December 1962, the Nassau Agreement for

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[102] AP 3003, 191.
[103] AP 3003, 235.
[104] Ibid..
[105] AP 3003, 237.

British participation in the Polaris programme was signed.[106] Thus, *'within 18 months, the RAF had lost its 2 future nuclear weapons, Blue Streak and Skybolt.'*[107] Furthermore, in seven years, on 30 June 1969, the service lost its nuclear role to the Navy, with the approval of Polaris missiles for British nuclear-powered submarines. Although the RAF would continue to carry the WE.177 nuclear bomb until 1990s, the national deterrent capability at the strategic level was entrusted to the Navy.[108] According to Eric Grove, this failure to secure the most crucial strategic role *'caused perhaps the fundamental role of the RAF to disappear.'*[109]

Although doctrine was treated with scepticism inside the service, its self-expressing and justifying functionality was not forgotten by the RAF elite. When the new Defence Statement was published in 1957, the new publication of *AP 1300 Operations 4th edition*[110] followed. The essence of the document was in explaining the roles and potential of air power particularly in the environment of the Cold War. In the introduction note, the then CAS wrote:

> *'Providing the great deterrence, is the primary function of air power today. Responsibility for providing the United Kingdom's contribution to the deterrent rests with the Royal Air Force. This is our major task...*
>
> *In addition the Royal Air Force has to hold itself ready to exercise air power in all its forms against minor aggressions and subversive activities throughout the world in support of the United Nations and in defence of the Commonwealth.'*[111]

This straightforward note practically summarised the essence of the entire document. In terms of doctrinal development, this edition was characterised by a greater number of historical examples of air power use and future roles. A particular feature was that different operations were described through characterisation of their situational features. For instance, air operations in the undeveloped countries were examined in terms of control of undeveloped territory, air control, air operation in support of Land Forces in undeveloped countries, the value of intelligence and knowledge of the country

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[106] Frank Barnaby and Douglas Holdstock, eds., *The British Nuclear Weapons Programmes, 1952-2002* (London: Frank Cass, 2005), 60.

[107] AP 3003, 237.

[108] Kristan Stoddart, *Losing an Empire and Finding a Role: Britain, the USA, NATO and Nuclear Weapons, 1964-1970* (London: Palgrave Macmillan, 2012), 101.

[109] Eric Grove, "The Case for the RAF", 214.

[110] Air Ministry, *Royal Air Force Manual. Operations.* (Air Publication 1300). 4th Edition. Promulgated by Command of the Air Council (London: Air Ministry, March 1957).

[111] AP 1300 (1957), viii.

and employment of air forces in jungle country.[112] In general, the presentation was systematic and well-linked to particular strategic discourse of the Cold War and the potential of global war. The nuclear role was explained mainly in terms of the wider functionality of air power in the context of a global war:

> *'The aim of air power in the context of global war is therefore:*
>
> *(a) To maintain a level of nuclear striking power that will cause a potential* aggressor *to have grave doubts as to his ability to achieve his war aims without incurring devastating retaliatory damage; and*
>
> *(b) Should this deterrent fail, to destroy the enemy's nuclear offensive power and his means of continuing the war.'*[113]

Irrespective of the advancement of doctrinal texts and improvement in the systematic reflection of air power's use; in terms of the attainment of the service's political objectives, doctrine proved to be unsuccessful. No matter how detailed and masterful the justification of air power's multi-functionality was, it could not secure the nuclear role for the RAF, mainly because doctrine, by its very nature, was never meant to fulfil such a role. It was meant to guide personnel and not political decision-makers. However, the political aspect of RAF doctrine was threefold: to secure the deterrent role; to secure finance; and to secure the RAF's independence. Since the RAF lost the nuclear role to the Navy, any incorporation of doctrine into the ongoing political discourse with the aim of promoting and safeguarding the service, had rather a counterproductive effect towards general service's relation with doctrine *per se.* Doctrine was considered to be dogma by serving personnel, due to the negative experience of the two world wars, but after the nuclear chapter in the RAF history, doctrine lost any relevance for the RAF, and thus was completely abandoned by the service. Although it was reissued twice, in 1964 and 1971, the publication was withdrawn and entirely substituted by NATO tactical air power doctrine.[114] However, *'it was still used as a 'C' promotion exam (from flight lieutenant to squadron leader) primer as late as 1977.'*[115] In the long run, the failure of doctrine to fulfil a political function *'contributed to the RAF's anti-intellectualism in the subsequent decades,*

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[112] AP 1300 (1957) Chapter XII, 87-97.

[113] AP 1300 (1957), 28.

[114] Redvers T.N. "Post-Cold War Development of United Kingdom Joint Air Command and Control Capability" *Air & Space Power Journal,* vol. 18, no 4 (Winter 2004): 74.

[115] Chris Finn "British Thinking on Air Power – The Evolution of AP3000" *Air Power Review*, vol. 12, no 1, (Spring, 2009), 58.

characterised by a wide-spread reluctance within the Service to formulate grand concepts on paper.'[116]

Doctrinal Vacuum in the 1970-1990s

The next stage of the RAF history was characterised by a complete absence of the national single-service doctrine and prevalence of NATO tactical doctrine. In terms of the NATO strategy of 'Flexible Response', the RAF had become *'a low-level tactical air force tailored for high intensity operations in Europe against Warsaw Pact forces.'*[117] In this context, concentration of the service on allied objectives might have been influenced by the reality of the Cold War and existence of the block of adversaries and subsequent interconnected Allied system of defence. However, it can also be explained by the decline of inter-service struggle after the RAF's failure to win the nuclear role. In this context, the argument was about the provision of a carrier-based role in joint operations.[118] Accordingly, the RAF's concentration on NATO doctrine looked like another attempt to keep its independent status and to limit inter-service rivalry.

The whole doctrinal experience until 1971 did not only leave the service without a framework document, but also resulted in anti-intellectualism and complete redundancy of creative and strategic thinking on air power.[119] The general impression was that, although the service existed, it was practically mute about itself and only functioned in the Allied environment, and this was procedures-oriented. In order for the service to get a second life, it required stimulation of intellectual thinking on air power. The starting point was 1977, when the position of the Director for Defence Studies (DDS) for the RAF was established by CAS Air Chief Marshal Sir Neil Cameron. The role of this position was *'to be responsible for reviving and maintaining an interest in the study of present and future uses of air power in its various military applications.'*[120] The first DDS was then Group Captain Tony Mason. His contribution to the subject was the following:

'My personal contribution, at the time, was in the stimulation of thinking on air

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[116]Markus Mäder, *In Pursuit of Conceptual Excellence. The Evolution of British Military-Strategic Doctrine in the Post-Cold War Era, 1989-2002*. (New York: Peter Lang Publishing 2004), 109.
[117]AP 3000 (1999), 3.12.9.
[118] Eric Grove, "The Case for the RAF", 214.
[119]Tony Mason, interview with the author, Cheltenham, 19 June 2013.
[120] Chris Finn, "British Thinking on Air Power", 58.

power in the new era. I did not exclude strategic bombing but supported synergy in air power use. Another contribution is the introduction of the definition of air power which is used nowadays, and was used in the recent doctrines: 'Air power is the ability to project military force by or from a platform in the third dimension above the surface of the earth.'[121]

Tony Mason's activity was far-reaching and stimulated cooperation between the military and academic community, which developed into the first symposium on air power titled *Air Power in the next generation*, taking place in April 1977, at the University of Southampton.[122] This was a step towards merging practice with scholarly creativity, with further introduction of masters courses for serving officers in order to boost intellectualism within the service and therefore to contribute to its modification according to the new global tendencies in air power development. Another important aspect was that the RAF began to think on air power in a wider, global perspective, with further incorporation of external experiences into the national discourse, based on the analysis of past and future challenges:

'This is generally speaking a symposium about the future, and about air power and its part in the future. If we want to look at the future, we can learn much from the past, and in the history of air power the one constant has been – paradoxically - that of change.'[123]

The importance of this activity is that, irrespective of a general absence of doctrine as a conceptual framework, the service did not cease to exist and its ability to adapt to the post-Cold War environment was preserved. On the other hand, another tendency within the service was the development of two approaches to problem-resolution: intellectual and tactics-oriented, which would become another obstacle on the way of doctrine's return into RAF practice in 1990s.

In the context of the doctrinal vacuum outlined above, it is not surprising that the revival of the doctrinal discourse in the British Armed Forces did not start from the RAF. The fundamental changes in doctrinal practice started with the Army and Bagnall's Reform. The Army doctrine written closest to the end of the Cold War was

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[121] Tony Mason, interview with the author, Cheltenham, 19 June 2013.
[122] Tony Mason and E.J. Feuchtwanger eds., *Air Power in the Next generation* (London: Macmillan Press, 1979).
[123] Neil Cameron, "Air Power: Thinking about the Future" in *Air Power in the Next generation*, eds., Tony Mason and Feuchtwanger E.J (London: Macmillan Press, 1979), 1.

Design for Military Operations – The British Military Doctrine,[124] in 1989. It was characterised by the orientation of NATO's Central Front and Cold War discourse. The spirit of innovation and change in the post-Cold War reformation of the Army is associated with the name of Sir Nigel Thomas Bagnall, who argued for the necessity of changing the existing at that time culture of two armies within the British Army and the necessity of reforming the Army according to the new changes in strategic environment. Already in 1989, Bagnall argued that one of the means of providing importance and complementing nuclear deterrence was '*the conventional capability to make it credible.*'[125] Bagnall suggested reforming the Central region practice that allowed each division to conduct its own battle. He aimed at expanding of the coordination of actions far beyond the divisional level towards stimulation of corps' battle. Thus, he envisioned the renewal of the necessity for the operational and more manoeuvrable aspect of warfare.[126] Bagnall realised the necessity of intellectual and conceptual approach to the implementation of his ideas into reformation of the Army that is why he created an informal group of co-thinkers who supported his vision of the Army reforms. They became known as the 'Ginger Group.'

The importance of Bagnall in the history of the Army and British doctrine, in general, is that he also revived the interest and emphasised the role of doctrine in the reformation process of the Armed Forces. In this regard, he was convinced that one of the ways of understanding the best ways of the contemporary development of the Armed Forces was through the study of military history and analysis of the lessons of warfare. Although it was admitted that '*history could be a double-edged instrument for doctrine development as the line between its use and misuse was thin,*'[127]it was also acknowledged that systematic analysis of the past was the key to reforming the contemporary performance of the Army. Thus, the contribution of Bagnall reform to the history of the British doctrine is that he brought back its credibility in the military practice and emphasised its crucial functionality in the Armed Forces adaptation to the new strategic post-Cold War environment.

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[124] *Design for Military Operations – The British Military Doctrine.* Prepared under the Direction of the Chief of the General Staff. (London: HMSO, 1989).
[125] Mäder, *In Pursuit of Conceptual Excellence*, 86.
[126] Ibid..
[127] Mäder, *In Pursuit of Conceptual Excellence*, 88-89.

At the same time, in the 1980s, the Royal Navy continued its formal mission with NATO in the context of the potential global war, the ten years of the Armilla Patrol in the Gulf suggested slightly different realities. Markus Mader argues that the conceptual debate within the Royal Navy shifted from the nature and duration of the NATO mission towards evaluation of the results of expeditionary operations.[128] The regionalisation of the Navy operations triggered the question regarding the balancing of the maritime force that could and was expected to cover the entire spectrum of capabilities. Regarding the use of force the types of tasks the Navy would have to perform, they would require '*flexibility and versatility, as the spectrum of tasks ranged from 'show of force' and embargo enforcement to fully-fledged warfighting.*'[129] In this regard, Mader argues that the Royal Navy had envisioned the type of operations which would be required in the first post-Cold War environment, meaning the shift from sea control towards maritime power projection particularly functional in the cases of stability projection and crisis intervention.[130] Thus, the importance of the naval discourse to the studied field is that it demonstrates that the influence of conceptual thinking on the services performance can be functional without doctrine. However, in the post-Cold War environment where doctrine gained its place in the national Armed Forces adaptation process, thanks to Bagnall, a service without a formal conceptual framework could find itself in a disadvantageous position in contrast to the other two services. Mader argues that the late publication of the high-level doctrine by the Royal Navy in the post-Cold War period was conditioned by the inner on-going changes within the service which seemed not to require the formal acknowledgment of these changes. However, '*confronted with inter-service rivalry, the Royal Navy gradually acknowledged the need for a written statement of its role in the new strategic environment.*'[131]

The New Chapter in the History of RAF Doctrine

In the end of the 1980s − beginning of the 1990s, the service, without a conceptual framework for the national air power, was losing its self-sufficiency, particularly when American allies began to question their concepts in the light of the

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[128] Mäder, *In Pursuit of Conceptual Excellence*, 161.
[129] Ibid..
[130] Mäder, *In Pursuit of Conceptual Excellence*, 162.
[131] Mäder, *In Pursuit,* 154.

post-Vietnam experience.[132] Although the attitude to doctrine remained generally quite hostile, RAF practitioners did not stop thinking about the concept of air power, its use and future. Although at the time, there was no formal single-service doctrine publication at use, *'there was some published writing available on the subject which provided guidance for those prepared to look.'*[133] The RAF magazine *Air Clues* was a forum for practitioners to discuss various ideas, share experiences and best practice. However, there was no official, systemised framework document to direct the service's development and facilitate it in the future of British Defence.

Under the conditions of the prevailing procedure-oriented approach in RAF practice, it is not surprising that the initiative to revive service doctrine came from a group of intellectuals. The next DDS, Group Captain Andrew Vallance, argued that the main rationale for his interest in RAF doctrine was due to the inquiries of American colleagues:

> *'At that time, US doctrine was well-established, and American colleagues became interested in the British experience. That is why Chris Bowie initiated a research to find out what is meant by RAF doctrine. The finding was quite surprising for him – 'we simply do not have one'. Chris wondered how we structure our forces if we have no doctrine. Personally, I became interested in the topic and convinced RAF Chief to send me to Cambridge, where I explored the development of RAF doctrine in Post-World Wars period.'*[134]

The result of his study in Cambridge was a MPhil thesis on *The Evolution of Air Power Doctrine 1957-1987,*[135] the main emphasis of which was an exploration of doctrinal experience within the service in order to *'chart the way ahead for doctrinal evolution.'*[136] In the article which followed in *Air Clues* in May 1988, Andrew Vallance argued that a single-service framework document had become essential in the environment of centralisation and merging of all colours into purple, meaning proto-jointery, which was on the way. In 1984, with Heseltine's reorganisation of the Ministry of Defence, which *'aimed to eliminate the effects of inter-Service rivalry over the*

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[132] Redvers "Post-Cold War Development of United Kingdom Joint Air Command": 78.

[133] Cox and Ritchie, "The Gulf War and UK Air Power Doctrine and Practice", in *Air Power History: Turning Points from Kitty Hawk to Kosovo*, eds., Cox S. and Gray P. (Oxon: Frank Cass, 2002), 288.

[134] Andrew Vallance, interview with the author, London, 11 July 2013.

[135] Andrew Vallance, *"The Evolution of Air Power Doctrine within the RAF 1957 - 1987"* (MPhil thesis, the University of Cambridge, 1988).

[136] Ibid., 5.

allocation of defence resources,'[137] and the introduction of a 'vertical perspective' into concept studies, one of the main obstacles was *'the trend towards ever greater role specialisation, when combined with the lack of a unifying central doctrine, meant that many civilians, politicians, and even military men tended increasingly to consider each role in isolation.*'[138] In order to make the vertical approach more productive, the RAF needed to express itself clearly and 'as a whole' from the horizontal perspective and a single-service doctrine could fulfil this role. In other words, in the process of proto-jointery development and reorganisation of MOD, the framework document could explain air power's role to decision-makers and thus secure a more exact division of duties and avoidance of duplication. However, it also suggests that the service had to re-establish its originality/authenticity in an age of reform. Thus, the necessity of doctrine was conditioned by changes in the internal environment rather than a new operational experience or factors in the wider external environment.

As well as bringing attention to doctrine in the professional realm, Andrew Vallance showed that thinking on air power also existed informally. He compiled relevant essays and published them as *Air Power: Collected Essays on Doctrine* in January 1990. [139] This collection was an anthology of experts' opinions on various practices of air power use. It aimed at stimulating thinking in the Air Force. Andrew Vallance called it *'a doctrinal balloon: punch it and see where it will fly.'*[140] Later, this semi-official publication became the essence of the first edition of AP 3000, [141] published in 1991.

The main rationale for publication was not only the lack of a single-service doctrine; the service needed a guide to change efficiently according to new tendencies in air power development. In this context, Andrew Vallance argued:

> *'the new doctrine had to go away from strategic bombing; in Europe, its role was in air superiority. Therefore, the Air Force was going for a dominant role of the contemporary scale – air strategy and command of the Air.'*[142]

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[137] Michael, Hobkirk "The Heseltine Reorganisation of Defence: Kill or Cure?" The RUSI Journal, vol.130, iss. 1 (1985): 45.

[138] Andrew Vallance, "Air Power Doctrine," *Air Clues*, vol. 42, no 5 (May 1988):166.

[139] Mäder, *In Pursuit of Conceptual Excellence*, 115-116.

[140] Andrew Vallance, interview with the author, London, 11 July 2013.

[141] *Royal Air Force Air Power Doctrine* (AP 3000). Prepared under the direction of the Chief of the Air Staff (London: HMSO, 1991).

[142] Andrew Vallance, interview with the author, London, 11 July 2013.

The RAF had been without a distinct conceptual framework for a considerable period of time. The new doctrine was not only meant to summarise the relevant best practice of the past and how they could be applied in the new environment. It also had to explain what the service was at that time, and where it belonged in terms of British Defence and global security in the evolving strategic environment. Unlike contemporary doctrines, the 1st edition of AP 3000 was not future-looking, but a reflection of contemporary problems, although it excluded lessons of the Gulf War, mainly due to the time it was published. Andrew Vallance argued that the driving force behind the first edition was a need to understand where the RAF was located post-Cold War:

> *'The 1st edition was looking at where we are now, in 1990s, the end of Cold War, experience of the Gulf War. It was waging of war on a grander scale, which still proved Cold War direction. There were 3 main types of air campaigns outlined in the first edition: Close Air Support (CAS), strategic effect and anti-surface.'*[143]

The characteristic feature of the new doctrine was that, unlike its predecessors, it was primarily aimed at practitioners and not just at decision-makers or a wider audience. In this regard, attention was paid to understanding and respect for doctrine *per se,* as a means of air power description and teaching to the service's junior officers and stimulation of more creative thinking. This tendency was well-presented in the foreword by then CAS Air Chief Marshal Sir Peter Harding:

> *'This manual does lay down a rigid set of rules; rather, it identifies guiding principles which can be used to ensure that air power is employed to best effect in national and multi-national defence. It has three aims. First, to foster a more cohesive approach to air power education within the Service; second, to be the foundation of our contribution to the formulation of joint-service doctrine, and alliance doctrine with NATO or other allies; and, finally to enhance the understanding of air power within our sister-Services, the Civil Service, Parliament and the general public. This is the document for all branches of the Service and is as relevant to the administrator and the engineer as it is to the pilot. I expect all officers, irrespective of their branch, to familiarize themselves with its contents.'*[144]

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[143] Ibid..
[144] AP 3000(1991), foreword.

The tone of the address was aimed at persuading the audience that doctrine is relevant to all personnel of the service. Thus, it tried to overcome the environment of doctrine rejection and misperception, which had formed after 30 years of absence and a long-term history of its misuse. The very fact that CAS wrote a foreword to the doctrine gave it official recognition and authoritative status, which was quite an achievement at that time.[145]

The necessity of doctrine and its infiltration into service practice was reflected in the text of the doctrine. Apart from chapters devoted to operational considerations of air power use, two separate chapters and one appendix were devoted to military doctrine *per se.*[146] They concentrated on the definition and role of doctrine, levels of doctrine, which are traditional for contemporary publications, doctrine application and also doctrine preparation processes. The whole doctrinal discourse of the text can be summarised in a couple of paragraphs:

> *'Doctrine is in essence "that which is taught". It is in accumulation of knowledge which is gained primarily from the study and analysis of experience. As such it reflects what works best...The function of military doctrine is not to detail a set of rules but to provide direction as an aid to understanding. The importance to an armed force of this was put by Major-General Fuller as follows: '"what to think" supplies us with the bricks and mortar, "how to think" with the craftsmanship'. It is that craftsmanship which formal military doctrine seeks to develop.'*[147]

This was the crucial element, which all previous doctrines lacked – the orientation and ability to convince serving personnel that the document was written for them and that it is useful for their education and subsequent preparation for every-day practice as part of this service and the British Armed Forces, in general. That is the main reason why we can start the countdown of fully-formed and functional RAF doctrine with AP 3000, 1st edition. Apart from various ways of showing the relevance of doctrine for personnel and its further application, this publication also assessed how doctrine should be prepared and when it fails to be relevant. In this regard, the most important connection was traced between doctrine and operational experience. Operational experience should serve as a source of knowledge for doctrine and also as means of its

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[145] Andrew Vallance, interview with the author, London, 11 July 2013.
[146] AP 3000 (1991).
[147] AP 3000 (1991), 5.

validation and further modification, which is reflected in the doctrine preparation cycle shown below.
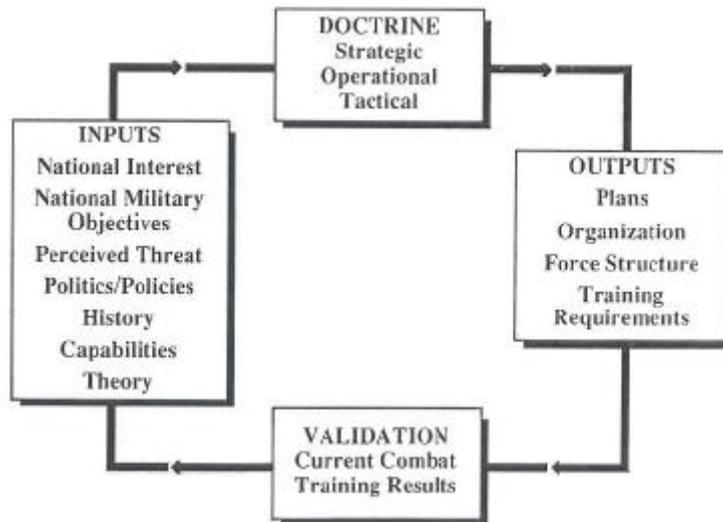
Figure 3 − Doctrine Preparation Cycle[148]

Overall, it can be concluded that the first post-Cold War doctrine paved the way for a new chapter in RAF history, where doctrine was part of its modification and experience assessment. Although it can be argued that the publication of the first doctrine would have been more systematic and practice-oriented if it had waited for analysis of the Gulf War experiences, it was published in due time in order to understand the relevance of doctrine *per se* for the service and incorporated it into RAF practice. Although it can be argued that the doctrine was still Cold War-oriented and thus could not be progressive in its nature,[149] it was the starting point of the service's conceptualisation in the post-Cold War era.

In this regard, explanation of where the service is at a particular point of time is a good start for its thinking on where it wants to go and how to evolve. Therefore, the main aim of the first post-Cold War RAF doctrine was to become the starting point of the service's self-realisation in the new strategic era. It was still too early to speak about its future, since the lessons of the new post-Cold War operation had not yet been analysed. Thus, although the first doctrine publication in 30 years was a significant step forward, the main driving force for service change and realization of the role of doctrine in service's preparation for the new wars was the experience of the Gulf War.

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[148] AP 3000 (1991), appendix B.
[149] Chris Finn, "British Thinking on Air Power", 62.

AP 3000, 2nd edition, 1993

Just as Bagnall's reform was a crucial for Army doctrines, so was the Gulf War for the new RAF doctrine. Accordingly, the 2nd edition of AP 3000[150] summarised the service's experience in the Gulf War and outlined the potential framework of the use of air power in the post-Cold War era. Whilst the Gulf War showed a crucial necessity for technological and tactical improvement,[151] it also had an impact on the conceptual justification of air power and its facilitation into the new strategic environment. Although the traditional function of air power − strategic bombing − was revived in the War, it had gained a new conceptualisation in terms of a connection between precision potential and political objectives. Air power had not only proved useful in support of the land forces, but it had also shown its main advantages in terms of reach and speed in a limited time, which could not be achieved by any other service.[152] It had also re-established the necessity and importance of air superiority under the conditions of a new conflict like the Gulf War.[153] Another lesson of the Gulf War was the efficiency of inter-service cooperation, particularly Air/Land warfare.[154] Finally, the experience of the Gulf War argued for the importance of technology in the new age of warfare.[155] All these aspects can be traced in the 2nd edition of AP 3000.

First of all, despite of the prevalence of the Cold War orientation of the military, the international response to the Iraqi threat was viewed as quite sufficient and rapid and as one which could not be provided by any other service.[156] At that time, the deployment of F3 squadrons 48-hour after the British Government had committed itself to the conflict was viewed not only as the political confirmation of the 'special relationship' but also as reflecting the potential of air power to provide such means for decision-making.[157] Although the advantages of air power had remained the same over a

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[150]*Royal Air Force Air Power Doctrine* (AP 3000). 2nd Edition. Prepared under the direction of the Chief of the Air Staff (London: HMSO, 1993).

[151]Richard H. Shultz and Robert L. Pfaltzgraff eds., *The Future of Air Power in the Aftermath of the Gulf War* (Alabama: Air University Press, 1992), 10.

[152]Mäder, *In Pursuit of Conceptual Excellence,* 117.

[153] E.N. Luttwak "Victory through air power" *Commentary* vol.92, iss.2 (August 1991): 29.

[154] Thomas A., Keaney "The linkage of air and ground power in the future of conflict" *International Security*, vol. 22, no. 2 (Fall 1997): 148.

[155] David, Callahan "Air power comes of age" *Technology Review*, vol.97, iss.6 (August/September 1994): 65.

[156] Deptula David and Charles Link, "Modern Warfare: Desert Strom, Operation Iraqi Freedom and Operation Freedom" *Air Power History*, vol. 54, no.4 (Winter 2007): 39.

[157]William Head, "The Battle for Ra's Al-Khafji and the Effects of Air Power January 29-February 1 Part 1, 1991" *Air Power History*, vol. 60, no. 1 (Spring 2013): 5.

few decades, the emphasis on speed and reach was aimed at the incorporation of air power and the service back to the national discourse of its defence functionality instead of the NATO one. In other words, the War and its subsequent analysis in terms of air power use argued for the importance of air power as the 'means of first use' for the decision-makers.[158] In this context, doctrine summarised the campaign in terms of air offensive in the following manner:

> *'During the Gulf War of 1991, Coalition Strategic Air offensive operations achieved major results. The attack disrupted Iraq's nuclear research and production capabilities and severely damaged its chemical and biological warfare facilities. Half of Iraq's oil-refining capacity was destroyed, the national electricity grid was 'broken', transport feeder routes to Kuwait cut by half and communications were severely disrupted. Baghdad was short of food and without electricity and mains water.'*[159]

This passage from the doctrine demonstrates in a very delicate and precise manner how strategically efficient the air offensive was considered to be and how many political objectives it could achieve if applied at the strategic level. As the following decades showed, the use of air power in distant regional conflicts would be able to confirm national participation, influence and support to regional allies. In other words, deployment of air power and land forces are two entirely different matters from financial, human resources and politic-strategic perspectives. On the other hand, although British response to the conflict was rapid, the immediate deployment was subject to logistics and situational characteristics. The speed of deployment was partly due to the on-going training of two F3 squadrons on Cyprus and their subsequent technical readiness was due to the training operation they were involved in.[160] Nevertheless, this experience proved high efficiency of air power combining combat strength and ability to be deployed in distant battlefields within a relatively short period of time.[161]

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[158]Bingham Price, "Air power in Desert Storm and the need for doctrinal change", *Airpower Journal*, vol.5, no. 4 (Winter 1991): 35.

[159] AP 3000 (1993), 71.

[160] Sebastian Cox and Sebastian Ritchie, "The Gulf War and UK Air Power Doctrine and Practice" in *Air Power History: Turning Points from Kitty Hawk to Kosovo*, eds., S. Cox & P. Gray (Oxon: Frank Cass, 2002), 290.

[161]Lawrence Freedman and Ephraim Karsh, *The Gulf Conflict, 1990-1991: Diplomacy and War in the New World Order* (Princeton: Princeton University Press, 1993), 68.

Secondly, the war had proved the vital necessity of air superiority for any sort of campaign. In this context, it was not the concept of air superiority that was new to the operation, but rather the general capabilities of air power to provide background support to all other operational activities on land. Although the initial plan of the campaign envisioned four separately conducted phases, in which the role of air power was in clearing the area as much as possible for the large-scale land operation, the merging of phases, which resulted in almost simultaneous performance, showed that air power was an equal partner in the campaign.[162] The whole operation embodied the symbiosis of air and land warfare conducted simultaneously. These were not simple tasks of destroying land targets and letting the army do the 'real job', but a case of joint inter-service cooperation at its best. The doctrine addresses this aspect as follows:

> *'Strategic air offensive operations can be carried largely independently of other air and surface operations, but they tend to be very much more effective, when fully integrated into theatre campaigns.'*[163]

Regaining an independent yet joint role in the achievement of strategic objectives and subsequent equal status with other services had various implications. First of all, it demonstrated an equal functionality between different services, irrespective of their natural environment, which was good from the point of cooperation and evolution of campaign planning for the future. On the other hand, it had also contributed to the overreliance on jointery. Although operational cooperation between services and nations proved to be efficient, despite some minor contradictions,[164] the same expectation concerning peacetime cooperation under the conditions of the post-Cold War transformation was rather a dream than reality. Thus, contextual judgement was essential. Thirdly, the air power concept of strategic bombingwas not only revived and modified according to the new strategic discourse, but was finally proved to be correct:

> *'The precision of the Coalition air attacks was of a completely different order from that achieved during previous wars; this enabled Coalition air forces to attack successfully a large number of strategic centres of gravity within a single*

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[162] Norman Schwarzkopf and Peter Petre, *It does not take a hero: The Autobiography of General H. Norman Schwarzkopf* (New York: Bantam Books, 1992), 268.
[163] AP 3000 (1993), 71.
[164] Olsen J.A., *Strategic Air Power in Desert Storm* (London: Frank Cass, 2003), 129.

wave, thus achieving strategic paralysis of the enemy.'[165]

This was because of the correspondence of the available technologies to almost century-old concepts. The improved precision of aircraft and application of UAV drones and laser sighting contributed to a relatively surgical character of the war.[166] The significance of stealth technology was particularly emphasised within the doctrine:

> *'The Gulf War also witnessed the usefulness of stealth technology in strategic air offensive operations. Stealthy F-117As flew hundreds of sortie without loss. Though comprising only 2.5% of the Coalition force, the F-117s struck 31% of the strategic targets and 80% of the targets in Baghdad.'[167]*

Precision gave an opportunity to attack a wider choice of targets and evaluate their strategic relevance. In other words, the experience of the Gulf War was the start of the concept of 'effects-based targeting', which was to prevail over the strategic discourse through 1990s.[168] The core of the conceptual changes was not in semantics. It was the adaptation of the functionality of air power from the large-scale bombing of the Second World War to the expeditionary roles of the Twenty-First century.

Finally, the doctrine was beginning to look forward and adapt to the new global security discourse, which included Peace Support Operations (PSO). Although the development of PSO doctrine was still far from its completion,[169] RAF doctrine addressed this topic from the perspective of air power. Andrew Vallance argued:

> *'In the 2nd edition we started to get involved in PSO. This edition included 5 categories of air campaigns. In reality, PSO was a variation of surface attack operation. This time we had PGMs, which showed that air power was able to deliver what it has always promised. PGMs also raised another question – you do not need so many combat forces, if you have those [PGMs]. On the other hand, the counter-force was the importance of ISTAR, which meant a necessity of diversity of combat forces. Thus, Air Power was not just for mass effect but for selective targets. Enemy casualties mattered. You could not wage the war by*

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[165] AP 3000 (1993), 71.
[166] Olsen, *Strategic Air Power in Desert Storm*, 155.
[167] AP 3000 (1993), 71.
[168] B.T. Williams, "Effects-Based Operations: Theory, Application, and the Role of Airpower" in *Transformation Concepts for National Security in the 21st Century*, ed., Williamson Murray (Carlisle: Strategic Studies Institute of the US Army War College, 2002), 134.
[169] The first post-Cold War Army PSO doctrine − Wider Peacekeeping was published only in 1995.

a simple statement 'they are enemies – will kill them all – we win the war.'[170]

Consequently, success in the Gulf War and the revival of doctrine in the service resulted in the introduction of a new doctrine development process. From 1994, regular air power workshops were conducted between the RAF Staff College and the Centre for Defence Studies.[171] The main aim of these workshops was to reflect on ongoing operations to promote the conceptual thinking of the service and in terms of national defence. The main topics of the time were the contribution of air power to peace support operations, influenced by NATO's Operation Deliberate Force of 1995 in Bosnia, the impact of the Revolution in Military Affairs (RMA) on air power etc. The next step in encouraging exchange of ideas was the establishment of the service's own journal on air power discussions −*Air Power Review,* in 1998.[172] Accordingly, doctrine became the service's evaluation of operational experience, its introduction into training courses and means of the service's self-explanation and manifestation to a wider audience, in that very order of priorities.

The Lessons of History

Looking through this chapter, one might ask a reasonable question − so what does all that mean; what does the history of the RAF teach us and what has it to do with doctrine? From all that was mentioned above, the main conclusion would be that history is crucial for doctrinal studies. From the technical perspective, history provides doctrine with experience on which to learn and train new generations. It gives understanding of what was done and from which assumptions contemporary ideas and concepts are derived. On the other hand, history provides practical evidence of doctrine application and pitfalls of misinterpretation. From the perceptive of doctrine evolution, history gives an exceptional perspective to observe, not only the connection between a concept's endurance and the service's and air power's evolution, but also to explore the reasons behind doctrine writing and the development of doctrine. Thus, knowledge of history is a key to unravelling not only the meaning of the contents of a formal doctrine, but also its purpose and evolving functionality in terms of the military-political dichotomy. It is also a key to understanding doctrinal dilemmas and potential failure − the human factor (over-reliance on prescribed methods and the lack of creative

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[170] Andrew Vallance, interview with the author, London, 11 July 2013.
[171] Mäder, *In Pursuit of Conceptual Excellence,*120.
[172] Mäder, *In Pursuit of Conceptual Excellence,*121.

thinking). Therefore, the following are the lessons learned from the history of the RAF doctrine.

Doctrine can become a dogma if it is not revised and changed according to the development of the strategic environment and technological capabilities. Trenchard's experience with doctrine was doomed to failure because doctrine was initially associated with the service's independence. Consequently, the rationale was based on the idea that the psychological effect of strategic bombing was a cornerstone of air power. This concept justified the existence of the service and its potential functionality in war. Thus, in order to secure the permanency of the service's status, the supporting concept had to remain permanent. Subsequently, the formal doctrine, new editions notwithstanding, remained almost the same. Instead of reflecting changing strategic and technological realities, doctrine was used to secure the material embodiment of the conceptual framework. From a perspective of survival, as a new-born service, the constant search for alternative concepts of air power use might have resulted in lack of trust and even a potential dissociation between other services. Without a precise conceptual framework outlining the unique role of air power, the service would not be able to explain the rationale for its independence and the role in British defence to other services and government.

Although, during war, services will do whatever the goal requires and try to support each other, in peacetime, rivalry persists. However, the first RAF doctrines were written in peacetime, as a preparation for war. The severity of inter-service struggle might affect doctrine even more than experience of previous and ongoing operations. Since peacetime is a time of preparation for the next war, if time is wasted on dividing the defence budgetary cake and not on the development of new approaches to the missions conduct and planning of joint operations, then services might find themselves unprepared for the next war. Under those circumstances, the cost of wasted time might outweigh the privileged position of any service. From the doctrinal perspective, the lesson is that, while exploring the formal doctrine of a particular time, the state of inter-service rivalry should not be forgotten. In order to understand the full complexity of tasks imposed on a given document, the wider political, defence and inter-service situation should be explored. Another lesson to learn is that, although doctrine can be associated with a service's independence and self-justification, its main purpose as guidance to the Armed Forces should not be substituted by secondary ones.

Thus, history shows that in order to understand a given doctrine, exploration of its historical framework is essential.

The importance of inter-service rivalry in the process of doctrine writing is that it might confuse the purpose of the doctrine as a guide for military personnel with a political document advertising the service to attract more funding. In other words, the doctrine might lose its initial purpose and become a means of manipulation. Another aspect of inter-service rivalry is that depending on the emphasis placed on British defence of a particular time and which service seems to be dominant, the emphasis on certain cooperation with that dominant service is outlined in doctrines of two other services. Thus, the inter-service rivalry is inevitable and always present in the Armed Forces discourse of any country. On the other hand, the factors influencing doctrine preparation process should not be reduced to a single element of inter-service rivalry. There are many factors that influence the final content of the doctrine. The situational configuration of these factors in the dominant context of inter-service rivalry shapes the doctrine. In other words, the atmosphere of inter-service rivalry is a constant factor, while the others can vary depending on the historical context. The essential point regarding inter-service rivalry is that in a cause-effect relationship, it is not the cause or trigger for the RAF position regarding its doctrine and the manner it is written. The main motivation in the RAF doctrine preparation and the emphasising of strategic role of air power is the desire of the service to preserve its independence.

In terms of previous lessons, there is another consideration, which should be taken into account: when doctrine stops being a guide to military personnel, what does it become? The experience of RAF doctrine shows that, when the primary audience of military personnel is substituted by the secondary, meaning a wider audience of politicians and decision-makers, doctrine functions as a political document. As a political document it expresses a certain purpose which is as short-lived as the political situation for which the document was written. Under such conditions, doctrine is incapable of securing the endurance of the long-term experience of the service, but rather provides material justification of conceptual claims for further financing. Doctrine fails to carry any educative role and subsequent relevance for service personnel, and therefore it loses any practical relevance and validity. In other words, the same document could have been called a report to the government: 'The service's justification of its existence and money spending'. It should be emphasised that military

institutions do have to report and justify their spending to the government; however, RAF doctrinal history shows that doctrine is the wrong document in which to do so. Thus, the lesson to be learned here is that doctrine should, first of all, target military personnel and be a guide to desired performance. Only as a secondary purpose, should it explain the service to a wider audience.

From the perspective of doctrine evolution, the lesson is that, although doctrine should be revised according to changes in the strategic environment, the driving forces for reviewing doctrine vary from time to time. The rationale for each doctrinal revision is different. The first RAF doctrine was written due to the necessity of a formal framework document to reflect the existence of an independent service. Although the subsequent editions were not characterised by substantial conceptual changes, the revision of AP 1300 after 1945 was prompted by failure of the expected psychological effects of strategic bombing and diversity of operational experiences of WWII. In this context, the new doctrine was crucial for explaining the previous failures and also to provide new guidance in the entirely new environment of the nuclear age. However, while the doctrine of 1945 was more apologetic and explanatory in its nature, the doctrine of 1957 was a justification of the strategic offensive in the framework of the new nuclear strategic environment and necessity to preserve the role of strategic nuclear deterrence. In other words, doctrine was again used as a means to political ends and, in this case, evolution of the service. Finally, the doctrine of 1991 aimed at the reformation of the service due to the new realities of the Post-Cold War era. Starting from AP 3000 (2nd edition), the main reason for writing doctrine became the necessity of absorbing the new operational experiences and their introduction into training courses. Overall, it can be summarised that doctrine is rewritten when substantial changes in the strategic and political environments occur.

Probably one of the most crucial lessons of RAF doctrinal history, which inevitably should be taken into account in this research, is that decades of doctrinal dogmatism created the doctrine-hostile environment within the RAF. In this regard, it did not only mean that Andrew Vallance had to fight the reluctance of RAF personnel to produce and even read doctrine. The service's inner culture, which was formed during these decades and which is passed to the new generation, is doctrine-sceptical, at best. Therefore, throughout the research it should be kept in mind that there were diverse groups within the service that considered doctrine to be another means of bureaucracy

and that tactics-oriented thinking is the most functional within the RAF. Thus, the struggle between intellectuals and tacticians should not be forgotten. The main relevance of this lesson to this research is that this struggle and the service's anti-intellectualism were reflected in various ways in the studied doctrines and thus showed certain tendencies within the service's development. This is particularly the case when history can give an answer to the contemporary situation. These lessons will become more vivid and relevant when particular examples of contemporary doctrines are studied and the first one will be the 3rd edition of AP 3000, which is the subject of the next two chapters.

CHAPTER III: CASE STUDY OF THE 3RD EDITION OF AP 3000 (PART I)

The 3rd edition of AP 3000 was published in 1999. Like the first two editions, the main responsibility for the preparation and publication of the air power doctrine was with DDS and a group of specialists. This edition of AP 3000 was prepared under the supervision of Group Captain Stuart W. Peach (DDS for the RAF), as the principal author and editor, and Wing Commodore P.J Greville (SO1 Defence Studies, RAF), as an assistant editor.[1] Various warfare specialists from all three services were involved in discussions and doctrinal workshops. Although, for the purpose of this research, interviewing participants and authors of the doctrine would have been helpful, unfortunately the main participants were not available. Therefore, the following case study is remote from events and so is more reliant on analysis of secondary literature to provide a basis for a deeper analysis and understanding. In terms of understanding the environment that prevailed within the service and subsequent complexities in doctrine preparation, various practitioners who were active within the service at that time helped to fill the gaps. Interviews with Andrew Vallance, Peter Gray and Chris Finn were of particular relevance in this regard.

Unlike the previous two editions of AP 3000, the structure of the new one was different. First of all, the doctrine no longer tried to explain the relevance of doctrine *per se* to either practitioners or a wider audience. Therefore, such chapters as *'Military Doctrine', 'Applying the Doctrine', 'The Doctrinal Process'* were omitted in the new edition. Instead, this edition concentrated on the nature of doctrine, its relevance for the service and the historical development of air power doctrine. Consequently, this edition included such chapters as *'The Nature of Doctrine'* and *'History of British Air Power Doctrine'*. Another feature of the new edition was that the use of air power was embodied not by the five categories of air campaigns envisioned in the 2nd edition, but in terms of capabilities. The document was divided into three parts. The first part explained the strategic context contained in three chapters: *'The Nature of War and Armed Conflict', 'Air Power'* and *'The Command and Control of Air Power'*. The second part referred to air power's core capabilities. This included chapters such as: *'Information Exploitation', 'Control of the Air', 'Strategic Effect of Air Power', 'Joint Force Employment 1: Indirect Air Operations and Direct Air Operations', 'Joint Force Employment 2: Combat Support Air Operations', 'Joint Force Employment 3: Force Protection'*, and a chapter on *'Sustainability'*. The third part explored the evolution of air

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[1] AP 3000, (1999), Acknowledgements.

power doctrine. Particular attention was paid to the nature of doctrine, history of British air power doctrine, air power definitions and terms and a chapter on further reading.

FACTORS OF THE EXTERNAL ENVIRONMENT

The 3rd edition of AP 3000 was separated from its predecessor by five years. This period was characterised by the development post-Cold War strategic environment and the appearance of new unconventional types of conflict. Accordingly, a new doctrine was needed in order to reflect the new operational experience of Bosnia. The new doctrine had to reflect these changes, explain the place of air power in the new strategic environment, and also secure its validity within the service. In the foreword, then CAS Air Chief Marshal Sir Richard Johns stated:

> *'With the certainties of the Cold War now a fading memory, subsequent conflicts*
> *in the Gulf and Balkans have reminded us that the world remains a violent,*
> *dangerous and unpredictable place. But, as singular certainty for the future, we*
> *may rest assured that Air Power, in all or any of its many guises, will continue*
> *to play a full part in the resolution of crises at any level of conflict. In our*
> *rapidly changing world, we should not allow doctrine to become dogma. Thus,*
> *to insure its continuing relevance, doctrine must reflect a process of continuing*
> *review that examines definitions and concepts, as well as the roles and missions*
> *of Air Power.'*[2]

The Experience of Previous Operations

While the experience of the Gulf War argued for the supremacy of conventional warfare, the experience of Bosnia argued for the rise of more intricate and less specific conflicts; air power had to be conceptualised to cover both. Consequently, the ways of its use were to be determined by experiences of two entirely different operations. Air Chief Marshal Brian Burridge commented:

> *'....just to simplify, the First Gulf War. Then, that was very much about*
> *preparation of the battlespace. If you think about it, there was some*
> *considerable period of continuous air bombardment of fielded forces, Iraqi*
> *fielded forces, before the land forces engaged. And the nature of our ability, at*
> *the time, and perhaps the engagement from the land warfare point of view meant*
> *that integration of land and air in a manoeuvrist way was not really an issue.*
> *Separately, in the Balkans, we were confronted with an enemy who did not*

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[2]AP 3000, (1999), Foreword.

*necessarily correspond to coercion in the traditional wa*y.'[3]

The Bosnian conflict showed just how complex operations could be when military means were used to attain humanitarian goals. This suggested the need for a new operational framework − Peace Support Operations (PSO). Bosnia was a starting point for the development of this type of operation and its subsequent conceptualisation in Armed Forces' thinking. In this regard, Bosnia showed that there was a fundamental friction when pursuing humanitarian objectives, particularly when the military could not be entirely effective due to the limitations imposed by humanitarian objectives and subsequent restraints on actions. For instance, during Operation Deny Flight, the targeting approval process was strict. For a NATO aircraft to hit Serbian artillery striking Sarajevo, approval was required from the UN Secretary General; naturally, by the time approval was received, the gun was under cover.[4]

The second miss-step of Operation Deny Flight was an inconsistency between actual strikes and the political message being sent to the belligerents. After the first strikes of Deny Flight, the UN officials declared that these measures were necessary due to the deterioration of the situation, but that it took no sides. Afterwards, in order to reduce the risk of UNPROFOR personnel from being taken hostages, the UK and France blocked plans for new strikes.[5] What might be viewed as adequate political and diplomatic action under certain circumstances was a counterproductive and disastrous in military/tactical terms. Stopping strikes gave the Serbs an opportunity to recover and regroup their forces. Although the UN tried to resolve the problem through diplomatic means according to international law, the belligerents treated UN observers as hostages, chaining them to bunkers and main infrastructure targets like bridges and communication towers.[6]

This relates to another crucial consideration which also restrained the use of air power: sensitivity to collateral damage. This resulted in particularly strict and prescriptive Rules of Engagement (ROEs) − *'OPLAN 40101's ROE annex, Security Council Resolutions, and the general feeling that even small levels of collateral damage would undermine political support tightly restricted what NATO air men actually could*

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[3] Sir Brian Burridge, interview with the author, London, 11 July 2013.
[4] Robert Owen, "Operation Deliberate Force, 1995" in *A History of Air Warfare*, ed. Andreas Olsen (Washington: Potomac Books, 2009): 209.
[5] Owen, "Operation Deliberate Force,"210.
[6] Steven Burg and Paul Shoup, *Ethnic Conflict and International Intervention: Crisis in Bosnia-Herzegovina, 1990-93* (New York: M.E. Sharpe, 2000), 63.

do,[7] not to mention the fact that these ROEs outlined the types of target, that could be hit, and subsequent accountability to civil authorities which could interrupt the air campaign at any stage of its conduct.[8] The problem here was not simply in the fact that certain targets were omitted, but that *'highly restrictive ROEs, useful for preventing unwanted escalation, can also increase the risks to the forces involved in an operation.'*[9] All in all, the experience of Bosnia was bringing practitioners to the conclusion that the conflicts of the post-Cold War strategic environment, particularly characterised by peace-support element, would undermine traditional use of military capabilities.[10] In this regard, Tony Mason commented that there were two views of the conflict: *'Those who argued that Air Power could bring the Bosnian tragedies to a speedy conclusion were opposed by those who were concerned about collateral damage, retaliation against civilians and UN forces on the ground, and the apparent lack of suitable targets for air attack in a confused patchwork of relatively small military confrontations; nor was topography of Bosnia as Air Power friendly as in Iraq.'*[11]

In terms of cooperation among the three services, synchronisation was required. In other words, synergy was back on the table of conceptual discussions and planning, although the concept itself was not new.[12] Andrew Lambert stated that *'as a buzz-word of the 1980s, 'synergy' came to be applied to any interaction deserving approbation; it became hackneyed, and any two successful combinations were frequently labelled a 'synergy'. However, the true effect was often one of increasing numbers producing increasing results, when, in reality, the extra forces reacted in contrary, or perhaps only complementary, ways with one another.'*[13] While Operation Desert Storm showed *'an unmistakable operation-level synergy, demonstrated by the ease of the land offensive,'*[14] the lack of consistent coordination between forces in Bosnia resulted in negative

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[7] Owen, "Operation Deliberate Force,"214.

[8] Paul Szasz, "Peacekeeping in Operation: A conflict Study of Bosnia," *Cornell International Law Journal*, vol. 28, no. 3(1995): 691.

[9] Bucknam M.A. *Responsibility of Command: How UN and NATO Commanders influenced Air Power over Bosnia* (AFB: Air University Press, 2003), 44.

[10] Daniel Haulman, "The United States Air Force and Bosnia, 1992-1995", *Air Power History*, vol. 60, no. 3 (Fall 2013): 25.

[11] Tony Mason "Air Power in Peace Support Environment" in *The Dynamics of Air Power*, eds. Andrew Lambert and Arthur C. Williamson (Bracknell: HMSO, 1996), 112.

[12] Bruno Simma, "NATO, the UN and the Use of Force: Legal Aspects" *The European Journal of International Law*, vol. 10 (1999): 5.

[13] Andrew Lambert, "Synergy in Operations" in *The Dynamics of Air Power*, eds. Andrew Lambert and Arthur C. Williamson (Bracknell: HMSO, 1996), 40.

[14] Ibid., 47.

synergetic results.[15] One of the lessons of Bosnia was that synergy should be used in order to prevent UN soldiers or any other land forces being taken as hostages in response to air attacks. Depending on the characteristics of the operation, when synergistically used, air power could decrease the enemy's power, leaving the land forces to tidy up the rest, or it could be used as a means of supporting peacekeeping and peace enforcement operations, thus securing its role in the PSO environment.[16]

Operational Experience in Doctrinal Discourse

The unconventional nature of Bosnia and its difference from the Gulf War meant that existing air power doctrine was not enough to reflect the new strategic reality and the role of air power in it. It does not mean that AP 3000 (2nd edition) was wrong, rather that it was still more oriented to the experience of the Gulf War and employment of the Armed Forces in conventional warfare.[17] The striking difference between the two conflicts shows that doctrine cannot predict development of the strategic environment and be fully prepared for it, but also that it should not be entirely devoted to the experience of a single operation, even if it is the most recent campaign. Thus, a more systematic approach was still required. The new doctrine had to develop a new conceptual framework towards the improvement of synergy on the basis of lessons learned from two recent campaigns.[18]

Thus, somehow, the new doctrine had to cooperate with the doctrines of other services or, at least, not to contradict their concepts of PSO. It also had to take into account the changing nature of the domestic political and public opinion, and be a means of preserving support at home.[19] Consequently, it is not surprising that the new edition of AP 3000 was not published right after the Bosnian conflict; there were simply too many variables. A detailed analysis of the use of air power in the recent operation was required. Therefore, it would not be sufficient just to look into which examples of Bosnia were shown in the text of the doctrine; the internal means of reflection on this

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[15] Leighton Smith, "NATO's IFOR in Action: Lessons from the Bosnian Peace Support Operations" *Strategic Forum*, no. 154 (January 1999): 155.

[16] Lim Kok Siong et al., "Airpower in Non-Conventional Operations" *Pointer*, vol. 30, no. 3 (2004). Accessed July 13, 2013, http://www.mindef.gov.sg/imindef/publications/pointer/journals/2004/v30n3/features/ feature4.html.

[17] Andrew Vallance, interview with the author, London, 11 July, 2013.

[18] Robert Owen, "The Balkans air campaign study: Part 2" *Air Power Journal*, vol. 11, no. 3 (Fall 1997): 22.

[19] Allen Sens, "Living in a Renovated NATO*" Canadian Military Journal*, vol. 1, no. 4 (Winter 2000/2001): 81.

experience were of particular relevance. In this regard, the post-Cold War development of the Army's PSO doctrine had a significant influence on AP 3000 3rd edition.

PSO doctrine and the RAF

The first few years after the Cold War were characterised by the argument within the Army about which way peacekeeping was meant to go, and whether changes were needed, in the first place. The traditional approach was through national contributions to the UN framework, with the use of force only for extreme cases of self-defence. Consequently, the consent of all participating parties was required.[20] However, the reality of Bosnia showed that this was not enough. Post operational analysis demonstrated the inconsistency between tradition/dogma and the new reality, which stimulated a debate on the new PSO doctrine. The essence of the discussion was in making a distinction between peacekeeping, peace support and subsequent peace enforcement. The group of traditionalists, together with Colonel Allan Mallinson and Lieutenant Colonel Charles Dobbie,[21] argued that the main distinguishing feature between peacekeeping and peace enforcement was absolute consent and that peace enforcement equalled warfighting.[22]

The opposite group of thinkers, represented by John Mackinlay, Richard Connaughton and Philip Wilkinson, argued for a more progressive common ground between PSO and COIN approaches. Wilkinson, as one of the authors of this doctrine, argued that although peace enforcement, just as war-fighting, had no consent, the main difference was supposed to be in means and objectives. Peace enforcement was supposed to aim at a return of consent and required military force to be applied in the most limited way.[23] On the other hand, war fighting aimed at achieving a particular political objective with substantial application of force depending on the situation. Regardless of the existing debate, the final variant of Wider Peace Keeping (WPK) was influenced and actually written in the context of the traditionalist approach.[24]

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[20]Chen Kertcher, "From Cold War to a System of Peacekeeping Operations: the Discussions on Peacekeeping Operations in the UN during the 1980s up to 1992" *Journal of Contemporary History*, vol. 47, no. 3 (July 2012): 628.

[21] Both were involved in preparation of Wider Peacekeeping of 1995: Mallinson was the project leader and Dobbie was the primary author.

[22] Charles Dobbie "A Concept for Post-Cold War Peacekeeping," *Survival*, vol. 36, no. 3 (Autumn 1994):125.

[23] Phillip Wilkinson "Letters," *The Officer,* vol. 10, no. 3 (May/June 1998): 3.

[24] Wilkinson "Letters," 4.

Therefore, it is not surprising that such a single-minded approach to doctrine writing caused a wave of criticism of the doctrine. The first criticism was the fact that it was built on very vague notions like consent, which could be interpreted in various ways depending on inter-state or intra-state context.[25] Secondly, in the way the document was written, it was more a plan of action rather than doctrine. In this context, Connaughton suggested that instead of broad principles applicable under the conditions of any operation, the document reminded him of prescriptions derived exclusively from the Bosnia experience.[26] On the other hand, according to Mallinson, expectations from this interim and tactical level doctrine were pushed to the level of an operational one. He referred to criticism of Connaughton.[27] He argued that consent at the tactical and operational levels had a different meaning. While, in the field, consent might be lost for various reasons it should not be dismissed at the operational level.

Another important issue discussed by Mallinson was that, irrespective of a potential need for a new and wide doctrine on peacekeeping, WPK was not the one and the very aim of the document was exclusively tactical, depicting long-existing military practices and peacekeeping realities.[28] In other words, the main negative aspect of the document was its situational nature and orientation at the tactical level guidelines rather than as advice on generic principles on how to act in PSO regarding various levels of consent and escalation. In his book, Markus Mader draws the conclusion that the document served a political purpose, rather than as a military guide; *'in short, the doctrine had a clear political function serving specific Service interests: the justification of its behaviour vis-a-vis Bosnia.'[29]*

It may seem from this that disputes about particular Army doctrine had nothing to do with the RAF and subsequent use of air power. However, the connection was direct – the lessons of Bosnia applied in the WPK were also applied in judging the performance of air power, which was the main power used in the conflict. Therefore, the evaluation of the Army in terms of development of the new WPK doctrine was also aimed at shaping the future of PSO and subsequent roles air power could play in it. Since the debate about consent and the meaning of peace enforcement was quite fierce,

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[25] Richard Connaughton, "Quo Vadis?" *The Officer*, vol. 10, no. 2 (March/April 1998):30.
[26] Connaughton, "Quo Vadis?" 31.
[27] Allan Mallinson, "Wider Peacekeeping: An option of Difficulties," *British Army Review* vol.112 (April 1996):5.
[28] Ibid., 6.
[29] Mäder, *In Pursuit of Conceptual Excellence,* 152.

the RAF elite had to consider a wide spectrum of air power use in the PSO environment. This not only meant that a distinction between air power's roles in peacekeeping, peace-support and peace enforcement was needed, but the emphasis was meant to be placed on air power to be flexible enough to adapt to any changes of the environment, including shifts in the Army thinking on the nature of consent and subsequent definition of the peace enforcement roles each service might play.

Andrew Lambert argued that the experience of Bosnia showed that the efficiency of air power in peace enforcement can be achieved through improvement of synergy.[30] However, at that same time, Phil Sabin argued that PSOs were not meant to be treated as an entirely new phenomenon and that since they were *'shaped by complex and dynamic interaction of the strategies of the intervening states and the local combatants; in this, PSOs are analogous to limited wars.'*[31] The subsequent conclusion of this statement was that since certain analogies can be applied to PSOs, they should be used as *'doctrinal considerations of PSOs proceeds, rather than treating PSOs as an entirely distinct form of activity in which the only way of improving our understanding is through hard school of trial and error in the operations themselves.'*[32] This conclusion had a couple of further theoretical implications. First of all, if PSO was not entirely new and a certain analogy with limited wars could be made, then air power could be applied accordingly, without having to reinvent the wheel. Secondly, it meant that air power had a substantial background from colonial experience in dealing with limited wars and insurgencies, which was another step towards a middle ground between peacekeeping and counterinsurgency. Finally, this suggestion also offered the fact that air power can, in its own way, go about PSO without waiting for the Army doctrine to evolve. This meant the development of theoretical thinking rather than the independent role of air power in PSO.

Even taking PSO doctrine as new guidance for future operations, air power was considered to be contributory to all four phases of the PSO environment: preventive diplomacy, peacemaking, peacekeeping and peace enforcement. The main benefit of air power was in its remoteness from the place of conflict, which meant that it could be applied according to the extent of the limited political commitment sought. In this

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[30] Lambert "Synergy in Operations," 66.
[31] Phil Sabin, "Peace Support Operations: A strategic Perspective" in *The Dynamics of Air Power*, eds. Andrew Lambert and Arthur C. Williamson (Bracknell: HMSO, 1996), 110.
[32] Ibid., 111.

regard, air power could be used as a deterrent means in preventive diplomacy or to prepare the way for ground forces.[33] Its roles could be contributory in coalition activities (transportation of humanitarian supplies) or *'intermittent: activated and suspended in harmony with diplomatic and other actions or considerations in a peacebuilding process.'*[34] In the reconnaissance role in PSOs, air power was considered to have the following benefits: air recce was less affected by consent constraints; it identified potential belligerents and discriminated them from the civilian population; it contributed to UN forces in gaining escalation dominance; and it contributed to identification of belligerents' intentions.[35] Even in respect of transport operations, air power was crucial for the movement of supply, equipment, airborne operations of insertion or redeployment of combat forces, aero-medical evacuation to insertion and recovery of Special Operations Forces (SOF) and combat recovery.[36]

At the conclusion of this discourse the RAF elite argued that air power had the necessary attributes of multi-functionality and flexibility for conventional inter-state conflicts and the PSO environment. This multi-facet thinking on air power was also ready for the PSO doctrine of 1998, which was written under the direct supervision of Phillip Wilkinson. It reflected the first stages in the merging of PSO and COIN doctrine, which aimed not at the provision of an absolute consent, but the use of coercion in a new way; in order to restore consent and desired outcomes within international mandates.[37] The new doctrine was inspired by the experience of the late stages of Bosnia and replacement of UNPROFOR by NATO forces − the Implementation Force (IFOR).[38] Although the new doctrine took a more modern direction, it still caused fierce disputes, particularly between Conaughton, who argued for the necessity of a more practical operations-driven doctrine, and Wilkinson, who emphasised that *'doctrine should not reflect what happened but suggest appropriate responses.'*[39]

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[33] Tony Mason, "Air Power In the Peace Support Environment " in *The Dynamics of Air Power*, eds. Andrew Lambert and Arthur C. Williamson (Bracknell: HMSO, 1996), 118.

[34] Ibid., 118.

[35] Andrew Lambert, "The Reconnaissance and Surveillance Task in Peace Support Operations" in *The Dynamics of Air Power*, eds. Andrew Lambert and Arthur C. Williamson (Bracknell: HMSO, 1996), 144-145.

[36] Gordon Wooley "Air Transport in Peace Support Operations" in *The Dynamics of Air Power*, eds. Andrew Lambert and Arthur C. Williamson (Bracknell: HMSO, 1996), 146-147.

[37] Stuart Griffin, *Understanding Peacekeeping.* 2nd Edition (Cambridge: Polity Press, 2010), 203.

[38] Mäder, *In Pursuit of Conceptual Excellence,* 211.

[39] Rod Thornton, "The role of peace support operations doctrine in the British Army," *International Peacekeeping,* vol. 7, no. 2 (Summer 2000): 58.

All in all, the discourse of PSO doctrine demonstrates that due to the uncertainty of the Army approach to PSO reflected in WPK; the independent thinking on the role of air power in PSOs was justified. Although WPK showed certain tendencies in the way the Army was approaching PSOs, it also demonstrated a lack of unanimity about this path. Although it is difficult to find out how ideas were exchanged at that time within and between services, it is undeniable that the Army's operational doctrines affected all services, mainly because they were not writing entirely separate operational doctrines of their own. Therefore, in order to fit any framework adopted by the Army, the RAF took a more flexible, accepting and diplomatic approach to the matter – incorporating new objectives and tasks which corresponded to existing and evolving threats. So, in the context of independent and flexible thinking on air power, it could have been expected that RAF doctrine, just as in the first two editions, would describe a single-service answer to the posed challenges of the strategic environment irrespective of the Army's volatile conceptual search. In order to verify the extent to which the PSO environment and experiences of Bosnia had influenced and were reflected in the 3rd edition of AP 3000, the actual references to these elements should be traced through the text of the doctrine.

The PSO reality was outlined already in the first chapter, devoted to the nature of war and armed conflict. Different types of PSOs were identified in terms of the new types of conflicts in which British Armed Forces might be deployed in the future. The main types of operations constituted an entire spectrum of conflict: general war, limited conflict, regional conflict, civil war, insurgency and terrorism.[40] The subsequent response to this diversity of conflicts was reflected in the types of operations: preventative diplomacy, conflict prevention and defence diplomacy, peace support operations, peacekeeping, peace enforcement, post-conflict activity and peace building and humanitarian operations.[41] Further description of each operation follows a regular pattern − the explanation of the meaning of a particular type of operation for the conflict resolution, where it is on the ladder of conflict escalation and consent; what is the legal basis in terms of UN Charter and finally the definition is given from the new edition of PSO doctrine *Peace Support Operations* (JWP 3-50).[42]

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[40]AP 3000 (1999), 1.1.5 - 1.1.7.
[41]AP 3000 (1999), 1.1.7 - 1.1.10.
[42]*Peace Support Operations* (Joint Warfare Publication 3-50) (London: MOD, 1998).

This pattern can be traced through an example of peace enforcement. First of all, it is shown where it fits in terms of other operations related to peace and security and further conflict escalation: '*If a crisis deteriorates further or a humanitarian catastrophe develops, the mandate may be changed to authorise the use of force, typically via a UN Chapter VII mandatory Security Council Resolution.*'[43] This description also justifies the legal basis for the conduct of operation within the UN authorisation through a subsequent mandate: '*such use of force is described as peace enforcement and requires compliance with a mandate to secure peace and restore international security.*'[44] Due to the aforementioned discourse on consent and a gap between peace support operations and counter-insurgency, regarding the degree of coercion applied, the doctrine emphasises the exact direction it follows in this context: '*peace enforcement operations are undertaken to establish and maintain peace when consent may be lost or uncertain; peace enforcement operations are, thus, coercive.*'[45]

Because of the emphasis placed on the transitional role of peace enforcement before actual warfighting, it could have been concluded that the doctrine was influenced by JWP 3-50. However, actual proof of the connection between the two doctrines can be found in the description of peace-support operations used in JWP 3-50:

> '*Peace Enforcement operations are coercive in nature and undertaken under Chapter VII of the UN Charter when the consent of any of the major parties to the conflict is uncertain. They are designed to maintain peace and re-establish peace or enforce and the terms specified in the mandate.*'[46]

The importance of such evidence is not simply in the fact that this doctrine affected AP 3000 but that it was viewed as an authoritative source for the national definition of new types of operations. Accordingly, what we see is not simply RAF thinking on the matter of how to use air power in PSOs, but a joint approach to the use of air power in a wider spectrum of conflicts in cooperation with other services. In other words, we have here the first sketches of '*joint air power doctrine*'[47] rather than a single-service doctrine on air power use.

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[43] AP 3000 (1999), 1.1.9.
[44] Ibid..
[45] AP 3000 (1999), 1.1.9.
[46] Ibid..
[47] Phil Sabin, interview with the author, London, 20 June, 2013.

This doctrine demonstrates newly emerging tendencies in the national and international environment, which was not simply characterised by PSO requirements, but by the joint and combined nature of any future operation. Although a few years before the publication of the 3rd edition, the RAF elite's thinking was more single-service and air power-oriented, the doctrine of 1999 was aimed at joint and inter-service cooperation, which was directly derived from JWP 3-50, as an authoritative source for description and characterisation of PSO reality. In this context, it can be argued that although the experience of previous operations had a substantial impact on shaping the thinking on the roles of air power in the new environment, the doctrine was not case-specific and simply experience-adopting in its intention.

Changes were adopted and reflected in this doctrine in a different way than the first two publications. While the first two were driven by the author's initiative and concentrated on practical experience, the 3rd edition was more institutional in its nature. It was beginning to pave the way for the RAF to jointery, shaping the adaptation of the national Armed Forces to the post-Cold War era. In terms of doctrinal development, it can be argued that although the experience of previous operations affected doctrine, after the first two editions, the tendency shifted towards institutionalisation and systematisation of doctrine in order to fit within the developing joint environment of that time. It might be also the reason why the doctrine was not published immediately after Bosnia, since the reflection on operational experience within the Army was required in order to achieve synergy and further improvement of performance. The counter-argument, that it takes more time to prepare text of a doctrine for publication, is irrelevant in this case, because this publication took only a couple of months.[48]

In respect of the forces driving doctrine preparation, operational experience showed to be influential, since it reflected substantial changes in the character of post-Cold War conflicts and the roles of air power in them. The doctrine was not written when the conflict ended and did not simply describe successful examples of air power, but it reflected inter-service connection both in terms of experience of Bosnia and doctrine preparation. It can be argued that the time of publications and analysis of operational experience through synergy argued for the impact of another factor in the doctrine preparation process − jointery. In this regard, it can be argued that this jointery-

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[48]Peter Gray, interview with the author, Birmingham, 18 June, 2013.

oriented doctrine preparation process was conditioned by a need for synergy dictated by the experience of Bosnia or by the jointery-directed intentions of the authors.

External Contacts and Foreign Doctrines

The exchange between allies of concepts and technologies is another factor in doctrine development. It should be stated that the exchange of technologies is often classified information. Therefore, the details of air power technology exchanges between the UK and USA, and its subsequent impact on RAF doctrine remain unknown. On the other hand, the exchange of ideas, conceptual frameworks and doctrinal experiences could have been expected, at least between the UK and USA. Since the UK and USA share a more profound bond in questions of defence and security, exchanged intelligence and technologies during the Cold War and continue to do so today, it might be expected that they would also have similar approaches to developing their military doctrines, but this is not the case. In the cases of all three editions, there were no systematic and officially-institutionalised meetings on conceptual and doctrinal developments.

From the beginning of the 1990s, when the doctrine writing process was author-driven and largely inspired by the personality of Air Vice-Marshal Andrew Vallance, there were no official, institutional meetings for the discussions of doctrinal matters on senior staff level. From 1977, when the first national symposium on 'Air Power in the Next Generation' was conducted, in cooperation with the British University Service Education Scheme and RAF Staff College in Bracknell, it initiated a chain of non-official meetings, presentations and subsequent conferences to stimulate air power thinking both at the national and international levels.[49] When Andrew Vallance was working on the first two editions of AP 3000, he stated that the contacts, and subsequent assistance from American colleagues and air power specialists, were due to personal acquaintance rather than official practice.[50] At that time, among the primary contacts of Andrew Vallance were Dr. Phil Meilinger, who served the American doctrinal centre and visited Bracknell with lectures; and John Warden, who was the father of 'parallel warfare', 'the system of systems approach' and 'the five circles' model.'[51]

Although it may be assumed that the exchange of ideas could have contributed toward the introduction of American doctrine development procedures into British

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[49]Tony Mason, interview with the author, Cheltenham, 19 June, 2013.
[50] Andrew Vallance, interview with the author, London, 11 July, 2013.
[51] Ibid..

practice, that was not the case. This was largely because new doctrinal ideas and Warden's concepts were even more opposed in the USAF than the introduction of doctrine in the RAF, in 1991:

> *'While stressing that by the eve of Desert Storm many in the Air Force had come to accept the wisdom of the Instant Thunder concept, in August 1990, all too many senior officers, having become prisoners during the 1980s of a tactical air power 'paradigm', opposed Warden's concept with a 'narrow-minded, anti-intellectual, and, at times, mean spirited' group think.'*[52]

Dr Meilinger, who served under Warden's supervision, at the Pentagon, claimed he *'was a lone voice, largely ridiculed and ignored; the serious thinking was going on in Bracknell/Shrivenham and Canberra.'*[53] Therefore, although in the environment of personality-driven doctrine writing, connections with American prominent air power specialists did develop, the transition of doctrinal practices from the USA to the UK did not occur, mainly because the latter's American counterparts had to fight their own battle for creative thinking,[54] which was well ahead in the RAF.

Dr Meilinger also argued that, during the first post-Cold War decade, the RAF was more receptive to new ideas and their subsequent application. The only institutionalised exchange of experience and ideas was through annual visits by the Director of Defence Studies to the Pentagon and then down to the School of Advanced Air Power Studies[55] at Air University, Maxwell.[56] Later, Meilinger stated:

> *'I'm not sure it was as formal as it should have been. The RAF was the active counter in that relationship. Not a surprise to me... The RAF also used to hold annual or biannual conferences and historical gatherings in London. I remember being so amazed at one of those when your CAS sat there for two days listening to every paper and then got up and gave the summary! Astounding. No chief of my air force would have even attended much less played such a key role.'*[57]

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[52] Barry D. Watts, "Doctrine, Technology and Air Warfare" in *Air Power Confronts an Unstable World*, ed. Richard Hallion (London: Brassey, 1997), 19.
[53] Phil Meilinger, email exchange with the author, 29 July, 2013.
[54] Stephen Fought and Scott Key, "Airpower, Jointness, and Transformation" *Air & Space Power Journal*, vol. 17, no. 4 (Winter 2003): 45.
[55] Now the School of Advanced Air and Space Studies.
[56] Phil Meilinger, email exchange with the author, 29July, 2013.
[57] Ibid..

From this, it can be concluded that, although the exchange of inter-personal ideas existed in the 1990s and annual DDS visits continued through the first post-Cold War decade, and major conferences took place in London, Cambridge, Washington and the Hague,[58] American doctrinal experience and practice were not transferred into the UK, in 1993, or in 1999.

As part of the collection of data for this research, Jeffrey Hukill, representative of the American Le May Centre for Doctrine Development and Education, GS-14 USAF AETC, was asked whether there was any paper trail of these official meetings or workshops on doctrinal matters when AP 3000 (3rd edition) was written and during the following decade in general. His response corroborated Andrew Vallance and Phil Meilinger:

> *'I talked to several people that still work here that were at the USAF Doctrine*
> *Center when it began in 1997. The consensus among them was that the*
> *interaction between the USAF and RAF was sporadic and more focused on*
> *information exchange rather than at the collaborative level, working on specific*
> *doctrine development. The first two Air Force Doctrine Center Commanders*
> *(AFDC/CC) had a relationship with their counterparts in the RAF and*
> *exchanged official visits. In addition, there were several visits at the Field*
> *Grade, Action Officer level that covered basic doctrine subjects but again did*
> *not involve development of specific doctrine documents.'*[59]

Since the RAF, together with DDS, paid attention to the stimulation of creative thinking and created a more receptive environment for concept development, then there must have been other influential factors affecting the doctrine preparation process rather than only the experience of American counterparts. It is worth noting that during this period, American thinking was influencing doctrine writers in the UK as well as senior RAF staff indirectly. In this context, Peter Gray noted:

> *'The interaction with Americans is conducted in the following way: Americans*
> *write doctrines, teach them, we take common courses or are exposed to teaching*
> *of application in theatre. The strongest influence on A.P. writers and their*
> *thinking are visits that happen concerning experience exchange and not just*
> *about doctrine. These visits are not institutionalised and happen mostly on the*

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[58] Tony Mason, interview with the author, Cheltenham, 19 June 2013.
[59] Jeffrey Hukill, email exchange with the author, 9 October 2013.

levels of staff, they might be US-eyes only courses or any other...'[60]

Accordingly, it can be concluded that the impact of external contacts on the UK doctrine preparation process was rather indirect and was conducted by influencing the general intellectual environment and interpreting lessons from previous operations. Writers and practitioners involved in doctrinal workshops were exposed to the influence of American doctrine through acquaintance within the field or exchange courses. Later, Jeffrey Hukill confirmed the words of Peter Gray:

> *'All of this is not to say that the US and Great Britain did not influence the development of each other's doctrine. Through exchange officers at the Air Staff, Major Command, Combatant Command and Unit levels, as well as at exercises and during real world operations the USAF and RAF became aware of each other's doctrine. The use of doctrine either in staff work, during exercises, and during actual operations undoubtedly resulted in debate and exchange of ideas on how to codify best practice and principles into each country's doctrine.'*[61]

From all that has been discussed above, it can be concluded that, in the doctrine preparation process of 1999 and the decade that followed, the exchange of ideas and concepts was less direct in its influence on doctrine, mainly because this type of factor was less predictable and not easily amenable to practical verification. This complexity is conditioned by the sporadic and indirect contacts between the RAF and the USAF, during which doctrine was not a primary topic for discussion. Another consideration refers to the technical aspect: there is no paper evidence of meetings or workshops which demonstrate what was discussed or how it was applied by either side, if at all. This again corresponds to the classified nature of various materials of bilateral cooperation. On the other hand, the indirect nature of this factor suggests the existence of mediators who are more flexible in their contacts. This is the case of academics, particularly those who are former professionals.

Foreign Doctrines

Regarding the impact of NATO and foreign doctrines, NATO AJP 1-A was referenced in the 3rd edition of AP 3000: given the long ties with NATO, it is inevitable that the British approach to the use of air power in allied operations should follow the

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[60] Peter Gray, interview with the author, Birmingham, 18 June 2013.
[61] Ibid..

principles outlined in NATO doctrine. Accordingly, NATO doctrine affected AP 3000 through the doctrinal hierarchy, meaning that AJP 1-A was at the top of the doctrinal hierarchy and outlined the principles of Allied operations, which the national doctrinal hierarchy had to follow or at least not to contradict. Consequently, environmental doctrine like AP 3000 incorporated these principles into its discourse. This was well demonstrated by the aforementioned referencing of NATO doctrine and also by constant emphasising of the Allied context of the roles of air power. On the other hand, unlike nowadays, NATO doctrine was not at the heart of the national doctrinal practice. In the first post Cold War decade, NATO doctrine was followed in terms of Allied operations, and not as a guide for the preparation of the national Armed Forces for the tasks outside the Allied context. Another crucial consideration in terms of the impact of NATO doctrine at that time was the fact that it was also in the process of change. This was also largely influenced by the experience of Bosnia and the development of the Allied doctrine on PSO[62] and the role of air power in these operations.[63] Although the influence of NATO doctrines on AP 3000 can be traced, the main details of the use of air power in Allied operations were embodied in Allied doctrinal publications rather than in national environmental doctrine *per se*.

The same is the case with the impact of foreign doctrines. Although it can be expected that British, American, Australian, Canadian and New Zealand Air Forces would want to harmonise their doctrines in order to ease cooperation and allied efforts, the practice shows that actual cooperation in doctrinal matters was pretty much absent. In this regard, Peter Gray, Tony Mason and Andrew Vallance argued that although the doctrines of Australia and New Zealand were and are read, they are not used as models or incentives for the doctrinal principles embodied within particular publications.[64] On the other hand, it is not necessary, since there is always NATO allied doctrine which is used by member states for subsequent cooperation in allied operations.

Overall, the point can be made that external factors were influential in the doctrine preparation process of 1999. However, the degree to which each factor had influence varied. While the experience of previous operations and the wider context of

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[62] Laurence Baxter, "NATO and regional peace support operations" *Peacekeeping & International Relations*, vol. 25, no. 6 (Nov/Dec 1996): 7.

[63]Robert Cassidy, *Peacekeeping in the Abyss: British and American Peacekeeping Doctrine and Practice after the Cold War* (Westport: Praeger, 2004), 184.

[64]Alistair Byford, interview with the author, Shrivenham, 11 September, 2013.

threats and subsequent changes in security structures was more influential and thus better reflected in the text of the doctrine, in such elements as external exchange of concepts and technologies, the impact of foreign doctrines was minimal. Accordingly, a distinction should be made between the ways each element or factor could influence the doctrine writing process. It can be argued that the experience of previous operations and changes in security threats were more influential and shaping in their very nature since they posed the actual challenges the doctrine and the RAF had to deal with. Therefore, the external environment had a direct effect on doctrine. On the other hand, the conceptual exchange and texts of foreign doctrines had indirect and circumstantial impact on the process, which can be explained through the lack of an institutionalised framework for doctrine writing. In this regard, concepts or foreign doctrines can influence networks or authors, but this again depends on authors' personal contacts and the general purpose of a particular publication.

Domestic Politics

External influences can be summarised as operational experience in the Balkans and PSO strategic realities; domestic political factors can be summarised as the new Labour Foreign Policy and subsequent Defence Review of the Armed Forces. The main significance of the new government was not only in terms of posing new objectives for the Armed Forces but also the way the Armed Forces were to be reformed after the Cold War. In terms of foreign policy, the expeditionary approach required well-prepared and functional Armed Forces evaluated on quality and technological capacity rather than quantity.[65] In terms of budgetary cuts on defence and reformation of the Armed Forces, the previous approach of simply cutting numbers was substituted with a holistic equivalent of jointery and cost-efficiency.[66]

In order to understand the importance of this review and its influence on the Armed Forces, the context of the connection between the Treasury and Military sector in the first post-Cold War years has to be outlined. Irrespective of the prevalence of conflicts in international relations and the new strategic realities, the Treasury and much of domestic politics of the period 1990-1996 were driven by the so-called 'peace

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[65]Steve Chisnall, "Why Defence Reviews Do Not Deliver" *Political Quarterly*, vol.81, no. 3 (July 2010):420.
[66] Chisnall, "Why Defence Reviews,"421.

dividend' and the proto-defence review *'Options for change'.*[67] Following this pattern, it was stated that the new environment would require smaller forces. The militaries called it 'options for cuts'.[68] The main implications of the Treasury-driven approach to Armed Forces reformation was fragmentation; subsequently, there was a lack of connection between capability and future role in operational performance.[69] On this topic, Lawrence Freedman argued that *'over the 1990s defence spending was cut by over 20 percent, moving from over 4 per cent of GDP to under 3...with the Gulf soon followed by an active role of Bosnia, at the same time as forces being cut, there were soon the familiar complaints about over-stretch.'*[70]

The SDR and jointery

One of the ways in which the SDR suggested the Armed Forces should and would be reformed was along 'joint' lines. The main rationale for the introduction of the joint approach was in a necessity to improve Armed Forces' capabilities through cost-efficiency and reduced numbers. The Secretary of State for Defence, George Robertson, argued that the joint approach was needed to *'coordinate the activities of the three Services more closely, pooling their experience and maximising their punch, while at the same time eliminating duplication and waste.'*[71]

Although from strictly financial and political perspectives, the approach was sensible and easy to implement; in the context of three independent Services, each with its own history, traditions and military ethos, the initiative was challenging. In this regard, the SDR suggested:

> *'While single-Service skills and ethos will remain the essential foundation of all our military capability, most future operations will be conducted by joint forces composed of fighting units from individual Services. These will be under joint (tri-Service) command and control, drawing on joint intelligence capabilities and with joint logistics. We must therefore also build the joint approach into our doctrine and our preparation and training for operations.'*[72]

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[67]Clair Taylor, *A brief Guide to Previous British Defence Reviews*. Standard Note SN/IA/5714 (London: House of Commons Library, 19 October 2010), 9.

[68] Chris Finn, interview with the author, RAF College Cranwell, 7 November, 2013.

[69] Christopher Coker, "Britain's defence options," *The World Today*, vol.48, no. 4 (April 1992): 73.

[70]Lawrence Freedman, The Politics of British Defence (Bassingstoke: Macmillan, 1999),96.

[71] Ministry of Defence, *Strategic Defence Review*. Presented to Parliament by The Secretary of State for Defence (London: HMSO, July 1998), intro, 5.

[72] SDR, 29.

This paragraph is incredibly important for this research because it outlines where a particular doctrine fits within the defence environment, identifying its functionality in the joint services environment. References to the joint approach within the AP 3000 3rd edition will be considered later, but this paragraph will illustrate the general direction and contents of doctrine. Particularly when the issue of Allied cooperation was mentioned, there was a clear distinction made between Allied and Joint Command and Control. The exact chain of subordination of C2 of Joint Forces was described and was regarded as particularly important for the RAF and air power environment.[73]

Although the approach was maintained through the entire SDR paper, it also had its specific focal points and envisioned practical implications. First of all, the then existing Joint Rapid Deployment Forces were to be modernised in order to improve their capability and functionality in diverse operations, and renamed Joint Rapid Reaction Forces.[74] Subsequent changes in strategic transport, joint helicopter command, logistic enhancements and medical support were envisioned. Further, bilateral projects between the services were initiated. The RAF and the RN were to cooperate in terms of Joint Force 2000, which aimed at using both RN Sea Harrier FA2 and RAF Harrier GR7 aircraft as a combined force capable of operating from land or carriers.[75]Although the paper outlined the actual projects and suggested ways of cooperation between services, and acquisition of new systems and platforms for the improvement and modernisation of each service, the most critical issue was the introduction of common training schemes and jointery in doctrinal principles.

Regarding joint training, it was stated not simply that action was required, but also that it was going to be conducted along lines similar to the RN/RAF Harrier initiative and Army/RAF *'training for ground based air defence.'*[76] What is even more crucial was that the Chief of Joint Operations was given additional responsibilities and subsequent authority to intercede in terms of joint training and exercises. The further detailing of these enhanced duties was outlined in the paragraph 174 of the SDR:

> *'The responsibilities of the Chief of Joint Operations will be enhanced. The post*
> *will have increased authority for enhancing the training and preparedness of the*
> *Joint Rapid Reaction Forces and will have a greater voice in stating joint*

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[73] AP 3000 (1999), 1.3.2.
[74] SDR, 31-32.
[75] SDR, 144.
[76] SDR, 36.

warfare requirements. Budgetary authority and responsibility will also be increased and the post will become a Top Level Budget holder in its own right.'[77]

The next step was securing of common principles of warfighting within the three services. The decision to put all three services with distinctive military ethos to a common conceptual ground was quite rational from the perspective of political considerations. On the other hand, from the military perspective, the idea was challenging. That is why the Joint Defence Centre (JDC), which aimed at spreading and institutionalisation of *'a truly Joint Service vision,'[78]* was established. Further, it was stated:

'We will therefore be creating a Joint Defence Centre as a focus of this work. In particular, it will be responsible for the development of defence doctrine, providing the joint framework for more specific single Service doctrine. We intend this to become an international centre of excellence and we see one of its main roles as leading Britain's contribution to the development of military doctrine for peace operations.'[79]

Therefore, it can be concluded that the SDR argued for the development of jointery as a way for Armed Forces reformation, but what does it tell us about the implications for the Armed Forces in general and the RAF in particular? First of all, unlike the previous proto-defence review of the Conservative government, *'Options for Change'*, the SDR was constructive and systematic in its approach to specific changes and their role in general British foreign policy and overall strategic environment requirements.[80] Secondly, the Labour Government was not simply making political statements on defence matters; it was serious about reorganising the Armed Forces and doing that through jointery. This was demonstrated in the authority of the Chief of Joint Operations, the introduction of the Joint Defence Centre, and immediate projects for services cooperation. Thirdly, whether the services liked it or not, they had to take the new initiative into account and adapt to those changes. Fourthly, although defence

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[77] SDR, 60.

[78] Ibid..

[79] Ibid..

[80] Colin McInnes, "Labour's Strategic Defence Review" *International Affairs*, vol. 74, no. 4 (1998): 831.

policy was not in New Labour's Manifesto,[81] the SDR prepared under the Labour Government took into account the complexity of inter-service cooperation.

The general tone suggested that although the government supported the Armed Forces and their qualitative adaptation to the new environment, there was no alternative for services' development except through jointery with an emphasis on inter-service cooperation across all levels. This can again be demonstrated by how quickly and exactly the approach was incorporated into the SDR and how immediate practical steps of its implementation were developed. For the Armed Forces, this meant that, in order to survive under new conditions, secure subsequent financing and relatively low level of budgetary and personnel cuts, jointery was the answer. This does not mean that the initiative was counter-productive in its nature or did not reflect the national and external strategic realities, but, in terms of an inter-service discourse, when justifying a certain purchase or sustainability of a certain platform, incorporating its importance into a joint context would carry extra weight.

The same was the case with military manuals and doctrines. The national doctrine hierarchy was evolving: the publication of a joint doctrine by the JDC would require single-service doctrines to correspond with and to incorporate the joint principles within the single-service doctrines. Although this might seem quite prescriptive and probably a bit too early in the institutional culture, where doctrine was just beginning to gain its place, it was up to each service to determine the extent to which joint doctrine principles would be incorporated into single-service doctrine and other manuals.

The implications of the SDR for RAF doctrine

The influence of the SDR on the RAF was not only in terms of its envisioned projects and prescribed cooperation with other services; it was not also simply in acquiring new technologies and their application to air power. The organisational changes the SDR triggered influenced every aspect of the service's existence – from teaching and training of new cadets in the joint framework, to the very process of doctrine preparation and its writing.

In the prelude to the SDR, in 1997, three independent Staff Colleges merged into a Joint Services Command and Staff College, in order to provide joint teaching and

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[81]*New Labour because Britain deserves better*. Labour Party Manifesto 1997. Accessed 15 May, 2013. http://www.labour-party.org.uk/manifestos/1997/1997-labour-manifesto.shtml.

preparation of personnel. In this regard, the Academy's staff was preoccupied with the development of a new teaching programme and curriculum suitable for all three services. According to the main librarian of the Academy, the main implication was that library and academic staff lost the close connection to and involvement in preparation of materials for the new doctrine.[82] During the preparation of the first two editions of AP 3000, librarians and academic staff were involved in data collection and case studies, and preparation for further evaluation by the author Andrew Vallance and DDS (although, in the case of the first publication, he was both the author and DDS). The main data collected referred to practical information on air power's use in the past; and case studies, which would demonstrate the applicability of the proposed theories.[83] However, after 1997, the connection between DDS and academic staff was weakening, mainly because the position of DDS was not incorporated into the structure of academic personnel and thus favoured a greater degree of independence. Therefore, it can be argued that after the SDR, doctrine preparation was becoming more formalised, limiting the number of external participants. On the other hand, the initiative of doctrine preparation and writing still remained in the hands of DDS, which again demonstrated the service's independence in decision-making regarding doctrinal matters.

On the other hand, the SDR and jointery had another impact on the service, undermined the service's integrity. As the history of the RAF demonstrates, the service has always had to fight for its independence, which inevitably affected the individual self-consciousness of airmen – the necessity to be different from the other services induced a constant self-doubt, examination and even under-estimation. As Dr Phillip Meilinger states, *'Airmen in my country, and anecdotally in yours, Australia, etc., tend to be self conscious and have an inferiority complex that is richly undeserved. We are reluctant to extol our virtues, which are many, and tend to defer to the senior services.'*[84] Under the conditions of the SDR and constant military cuts, this self-consciousness and necessity for self-justification, in contrast to the other two services, resulted in the appearance of a new tendency within the service − a division of career paths. The traditional career would be entirely single-service and its representatives would insist on the independent status of the service (not to be confused with the independent role of air power in operations, which is an entirely different discourse).

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[82] Chris Hobbson, interview with the author, Shrivenham, 29 July, 2013.
[83] Ibid..
[84] Phil Meilinger, email exchange with the author, 29th of July 2013.

The second career path, inspired by the SDR, was joint. This fact was revealed in one of the interviews:

> *'Now, at this point, you need to realise that there are two distinct paths in career-making: a single-service and a joint one. If one follows joint path, inevitably he finds himself working closely with the Army 'to be on the side of the Army.'*[85]

The significance of this statement was not only in the actual emphasis on career differences and realisation that the SDR and subsequent jointery were, in fact, Army-oriented. The significance was that from now on, it was the Army to which the RAF had to look in order to promote jointery further and thus play by the Army's rules. The tendency toward Army-orientation might seem quite extraordinary in the context of previous operations and general tendencies of limited interference in complex conflicts of the PSO environment which air power had provided in Bosnia. In other words, neither the Gulf War nor Bosnia were particulalry Army-driven in their nature; synergetic in the case of the Gulf − yes, but not land-forces-driven. According to Peter Gray, the main rationale for the Army prevalence was due to the following considerations:

> *'In 1997, in preparation of SDR, thinking was not threat-based, range of scenarios, studies were assessed. A number of scenarios on different scales were run through computer war games, evaluated a number of forces needed to conduct this or that task. The Army dominated, because it was able to say 'we need three times this in order to achieve that, because our doctrine said so'. So, they used doctrine to its full effect. The RAF could not say the same. That is where the 3rd edition of AP 3000 came from.'*[86]

In other words, it can also be assumed that, in order to remain in the game, the RAF had to follow the rules the SDR had introduced and institutionalised:

> *'This process of 1997-98 was embodied in establishment of Joint Doctrine Centre which is today known as DCDC. The idea was that all doctrines to be joint. Whether AP 3000 was a joint is another question. The 3rd edition was heavily supporting the army. This was anomalous for RAF doctrine.'*[87]

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[85] Peter Gray, interview with the author, Birmingham, 18 June 2013.
[86] Ibid..
[87] Ibid..

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Prima facie there is nothing wrong with organisational change if oriented to produce greater ends; however, in the context of RAF strategic culture, any shift from the RAF-centred environmental doctrine towards the Army-oriented one could endanger the very purpose and understanding of the doctrine itself, potentially returning the RAF to a state of doctrine ignorance. Therefore, any controversy about which direction doctrine was meant to go could have undermined the role of doctrine and simply retuned it to the point when it just was not read. It is also quite interesting the extent to which the change of direction in the 3rd edition had to do with ten years of doctrinal silence before the publication of the 4th edition in 2009. In any case, these ideas will be discussed in detail when the 4th edition is analysed in the next chapter. Now is the time to track actual references to jointery and cooperation with the Army in the text of the doctrine.

Textual analysis of jointery and Army context in AP 3000(1999)

The immediate evidence of the SDR and the direction toward jointery in the doctrine is emphasised in its introduction, where the main aim of the document is in adjustment to the contemporary military context. In other words, doctrine had to correspond to the existing strategic environment, which was SDR-led:

> *'The purpose of this document is to offer guidance to those involved with the application of air power in a military context. This context is shaped by the contemporary strategic environment, described in the UK 1998 Strategic Defence Review (SDR). The SDR signposts the direction for UK security policy towards expeditionary operations with the central strategic themes of flexibility and mobility for the UK armed forces. SDR has offered a focus for British Defence Policy and for the development of joint doctrine.'*[88]

This first paragraph of the introduction summarises the drive to jointery and the need to fit the RAF into the joint environment and cooperation with other services. Later, this theme is incorporated into how air power is described and applied. In order to understand the extent to which this theme was incorporated, and thus to evaluate its influence on perception of air power, thinking and application, the actual examples in the document should be traced.

The most revolutionary step was a discussion of the joint context in the chapter devoted to the theory of air power. In the joint context, the main argument was that air

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[88] AP 3000 (1999), Introduction.

power was no longer focused exclusively on air forces (the statement which would be quite unacceptable for many); air power was a matter of joint and combined business. It was argued that *'air warfare is now just as much a part of land and maritime warfare as it is a separate discipline.*'[89] What we see here is an attempt to merge three distinct environments of the conduct of warfare into a single, joint one, and air power was meant to combine capabilities of all three. This idea was further justified through the following: *'The provision of air power:*

- *Is inherently joint, combined and multinational in nature.*

- *Encompasses forces drawn from all three Services.*

- *Is concerned with the effective exploitation of air power assets.*

- *Is supported by national civilian and commercial resources.*

- *Is influenced by, and in turn influences, the land, sea and space environments.'*[90]

From this description, the interconnectivity of three environments and three services is placed as a foundation for air power's provision and use. This emphasis is entirely different from the previous one, paying attention to the distinctiveness of the environment in which air power was used and viewing it in terms of the Air Force and wider military purposes.[91]

When considering implementation of jointery, specific attention was paid to cooperation with ground forces. Although it could have been expected that an equal amount of attention and space within the document would be paid to both sister services, the ground forces were particularly emphasised. Overall, tri-service cooperation was meant to take place in terms of the manoeuvrist approach, which aimed at shaping the theatre of operations, attacking the enemy's cohesion and protection of the cohesion of the force.[92] It was outlined that the application of air power is inherently manoeuvrist, and it could be applied alone with the support of other forces or *'in support of joint manoeuvre.'*[93] Furthermore, *'with careful, joint, planning the speed and precision provided by fixed and rotary-wing air systems can be linked with surface*

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[89] AP 3000 (1999),1.2.2.
[90] Ibid..
[91] AP 3000 (1993), 13.
[92] AP3000 (1999), 1.2.13.
[93] Ibid..

manoeuvre and indirect fire, increasing the available combat power which might be applied to an enemy's weak point.[94]

The description of the manoeuvrist approach in terms of the three services shows that, unlike before, the independent role of air power was not emphasised; although, in terms of the manoeuvrist approach, it could have been appropriate. Instead, obvious commitments to jointery and ground forces' cooperation were outlined. When referring to the utility of air power, particular emphasis was placed on the direct and indirect roles air power could play in Joint Force Employment,[95] which was not simply a substitution for the terms of 'decisive' and 'supportive' or 'secondary'. In the cases of both direct and indirect contribution, the role was complementary and supportive. Indirect air operations were envisioned for preparation of the battle space for further actions of the surface forces, while direct air operations *'can prove decisive in concentrating force and allowing manoeuvre from the air to complement rotary-air and surface force manoeuvre.'*[96]

The very definition of direct operations and emphasis on 'can prove decisive' may seem hesitant and self-doubting of the very potential of air power's decisiveness. The reluctance to be more supportive of the decisiveness of air power in direct air operations and an emphasis on its supportive role for ground forces manoeuvre can be explained in a few ways. First of all, the authors might have tried to diminish air power's role in order to come out of the shadow of the historical strategic bombing ethos and thus to make air power look more modern. Alternatively, it can be viewed as another step towards an Army-led approach of Armed Forces reformation. The latter argument is quite relevant because in any instance of direct or indirect operation, the role of air power was to support the ground forces in their manoeuvre with only one difference; the degree of air power's involvement and the close proximity of interaction between forces. The best examples are interdiction operations and close air support.

It has already been mentioned that a distinction was made between Joint and allied commands, but AP 3000 went even further with an explanation of the decision-making cycle involving the Joint Targeting Coordination Board (JTCB), its approval of the Joint Integrated Prioritised Target List (JIPTL), Joint Estimate with further assignment of air power through Joint Force Air Component Commander (JFACC) air

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[94] Ibid..
[95] AP3000 (1999), 1.2.17.
[96] AP3000 (1999), 1.2.17.

operation planning.[97] In this regard, the main guidance for further actions was Joint Warfare Publication (JWP) 0-10 together with the RAF Air Operations Manual and AJP 1-(A): NATO Allied Joint Operations doctrine. It is not only the description of the joint decision-making process and the subsequent steps in its implementation which show the developing emphasis of jointery within future operations and role of air power in it, but also the fact that the work of JDC was already incorporated, thus showing the connection to the national doctrinal process and a clear hierarchy of doctrinal development.

The roles of air power

Another way to evaluate to what extent the doctrine was joint and Army-oriented is to look into which roles of air power were ascribed in the text and how. The second part of the doctrine is devoted to the roles of air power. The positioning of roles had a particular purpose. The first two roles were information exploitation and control of the air. The chapter on information concentrated on the use of air power to acquire data and intelligence to provide support to planning, targeting and information for ground forces etc.[98] The aim here was not simply to decsribe the information collecting role of air power or its contribution to the preparation of operation, but rather to emphasise the central role of air power in data collection and timeliness of its distribution:

> *'Information helps to determine potential lines of operations, decisive or critical points and centres of gravity at military strategic and operational level, all related to the desired end-states or objective. Air power platforms and systems play **a vital role** in gathering data and information; thus, the timely exploitation of information is a key core capability of air power.'*[99]

The chapter on the control of air power aimed at explaining *'the necessity of control of the air across the spectrum of conflict.'*[100] Control of the air was summarised in one sentence with further inter-service commitments in this way: *'friendly control of the air aims to restrict an opponent's ability to use air power against friendly forces.'*[101] Consequently, this role was adjusted into the joint and allied environment. Further

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[97] AP3000 (1999), 1.3.7- 1.3.10.
[98] AP3000 (1999), 2.4.1 - 2.4.14.
[99] AP3000 (1999), 2.4.1.
[100] AP3000 (1999), 2.5.1.
[101] Ibid..

emphasis on the vital function of this role across the entire spectrum of conflict suggested the impact of the SDR and general strategic realities. However, it also demonstrated a vital need to promote air power in that new environment. In this regard, the control of the air was described through the need to preserve balance between offence and defence. Further, Offensive Counter-Air Operations (OCA) were explained in detail, covering the following potential roles: airfield attack, suppression of enemy's air defences (SEAD), fighter sweep, escort and Command and Control Warfare (C2W).[102] Although attention was paid to the offensive role of counter-air operations, the main commitment outlined was in joint actions:

> *'Surface land or maritime forces can also make an important contribution to control of the air operations, particularly in defence suppression and airfield attack roles...OCA operations may, therefore, be joint or combined operations. Thus, to ensure maximum effectiveness in OCA operations, the relevant capabilities of other component should always be considered.'*[103]

The next role, which it can be assumed was the most difficult to outline in terms of the jointery-oriented doctrine, covered the strategic effects of air power. It was difficult to incorporate this role, owing to its association with the RAF's historically championed independent role, and promotion of this role could be counter-productive in the new joint environment.[104] However, it could not be ignored. The authors of the doctrine found another solution − they applied the same approach as to air power in general – adjustment of the strategic function of air power into joint discourse:

> *'The ability of air power to reach, disrupt or, possibly, destroy an opponent's strategic or operational centre of gravity suggests that air power is inherently capable of military action with strategic effect. That effect may be created through independent, distinct action or through joint and multinational activity operating in cadence with other forces.'*[105]

It was further explained that *'air operations for strategic effect are not limited to bombing or solely the domain of attack aircraft; all combat aircraft and associated weapon systems are capable of action for strategic effect.'*[106] Subsequently, planning of

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[102] AP 3000 (1999), 2.5.5.
[103] AP 3000 (1999), 2.5.6.
[104] Peter Gray, interview with the author, Birmingham, 18 June, 2013.
[105] AP3000 (1999), 2.6.1.
[106] AP 3000 (1999), 2.6.1.

the strategic effects of air power in joint campaign was mentioned. The general concept of centres of gravity was outlined together with specific means and the importance of timing for achievement of the end-state. It was also suggested that air power might be used together with two other forces, *'although aimed at the strategic centre of gravity, in support of the overall aim, may be mounted distinct from the joint campaign or from outside the theatre boundary*; *it is this distinction which sets air operations for strategic effect apart from other roles and missions.'*[107] The importance of this emphasis is that it incorporates both the allied nature of this role and also its distinctiveness from other roles of air power. In other words, it is a diplomatic attempt to placate both protagonists of jointery even in such matter as strategic effect of air power and protagonists of the RAF-oriented approach to air power. This example also shows that, at that time, it was difficult to 'sell' the strategic function of air power to the Army-oriented decision-makers. On the other hand, it cannot be stated that this edition of doctrine did not try to do just that. It went to great lengths to detail the objectives of strategic effect, target selection and their correlation with political restraints and objectives. Importantly, it avoided grandiose claims for air power's capability but instead emphasised careful target choice to meet special objectives.[108] Later, when levels of operations for strategic effect were outlined, meaning concurrent (parallel actions with other forces), simultaneous (coordination with ground forces manoeuvre) and autonomous operations, directly dependent on aerospace; it was still emphasised that they *'may be distinct from theatre level operations but in support of the strategic aim or end-state.'*[109] Even in obviously autonomous air operation, the doctrine had to reemphasise the RAF's commitment to operational jointery, something which would have been quite obvious before and would never have been restated in the previous two editions of AP 3000. On the plus side, the importance of PGMs congruent to their level of success in Bosnia was outlined with further argument for the availability and potential of what was known then as unmanned combat air vehicle (UCAV). Reading between the lines, this aspect can be restated as follows: the air force is committed to the new trend of jointery and subsequent cost-efficiency, but for its better performance new technologies would not harm.

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[107]AP 3000 (1999), 2.6.6.
[108]AP 3000 (1999), 2.6.9.
[109]AP 3000 (1999), 2.6.10.

This conclusion was particularly relevant to the next three chapters, which were devoted to joint force deployment, paying attention to direct and indirect operations, combat support air operations and force protection. These chapters detailed air operations conduct in the joint environment. However, the particular feature of the indirect air operations was a distinction between land/air synergy and air/maritime operations.[110] Previously, the main emphasis of jointery was placed upon the ground forces. In those chapters, the synergy between services, and the importance of air power for jointery was reemphasised once again through practical examples which demonstrated potential cooperation between the Armed Forces. In this context, it was restated that *'the very essence of air power is the inherent ability of air power platforms and weapon systems to switch rapidly from one mission subset to another.'*[111] The general impression given from this constant repetition of air power's multi-functionality across the entire spectrum of conflict looks like an attempt to show where air power fits within the new strategic and domestic environments, in order to deflect potential or expected criticism of the RAF for being inflexible and reluctant to embrace cost-efficient reform of the Armed Forces. Thus, it was more of a pre-emptive measure.

Since here the focus is on textual analysis, there are a few more aspects regarding the text worth considering. Although the first two editions of AP 3000 outlined that the service had to change and adapt to the new realities, governmental initiation of crucial changes started the SDR process, only in 1998. Therefore, the new doctrine was meant to explain the new path and promote the service's role in the implementation of jointery. However, there was also another purpose of the doctrine − to defend the service and air power in the face of the new financial cuts and a restructuring of the service along joint lines. Unlike any other capability, air power is directly dependent on accurate and cutting edge technologies. This doctrine, like any other, had to explain and secure understanding of this importance with political decision-makers.

The importance of technology for air power was emphasised in two ways. It was explained directly through the use of advanced technologies in particular operations and the benefits of UAVs. On the other hand, the role of technology was also demonstrated in an indirect manner through the use of visual stimuli. In this regard, readers' attention

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[110]AP 3000 (1999), 2.7.6 - 2.7.17.
[111] AP 3000 (1999), 2.8.1

was stimulated not only by examples of usefulness of technology for air power but also its visual embodiment which appeals to a more systematic realisation of these technologies and their connection to specific roles of air power. Thus, the systematic perception of the unity between air power and its technological embodiment was achieved by incorporation of various pictures of the advanced aircrafts and their association with particular roles of air power. The photo of Tornado GR4A was associated with armed reconnaissance,[112] Tornado GR1 with Air Launched Anti-Radiation Missile (ALARM) as an embodiment of the suppression of enemy air defences,[113] Harrier GR7 with CAS[114] and even the long-awaited Eurofighter[115] were used as examples of multi-role aircraft.[116] There is a total of 42 photos used in the doctrine. 28 depicted contemporary aircraft associated with a particular role. Two pictures showed the same Eurofighter: the first picture immediately after the contents, which suggested the advanced technological dimension of the service. Eight pictures demonstrated historical examples of aircraft, and the other six depicted personnel and support facilities. This analysis of illustrations is aimed to demonstrate one of the trends in air power thinking and formal representation, meaning the importance of technology for the RAF, particularly Eurofighter, which was the newest and most advanced at the time of doctrine publication. Among other illustrations, there were also six charts explaining air operations directive (the planning process of assignment of air power),[117] the British doctrine hierarchy[118] and campaign planning tools for air operations with strategic effect.[119]

Another aspect of the document is that although some practical examples of air power use or proof of theory were generally based on best practice or historical illustrations, the most commonly used contexts were those of the Gulf War and Bosnia. Accordingly, it can be argued that the document did not simply explain new theories and new context with reference to previous best practice, but actually incorporated both best practice and new experiences into the contemporary strategic context with further lessons and guiding principles for air power to adapt to the new challenges and develop

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[112] AP 3000 (1999), 2.4.4.
[113] AP 3000 (1999), 2.5.7.
[114] AP 3000 (1999), 2.7.15.
[115] Susan Willett, *Eurofighter 2000* (London: Brassey's, 1994), 15.
[116] AP 3000 (1999), 2.5.12.
[117] AP 3000 (1999), 1.3.10.
[118] AP 3000 (1999), 3.11.3.
[119] AP 3000 (1999), 2.6.7.

responses accordingly. Thus, it can be argued that the document was a balance between old and new; however, the degree to which it was revolutionary and analytical of previous operations in contrast to the best practice is another matter worth of studying.

Overall, it can be concluded that unlike previous experiences of doctrine writing, which were mainly based on a reflection of the new experiences gained in ongoing and previous operations, the new edition of AP 3000 was largely influenced and subsequently driven by the internal political changes driven through the SDR process. In this regard, it can be also argued that while the previous two editions emphasised a single-service approach to air power, the 3rd edition was inspired by the joint context. Another way to look at this transformation is in financial terms. Under the conditions of constant budgetary cuts, the only way to secure a certain stability of financing and preservation of the service was in the adoption of the Army-led joint approach. By no means does it mean that this decision was incorrect or did not fit into the existing strategic, political or financial reality, but rather, that it was different from the existing organisational culture within the service.

Although there were always protagonists of the synergetic approach, it was never supported and applied at this level before. Irrespective of its timely publication and subsequent provision of guidance for the service's adaptation to changes, the doctrine had to overcome the reluctance of the service to adopt and follow what was an Army-led approach. In this regard, the existence of two different career paths within the service is the best example of such a dichotomy. This argument once again demonstrates the importance of domestic politics in the doctrine preparation process. In other words, with the introduction of jointery at national level, the process of institutionalisation of doctrine writing started, under the conditions when no single-service or environmental doctrine could deviate or contradict joint doctrine and further publications of the JDC.

The analysis suggests that domestic politics and inter-service relations were the crucial driving forces for doctrine writing, while the external environment and the experience of previous operations were the context or background for the internal changes. The cause-effect relation, in this case, is particularly essential. It may be argued that without changes in the external environment (the operational experience in the use of air power and the necessity for jointery), no crucial changes in the internal environment (the institutionalisation of jointery and expeditionary warfare) would be

possible. In fact, the internal environment offers responses to the threats and challenges posed by the external environment. The internal responses often gain the form of White Papers or Defence Reviews and subsequent new defence policy objectives, and each doctrine should correspond to them. In terms of this chapter, it can be concluded that, after 1998, the impact of the external strategic environment on the doctrine writing is more indirect than before. This impact is filtered through the systematic changes in domestic politics and inter-service relations. Based on this conclusion, it may be assumed that with each factor closer to the actual process of doctrine writing, the degree of factor's influence should increase. The further analysis of academic and writer's roles in doctrine preparation is aimed at verification of this assumption.

CHAPTER IV: CASE STUDY OF THE 3RD EDITION OF AP 3000 (PART II)

Networks (Academics)

While the first two factors influencing the preparation of doctrine were specific and easily traceable through the text, the next two are more difficult to pin down. This chapter addresses the role of academics and writers in the doctrine preparation process of 1999. Oliver Daddow argued that authors of doctrine are inevitably in touch with the wider world and are influenced by changes and the new tendencies in thinking on warfare, strategy and conflict. Consequently, academics can influence doctrine in two ways – directly through editing and revising doctrinal texts or *'informally in writing about conflict and strategy.'*[1] On the other hand*,* academics also unite external and internal factors through their analytical thinking of the time. In other words, academics process the existing data and transform into knowledge which can be applied or verified with the adoption of best practice. Since this factor is quite difficult to trace, interviews and actual academic writing on the subject were the best sources for this exploration.

The dichotomy of attitudes towards academics within the RAF

During the interviews, not a single negative comment on academics involvement in the doctrine preparation was made. On the contrary, the active involvement of academics was viewed as of benefit for the development of the RAF and the future of air power.[2] Therefore, the main benefit of academic research on military topics is that academics are devoted to their specific area of interest and are likely to deepen their knowledge and gather information in detail both within a single discipline and through the interdisciplinary approach. Andrew Vallance commented on this matter:

> *'There was always a more objective approach of academics, rather than of pilots who had backed their own unit. Academics are more objective, because they are thorough in gathering evidences. In 1990s, the weakness of the RAF was the lack of academics in its training machine. Nobody in the Staff College could be called proper academics, in a sense of their activity. You are appointed for a certain position, then you move to another one... rather like 'ships in the night'. On the other hand, academics are permanent; they bring continuity to their research and the topic they study.'*[3]

Subsequently, the potential efficiency of the cooperation between militaries and academics is in the verification of developed concepts, and processing of the existing

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[1] Daddow, "British military doctrine 1980-90s," 107.

[2] Alistair Byford, interview with the author, Shrivenham, 11 September, 2013.

[3] Andrew Vallance, interview with the author, London, 11 July, 2013.

totality of analytical materials accumulated by academics in the field of strategic and warfare studies. Hence, the role of academics can be extended from an ordinary analysis of previous experiences and their potential improvement, to a more systematic role in the evaluation of a cause-effect connection between the efficiency of military actions in the achievement of posed objectives and the impact on socio-political processes at home. It is not accidental that in the last twenty years we see increased role of academics in various decision-making processes. How active that involvement is and how eager instituions are to take into account their conclusions is another matter. After the end of the Cold War, military actions and their implications became more accessible by the wider public through media, with further increase of the accountability of the Armed Forces to the public at home.[4] These days, the best way to lose war is to lose it at home[5]. The best example of this is the reluctance of the British public to get involved in the conflict in Syria.[6] Therefore, the role of academics can be in the adjustment of military objectives into a context and with a discourse understandable to a wider audience. Academics tend to be a link between militaries and civilians in mutual understanding of each other's motives.

Placing this statement into the doctrinal discourse, it can be assumed that the involvement of academics contributes to the clarity of doctrines for a wider audience. This also includes political decision-makers, various branches of government and other potential stakeholders. Therefore, the doctrine might become more fashionable and understandable by the general public. It should not be forgotten that the main function of doctrine is to guide the Armed Forces. Yet, it would not hurt if it was written in a public-friendly manner and was driven by intellectual considerations.

With all the benefits of the academic involvement in the doctrine preparation, there are also certain difficulties, particularly *'getting over the prejudices against them among militaries.'*[7] In this context, another feature of RAF culture is a struggle between tactics-oriented and intellectual approaches. In this regard, the constant evaluation of a particular doctrine is conducted by protagonists of each group and criticised

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[4] K.S., Balshaw "Spending Treasure Today but Spilling Blood Tomorrow: What are the Implications for Britain of America's Apparent Aversion to Casualties" *Defence Studies*, vol. 1, no. 1 (Spring 2001): 103.

[5] Mark Smith, "The Kosovo Conflict: U.S. Diplomacy and Western Public Opinion" *CPD Perspectives on Public Diplomacy*, paper 3 (Los Angeles: Figueroa Press, 2009), 5.

[6] "Intervention in Syria: Britain will not fight." *The Economist*, August 30, 2013. Accessed April 20 2013. http://www.economist.com/blogs/blighty/2013/08/intervention-syria.

[7] Andrew Vallance, interview with the author, London, 11 July, 2013.

accordingly. The main challenge for the RAF since the 1970s was to return intellectualism into every-day practice and strategic thinking on air power. In this context, the role of DDS, as the main supporter of intellectuals, was in stimulation of cooperation between academics and practitioners on both strategic and global thinking on air power. The emphasis was placed not only on the then potential but also thinking beyond the technological capabilities of that time.[8] Thus, a more developmental and insightful approach was adopted. The opposite group argued for a more holistic approach to presentation, thinking, teaching and application of air power. In this regard, the entire air power discourse was meant to be tactics-oriented and look into what air power could practically achieve at that time. So, this approach is oriented towards today and now. It argues for simplicity in air power thinking.[9]

In terms of the doctrinal discourse, this dichotomy was of particular relevance because depending on who was responsible for its preparation and to which group he belonged, the doctrine had a different shape. If the doctrine was more practice-oriented, the size of the document tended to be shorter, the language simpler and oriented to the military audience alone. On the other hand, intellectual doctrine aimed to achieve the same objectives as practice-oriented doctrine, but with the adjustment of military doctrine into wider strategic and creative thinking on air power, or, as in the case of the 3rd edition of AP 3000, into the context of jointery.

The organisational, tactics-oriented culture originated in the historical danger and subsequent bravery in flying aircraft. That is why, until recently, those who did not fly were unlikely to go further than two stars.[10] Such an unspoken rule affected pilots' self-perception and positioning towards the rest of the service, other services and the wider public. Therefore, it is not surprising that intellectualism was and still is quite opposed by strict practitioners. As Andrew Vallance has outlined earlier, pilots were likely to back their own units, while academics looked on the matter from analytical and objective perspectives. Therefore, certain clashes were unavoidable in justification of opposite or slightly different opinions.

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[8] David Schorr & T.K. Kerney "New technologies and war-fighting capabilities" *Airpower Journal*, vol. 10, no. 3 (Fall 1996): 112.
[9] Tony Mason, interview with the author, Cheltenham, 19 June, 2013.
[10] Peter Gray, interview with the author, Birmingham, 18 June, 2013.

The academic context of AP 3000 (1999)

Taking into account all the above mentioned, cooperation with academics in doctrine preparation could be active and direct. However, the reality was slightly different. The first way in which academics could influence RAF doctrine was the SDR itself. In this context, prominent specialists in strategic and conflict studies were consulted concerning their professional expertise on the subject matter. One of those academics was Lawrence Freedman. [11] Although this shows the participation of academics in the general process of Armed Forces' reformation, their role was consultative, with no guarantee of further implementation. Another feature of the process was that academics were not involved in discussions and shaping of initial drafts of the SDR. Therefore, their contribution was limited and consultative as a second opinion or a fresh view on the topic discussed. On this subject, Peter Gray concluded:

> '*As a part of network, most of achievements were done on interpersonal relations. The academic impact on the SDR was that the senior academics were consulted. On the other hand, there is a difficulty in providing a sensible degree of influence... Quite a cynical reality - a simple ticking of boxes.*'[12]

Irrespective of this indirect influence of the prominent strategic thinkers on RAF doctrine, academics were involved in the doctrine preparation process in a less official way. As was stated before, academics were contacted on an inter-personal level. However, there was also the institutionalised and continuous way of cooperation between air power specialists and academics − Air Power Workshops. Air Chief Marshal Sir Michael Graydon who was CAS in 1992-1997, in the foreword to a monograph on air power thinking, wrote:

> '*Two years ago*[meaning 1994] *I established an Air Power Workshop, bringing together a team of Air Force Officers and senior academics to analyse the dynamics at work in Air Operations, not only in traditional conflicts, but also in highly topical area of Peace Support Operations. This book is the result of their deliberations.*'[13]

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[11]Colin McInnes, "Labour's Strategic Defence Review" *International Affairs*, vol. 74, no. 4 (1998): 838.

[12] Peter Gray, interview with the author, Birmingham, 18 June, 2013.

[13] Andrew Lambert and Arthur C. Williamson (Eds.), *The Dynamics of Air Power* (Bracknell: HMSO, 1996), foreword, iii.

While the proceedings of these workshops were not available for the public, the outcome of these discussions was the publication of anthologies on air power. The main aim of these publications was the stimulation of systematic and professional thinking on air power in terms of the post-Cold War environment. In this case study, two anthologies are of particular relevance. The first one was *The Dynamics of Air Power*[14] edited by Group Captain Andrew Lambert and Arthur C. Williamson. The second was *Perspectives on Air Power: Air Power in Its Wider Context*[15] edited by the author of the 3rd edition of AP 3000 Stuart Peach.

Each of these publications reflected specifics of air power thinking of its time. The first publication reflected the already mentioned need to re-emphasise the roles of air power in the environment of both conventional and unconventional warfare. In this regard, both academics and practitioners had to look into which lessons previous campaigns taught the RAF on air power potential and its future. The first part of the book addressed the 'Evolving Theory' of air power. Consequently, attention was paid to the clarification of features of air power as a key to its understanding and adaptation to new challenges;[16] evaluation of counter-air contest in terms of political and strategic implications;[17] practical considerations of synergy through the experience of previous operations;[18] contemporary evaluation of air power efficiency in terms of coercion[19] and the correlation of air power, changing socio-political reality and the image of militaries and warfare in society.[20]

Therefore, this discourse demonstrates conceptual changes and ways of thinking on air power. These essays reflected on what the RAF elite and academics specialised in the field thought about changes of air power functions in the post-Cold War era. The importance of these published essays is that they are physical evidence demonstrating cooperation between academics and RAF professionals towards systematic and

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[14] Ibid..

[15] Stuart Peach (Ed.), *Perspectives on Air Power* (London: HMSO, 1998).

[16] Philip Towle, "The Distinctive Characteristics of Air Power", in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 3-18.

[17] Philip Sabin, "The Counter-Air Contest" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996):18-39.

[18] Andrew Lambert, "Synergy In operations" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 40-66.

[19] Michael Clark, "Air Power, Force and Coercion" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 67-85.

[20] Mike Bratby, "Air Power and the Role of the Media" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 86-104.

interdisciplinary thinking and evaluation air power functionality in a new strategic environment. In other words, academics suggested a conceptual framework of evaluation, while military practitioners assessed it against their experience and available resources. This symbiosis and that it was a military initiative in the form of Air Power Workshops argues for a greater orientation towards the military sector rather than academia. Again, this suggests a more profound involvement of academics in strategic, intellectual thinking on air power and their active part in an evaluation of lessons learned from previous operations.

This was further reflected in the second part of the book, which was devoted to the evaluation of air power in terms of PSO conflicts. Accordingly, previous concepts suggested by academics were determined by the experience of Bosnia and new characteristics of PSO. Starting with the strategic perspective of new operations,[21] the role of air power in them,[22] more practical considerations followed. For instance, attention was paid to support requirements,[23] reconnaissance and surveillance task,[24] air transport,[25] the counter-air mission,[26] air power and force in PSO.[27] Consequently, both academics and professionals aimed not only at simple recognition of lessons learned in the last campaign but at incorporation of these lessons into the future application of air power. In this regard, a military doctrine aims at the same − to adopt the lessons of past in order to fight the battles of today and tomorrow.

Although it can be argued that no direct connection between this cooperation and doctrine preparation can be traced, in fact, from the doctrinal perspective, this accumulation of knowledge and the analysis of the use of air power in previous operations actually mattered and were taken into account. There was a direct connection

[21]Philip Sabin, "Peace Support Operations - A Strategic Perspective" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 105-111.

[22]Tony Mason, "Air Power in the Peace Support Environment" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 112-125.

[23]Mike Bratby, "Peace Support Operations - Support requirements" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 126-132.

[24]Andrew Lambert, "The Reconnaissance and Surveillance Task in Peace Support Operations" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 133-146.

[25]Gordon Woolley, "Air Transport in Peace Support Operations" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 146-156.

[26]Philip Sabin, "The Counter-Air Mission in Peace Support Operations" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 157-172.

[27] Michael Clarke, "Air Power and Force in Peace Support Operations" in *The Dynamics of Air Power*, eds. A. Lambert and A.C. Williamson (Bracknell: HMSO, 1996): 173-185.

between academics involved in these workshops and the doctrine preparation process of 1999. It was DDS who was responsible for both collection of knowledge on global and contemporary use of air power and preparation of doctrines. In fact, each workshop involved senior RAF specialists, and was often attended both by CAS and DDS. The later would often be an editor of a final publication of a workshop. Overall, the fact that introductions to these workshops were addressed by CAS, published by an authoritative institution and disseminated in the Staff Libraries, suggests the importance of this material.

Air power sceptics may argue that the fact that dissemination of this book was encouraged, did not mean that it was read and had the intended impact on air power thinking, stimulation of intellectuality within the service and doctrine. In fact, that might be so. However, the most important contribution of this book and Air Power Workshops is that the future author of the 3rd edition of AP 3000 was involved in them, edited the next publication and therefore was exposed to the intellectual discourse on the subject matter of that time. In the foreword to the second publication, a new CAS summarised the relation between two publications as follows:

> *'The result [air power workshop] was 'The Dynamics of Air Power' first published in 1996, as a volume which broke a new ground in our thinking. This companion volume sets the foundation for describing air power within the wider context of contemporary warfare - conflicts that now embrace the development of new concepts involving matters such as space, coalition warfare and legal issues.'*[28]

The second publication is wider in its perspectives on air power. It was the result of various workshops held in the Centre for Defence Studies in London, during 1997. Like the military environment of that time, the new book paid attention to the increasing political role of the use of air power. The first part *'Political Context'* evaluated new threats and challenges in the globalised and inter-dependant post-Cold War world, the relation between civil and military institutions and their impact on air power, coalition operations, the correlation between air power and international air law. The second part examined the technological context which corresponded to the prevailing RMA debate of that time: the meaning of technologies for air power, the implications of the information and space age and the air logistics of air operations. The third part referred

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[28] Peach, *Perspectives on Air Power*, foreword, iv.

to the military context and covered such topics as air power in joint warfare, coercion, the contemporary relevance of strategic bombing, and the challenges of military power. Overall, the main aim of this volume was to stimulate thinking on air power in terms of a more complex reality − the multiple use of air power not only through the entire spectrum of conflict but also in the joint and allied environment. In the general introduction to this volume, Stuart Peach wrote:

> *'Now we see air and space power in all their manifestations being employed with great utility around the spectrum of conflict. In addition to its independent application for strategic impact or effect, air and space power can be decisive in support and the key enabler for any joint or combined intervention campaign or expeditionary operation.'*[29]

In this regard, Stuart Peach re-emphasised the national strategic discourse of that time, but also proclaimed his own approach to air power. It is not a coincidence that the volume he edited is titled *Wider Perspectives On Air Power*. As DDS, he aimed at stimulation of more systematic and creative thinking on air power, which could contribute to diversity of its application in the joint and allied environment. This volume suggests a couple of ideas in terms of the 3rd edition of AP 3000. First, Stuart Peach was not only exposed to the academic and professional thinking on air power at that time; he actually stimulated it as DDS. He took an active part in its dissemination, which was the reason for his editing of the analysed volume. Secondly, the jointery-oriented discourse of air power reflected in doctrine was central to Stuart Peach's professional statements and subsequent thinking on air power. Thirdly, his personal position on the air power dichotomy was definitely towards intellectualism and systematisation of thinking on air power at that time. Finally, Stuart Peach's work with academics and professionals of the time, suggests his knowledge of the place of air power in general defence discourse of that time, which again suggests that directly or indirectly, academic knowledge on the subject matter was known to Stuart Peach and inevitably was embodied in the doctrine he had written. In fact, he was already working on the doctrine modernisation at that time and mentioned it a few times in the introduction, mainly referring to the necessity of its modification. He stated, *'And yet, theories and doctrines for air power remain largely in Cold War stasis.'*[30]

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[29]Peach, *Perspectives on Air Power*, general introduction, xi.
[30] Peach, *Perspectives on Air Power*, xi.

The 3rd edition was influenced by academics and had intellectual inclinations in the narration. Academic features can be traced through the entire document. First of all, the narration of the doctrine is very sophisticated and systematic in the explanation of a wider context of air power use and prevailing tendencies in strategy. This is particularly vivid in the first part devoted to the strategic context. Unlike the first two editions, the explanation of strategic environment is extensive and includes different perspectives of the same issue. Therefore, instead of bullet points, one would find lengthy book-style paragraphs aimed at the explanation of the subject in a systematic and multi-dimensional way. Like academic works, this doctrine applied an inclusive approach instead of a simplistic one. For instance, the description of the dimensions of armed conflict took one and a half pages, tracing changes in armed conflict from the Cold War to the later years, emphasising the changing nature of the conflict in Bosnia.[31] The academic theme was not only in the number of details and systematic intention but in the use of a sophisticated language. For instance:

'... *a conflict which is regarded as a war of national survival by one participant, maybe viewed as an opportunistic border dispute by another. Level of interest in a conflict can vary from the extreme case where the very survival of the state is clearly threatened, to a situation where the interest at stake only marginally justifies the use of force.*'[32]

This paragraph demonstrates the existing academic thinking on the subject at that time. Unlike tactics-oriented doctrines, which use exact statements, without generalisation or explanation of the situational nature of actions and conflicts, an intellectual doctrine aims at reflecting the complexity of issues discussed. Another feature of the paragraph is that the language is academically sophisticated rather than military simplified. For instance, such terms as 'opportunistic' and 'marginal' are not terms of every-day military use.

Another exclusively academic feature of the 3rd edition was the inclusion of a separate chapter on further reading, which was entirely unconventional for a military doctrine. However, it is an ordinary practice for teaching manuals and textbooks. Looking at the selection of items for further reading, the general impression was once again that it was aimed at development of systematic understanding of air power

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[31] AP 3000, (1999), 1.1.3-1.1.4.
[32] AP 3000, (1999), 1.1.3.

through history. Therefore, instead of suggesting other doctrines, the list included academic books exploring the development of British and American air power through history.

So, what can be concluded about the role of academics in doctrine preparation process of AP 3000, 3ʳᵈ edition? First, the cooperation between academics and professionals took place before the doctrine was prepared. Secondly, two published volumes of air power and defence workshops suggest that thinking on air power was systematic and corresponded to doctrinal discourse, meaning the adjustment of air power into the new strategic environment. Thirdly, with the introduction of jointery as the way of Armed Forces' reformation, the shift from learning the lessons of previous operations to the systematic and multi-dimensional adjustment of air power into the joint and allied defence environment took place. Fourthly, the fact that the first volume was the result of air power workshops and the second of defence workshops suggests the shift of emphasis in administrative and technical terms. It can be also assumed, yet not proved, that Stuart Peach was one of the inspirers of a more systematic and joint approach of discussion and final publication of the second volume. On the other hand, Stuart Peach was exposed to the up-to-date thinking on air power due to his position as DDS. In this case, day-to-day interactions, cooperation in workshops, conferences and meetings could have served as long-term consultations, shaping his overview. Finally, the impact of academic and professional discourse on the doctrine was present, but it was indirect. Based on logical cause-effect chain, it can be concluded that Stuart Peach was aware of existing thinking on air power, as he was DDS and it was his job to stimulate strategic thinking on air power. He was a supporter of the intellectual approach to air power; academics contributed to his wide overview on air power which was reflected in the doctrine he had prepared. On the other hand, there is also another consideration which should be taken into account − inter-personal relations.

Informal connections remain the dominant way of academics' involvement in the doctrine preparation process, which again remained the same since the time of the first two editions of AP 3000.[33] There are two reasons why academics are involved on the basis of personal connections. According to Andrew Vallance, *'Academics are mostly interested in ground forces, very few in history of Air power, and it is a non-stream to*

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[33]Andrew Vallance, interview with the author, London, 11 July, 2013.

specialise in air power.'[34] Therefore, those few who are actually specialised are already known and in touch with the prominent military actors through conferences, various presentations, publications in journals and interviews. The narrow circle of air power specialists and general narrow off-stream interest in air power make academics more well-known among air power people. Thus, contacts are more personal and direct in their nature. In fact, the main contributors to the two volumes on air power thinking discussed above were mostly the same few academics, including Dr Philip Towle, Dr Phillip Sabin, Professor Michael Clarke, Dr K.A. Kyriakides and A.C. Williamson (a PhD candidate at that time).

Secondly, the traditional distinction between military personnel and academics is becoming vague. Many retired practitioners, who combine both practice with creative thinking and did not oppose intellectualism, after retirement, tend to get involved in academic activities. Although not all of them might be eager to teach courses, they tend to cooperate with various research centres and stay active in the promotion of air power and stimulation of more systematic and creative thinking on air power. The degree of involvement of those individuals, whose status technically is academic, is higher than that of those who are of no military background or from a different service. Although they might not have the same degree of influence in decision-making and revising doctrines as those who are still in the service, they are directly involved in discussions and workshops. The best examples are Tony Mason and Peter Gray.

Doctrine Authors and Personalities

If RAF culture was doctrine-friendly and viewed it as a core element of the adoption of the operational lessons and stimulation of thinking, then the role of authorship and personalities behind each publication would be functional rather than determinant in doctrine preparation, publication and subsequent implementation. The experience of the first three editions of AP 3000, irrespective of the difference in their emphases and purposes, was largely author-driven. This corresponded to the need of re-introduction of doctrine into RAF practice and attraction of attention to it. In order to realise the challenges of writing RAF doctrine and having it published, the doctrine writing experience of the first two doctrines is of particular relevance.

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[34] Ibid..

The authorship of the first two editions

As already mentioned, the re-introduction of doctrine into the service was due to the efforts of Andrew Vallance. There were a few challenges in preparation of the first two editions of AP 3000. First, there was the need to convince the RAF that doctrine was needed. As Andrew Vallance recollects, different levels within the RAF had different opinions and their own prejudices against doctrine: '*Air crew did not support the idea. Senior officers argued: 'I do not need it because I became Air Marshal without it'. Middle-rank officers were the most perceptive.*'[35] On the other hand, in order for the doctrine to be accepted and read, it was crucial to get one signature under it: '*When the Chief of Air Staff made a foreword to the publication, it meant that doctrine was recognised.*'[36] In the case of the first edition, the CAS was Air Chief Marshal Sir Peter Harding. The second was Air Chief Marshal Sir Michael Graydon. In terms of their attention to doctrine and its target audience, the main distinction between two editions and subsequent foreword by each CAS was in the widening of the target audience.[37] While the first foreword addressed mainly officers within the RAF,[38] the second edition aimed at all ranks and branches of the RAF.[39] In terms of doctrine, the role of CAS was to provide it with an authoritative nature and official recognition. The widening of doctrine audience within the service and its continuous recognition by CAS suggest a few considerations. First, the very publication and the subsequent form of the doctrine largely depended on the personality and approach to air power adopted by an acting CAS and its consistency with doctrinal authors. In the case of the first two editions, it was Andrew Vallance. Secondly, the widening of the audience within the RAF argued for the recognition of doctrinal applicability and the beginning of gradual change of doctrine writing from author – to institution-driven approach, which is even more evident in the case of environmental doctrines written in the joint environment.

The second challenge for both editions was the incorporation of doctrine into training courses, which was quite complex due to the prevailing anti-doctrinal culture within the service. In regard to cadet training, two aspects were essential: '*for them to be*

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[35] Andrew Vallance, interview with the author, London, 11 July, 2013.
[36] Ibid..
[37] Chris Finn, "British Thinking on Air Power – The Evolution of AP3000" *Air Power Review*, vol. 12, no. 1, (Spring, 2009):59.
[38] AP 3000 (1991), foreword.
[39] AP 3000 (1993), foreword.

prepared to listen, and then to use and apply it.'[40] On the other hand, cadets were not the most opposed to the idea of doctrine *per se*, since their perception was yet to be shaped by the anti-doctrinal organisational culture. Unfortunately, *'the cultural problem of accepting the doctrine was deteriorating the higher you get.'*[41] Andrew Vallance's devotion to the project was influenced not only by the prescribed position and duties but rather by a personal belief that the introduction of doctrine was good for the RAF. This explains why the initial doctrine preparation process was personality-driven. In this regard, it meant that Andrew Vallance, as the author and inspirer of the 1st edition of AP 3000, was the one to decide who to involve in that process, with whom to discuss theoretical matters of warfare,[42] and what was actually going into the final draft.

For instance, Andrew Vallance involved Christopher Hobson, the chief librarian at the Defence Academy, and his team in the collection of data for case studies.[43] He was not the only author and any feedback was welcomed from within the service: '*Some of the chapters were written by the Director of Staff. So I edited them and send it for consultation. Surprisingly, very little comments were received, little intellectual argument*'.[44] Again, this situation demonstrates both personnel's reluctance to deal with the doctrine and the importance of Andrew Vallance's personality in its creation and further promotion within the service and the Staff College. The name of Andrew Vallance was so tightly connected with the first edition of RAF doctrine, that then DDS Martin van der Veen, invited him to work on the second edition, while he was still appointed to NATO.[45]

The authorship experience of the first two editions of AP 3000 is given for a reason. The reason is to show that the very existence of AP 3000 is due to personal beliefs of the people who initiated the process and who actually wrote the doctrine. In terms of the doctrinal analysis, this experience argues that, in order to understand the conceptual and purposeful discourse of a certain doctrinal publication, it is essential to look into who CAS and DDS were at that time and how they interacted. From the personalities' perspective, it is relevant to look into personal backgrounds of people who wrote doctrine and who actually made it happen in the service.

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[40] Andrew Vallance, interview with the author, London, 11 July, 2013.
[41] Ibid..
[42] In this context, American counterparts like Phil Meilinger and John Warden
[43] Chris Hobson, interview with the author, Shrivenham, 11 September, 2013.
[44] Andrew Vallance, interview with the author, London, 11 July, 2013.
[45] Ibid..

The authorship of the 3rd edition of AP 3000

In the doctrine preparation process of the 3rd edition, the main role was played by the Air Chief Marshal Sir Richard Johns. The exploration of the inside environment of doctrine preparation was covered in the article by Chris Finn. It was based on the personal correspondence with acting professionals of that time. As it was mentioned before, the new edition of AP 3000 could have been expected in 1996, as the doctrinal reflection of the air power lessons in Bosnia and PSO environment. According to Air Commodore Steve Abbott, the intended edition was meant to be *'evolutionary, not revolutionary.'*[46] At that time, the main obstacle of the doctrine publication was the initial scepticism of CAS − Richard Johns. The rapid changes in the national defence, the introduction of jointery and subsequent doctrinal hierarchy changed CAS's position on doctrine.[47] Richard Johns became convinced:

> *'that the final document needed to be endorsed by the other services, to recognise their contribution to the generation of national air power. Consequently, Edition 3 was the first to carry a joint imprimatur and was launched publicly at the RUSI by CAS and senior representatives of the RN and Army.'*[48]

Furthermore, Chris Finn noted that the main rationale for CAS's change of mind was also conditioned by his personal experience as the Director of Operations during the Gulf War, when he realised that the RAF's focus on tactical perspective and fixation with the Central Region were not efficient.[49] In this regard, CAS did not want doctrine to become dogma but rather to be a means of boosting changes which were already on the way. Consequently, he was actively involved in the drafting process.[50]

While the doctrine preparation process required formal initialisation and authorisation, which was provided by Richard Johns, its consistency depended on the correspondence of its author to its inspirer. Then, Group Captain, and now Air Chief Marshal, Sir Stuart Peach perfectly fitted into the role. Being commissioned to the RAF in 1977, the first couple of decades of his career were characterised by practice-oriented experiences of photographic reconnaissance flights in Canberra, followed by three tours

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[46] Quoted in Chris Finn, "British Thinking on Air Power," 60.
[47] Ibid., 60-61.
[48] Ibid., 61.
[49] Ibid..
[50] Ibid..

on Tornado GR1 both in the UK and abroad. In these tours, he was qualified as weapons and electronic warfare instructor. In 1994-1996, he was a commander of IX Squadron (Bomber) at RAF Bruggen, in Germany.[51] The next stage of his career, which brought him to the doctrine authorship, started with an MPhil at Cambridge, received in 1996, followed by appointment as DDS in 1997.

There were several reasons why Stuart Peach fitted well into writing the doctrine under Richard Johns' supervision. First, he combined experience as a pilot with an academic approach to air power gained in Cambridge and as a part of his duties as DDS. The position of DDS inevitably required a creative, systematic and global view on air power and cooperation with academics. Secondly, from the beginning of the introduction of jointery into the national defence discourse, Stuart Peach had demonstrated his support of jointery and its benefits for the service. Apart from the general jointery and Army-friendly discourse of the 3rd edition, this orientation was demonstrated in already mentioned introduction to *Perspectives on Air Power.*[52]

The unanimity in conceptual approach between CAS and DDS was essential for reaching other services and making the doctrine jointery-friendly. According to Chris Finn, in order to test practitioners' attitude to the ideas introduced in the 3rd edition of AP 3000, the core themes were explained in the introductory article of the first publication of *Air Power Review.*[53] However, the shift of emphasis from three air campaigns to air capabilities was not welcomed by all:

> *'with attempts being made by some factions within the Air War Centre and the dying members of the RAF College to kill off AP3000 through the drafting of an 'Air Operations' chapter for the UK Operations Document. This was seen off by an alliance of CASD, ACAS, the Air Staff and the staff of the new Joint Services Command and Staff College, along with three head of defence studies.*[54]

The situation described above is of a particular relevance for this thesis. It does not only reflects the role of individuals in securing official and systematic adoption of a certain theme within the RAF and in regard to other services, it also demonstrates new tendencies in the doctrine preparation in terms of jointery. Consequently, the difference

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[51]"Vice Chief of the Defence Staff. Stuart Peach. Biography" Accessed April 2, 2013.https://www.gov.uk/government/people/stuart-peach
[52]Peach, *Perspectives on Air Power*, general introduction, xi.
[53] Chris Finn, "British Thinking on Air Power," 61.
[54] Ibid..

in approaches between the preservation of doctrinal self-sufficiency and the correspondence to developing joint practices in accordance with the SDR was inevitable. In terms of the role of authors, the new tendency was towards decrease of their individual role and further representation of collective thoughts. This was the case of the joint nature of the 3rd edition of AP 3000.

Overall, the experience of the first two editions reflected a personality-driven approach to doctrine preparation and to an extent its survivability both in the service and inter-service culture. On the other hand, the 3rd edition was entirely different. With the introduction of jointery and its subsequent embodiment in organisational and structural changes, the process of institutionalisation of doctrines began to take place. This would inevitably affect environmental and single-service doctrines. This was particularly evident with the establishment of JDC and the introduction of doctrinal hierarchy. It meant that a doctrine was no longer simply a means of services' self-justification and explanation to each other and a wider public. The lower level doctrines had to correspond with and contain the general principles of joint publications. Consequently, the doctrine preparation process became more political in terms of inter-services' relation and could affect the implementation the newly established concept of jointery.

In terms of the approach to doctrine preparation, the shift was from 'the initiative from within' to 'authorisation from above'. It can be concluded that *'in the first two editions authorship was important, now the author responds for collective ideas.'*[55] In its turn, this meant a higher degree of subordination and control over the content. However, it may be argued that the increased attention to doctrine as a means of implementing the RAF's way of cooperating with the other two services in the joint environment resulted in the decline in flexibility of doctrine. From the long-term perspective, it can be argued that these were the first steps in the institutionalisation of jointery and the synchronisation of doctrinal approaches across all three services. Consequently, this initial attempt to place the environmental doctrine prepared by a single service into the doctrinal/conceptual framework of two other services was the first stage of the contemporary doctrinal cycle. According to it every 5-year revision of all national doctrines is related to the Defence Review and changes in defence policy.

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[55] Andrew Vallance, interview with the author, London, 11 July, 2013.

This process is the final stage of jointery institutionalisation. It will be discussed in detail in the next two case studies.

Looking at the matter from the RAF's cultural perspective and career divisions, the shift in doctrine preparation also contributed to this. In other words, in the post-Cold War era of the RAF's doctrine practice, two entirely different approaches were developed and embodied in the first three editions of AP 3000. Andrew Vallance emphasised this difference as follows:

'*AP3000 of 1999 was taken in the wrong direction. It was too influenced by ground forces. It was not a step forward. There are two possible approaches to writing an environmental doctrine at the strategic level. The first is to define the characteristics of the different environments in which mankind wages war (e.g. air, land or sea) and then elaborate on how those basic characteristics define what types of operations that are possible and practicable (and those that are not) within that environment. Once each of the environmental doctrines are established on a firm and realistic foundation, that then leads onto to the formulation of joint doctrine in which campaigns and operations in the component environments are brought together to define how best each type of warfare is integrated with the others to give the best strategic effect in any given set of circumstances.*

The second option is to start with a 'joined up' doctrine setting out what is seen as the ideal approach to campaign planning and then try to dictate how operations in each environment should contribute to achieve that. I always favoured the first of these approaches as the most realistic, sensible and practical. I found that the second of these approaches tended to create formulaic approaches which could be unsound and started from the proposition that operations/campaigns in one of the 3 environments would always be the principal, and that operations in the other 2 would be obliged to conform and contribute as best they may, but not necessarily be used in the way that would maximise their own advantages. I felt that the 3ʳᵈ edition essentially was based on that approach and was over-influenced by a land force doctrine which at that time was being written by a very eloquent and persuasive individual, but who I felt had an imperfect understanding of air power.[56] In this regard, Stuart Peach was meant.

The aforementioned explanation is more than exhaustive and it provides the context for the understanding of the environment in which the 3ʳᵈ edition was written

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[56]Ibid..

and also why it was revolutionary. It also explains why the 3rd edition was not well-received within the service and could not achieve its goals. Although the specifics of inter-service dynamics are an interesting topic for exploration, it is not the aim of this research. Therefore, no further in-depth exploration of opposing groups within the RAF will be conducted.

The main conclusion concerning the role of writers in doctrine preparation is that while previously authors could directly contribute and affect the text of doctrine, starting with the 3rd edition and further, the degree of authors' impact and personal contribution declines and they become tools for embodying common, systemised content, which fits well into the prevailing doctrinal, joint network.

Conclusion

Overall, it can be concluded that the 3rd edition of AP 3000 was a continuation of the RAF post-Cold War doctrinal evolution. While the previous two editions were oriented towards the present, the new edition was the first air power doctrine of the decade to look into the future of the service and its reformation according to the posed objectives conditioned by the external and internal environments. It was evolutionary because it could look forward, not because the first two editions analysed where the service was at that time and how the lessons of the Gulf influenced air power; it was intellectual and targeted a wider audience, because of the public attention to the military affairs and the increase of stakeholders in the military sphere. This doctrine entirely corresponded to its time and could not have been written in this form any earlier. Due to the rapid changes and the number of factors influencing doctrine preparation process, it was still the historical document of its time. Although it reflected the institutional flavour of that time, it also demonstrated the strengthening of inter-service cooperation embodiment in joint approach of the publication. In terms of the factors outlined by Oliver Daddow, each aspect had different situational intensity of influence on the doctrine preparation process of 1999.

First, in terms of the external environment, the 3rd edition was influenced by the lessons of the Gulf War and developing PSO realities after Bosnia. In this regard, the doctrine did not only reflect the experiences of both types of operations and the consequent degree of air power use, but also addressed the allied and joint environment of future operations. One of the reasons why operational experience was so well-balanced and incorporated in detail was due to its reflection through Army PSO

doctrine. In this case, the connection between external and internal factors took place. However, the primary aim was the reflection on operational experience and Army PSO doctrine was a means to this end.

Other elements of the external environment had a different degree of influence. NATO doctrine was not yet directly influencial on AP 3000, and could influence the document only through the allied publications in the doctrinal hierarchy. Foreign doctrines of other Allied nations had little influence if any, mainly due to the difference in their strategic cultures. The exchange of ideas and technologies with American allies had an indirect influence on practitioners through common training, joint courses and in allied operations. Interpersonal contacts and visits of DDS to Maxwell were still taking place and could indirectly shape certain ideas on air power and doctrine; however, they were not the forces shaping the form and contents of the doctrine. Therefore, although not all elements of the external environment were equally important, the most crucial one was operational experience. It can be concluded that external factors were a driving force for the new publication of AP 3000; however, the shape the new edition gained was dictated by the internal environment.

Secondly, in terms of the internal environment, the new edition was directly influenced by the process of jointery and subsequent arrangements of Armed Forces' reformation. Thus, the 3rd edition of AP 3000 incorporated the lessons of previous operations into national joint discourse. The path of jointery required a closer cooperation with two other services, particularly with the Army, and that was exactly what doctrine demonstrated. The significance of internal factor is that the new edition of AP 3000 was published only when the jointery process was initiated, which meant that the service had to adapt to the entirely new national reality. The introduction of jointery also meant that the Armed Forces had a direction to adapt and evolve in their post-Cold War recovery. Doctrine was the guide to that adaptation. Thus, the internal factor was the driving force for the shape and the time of doctrine's publication. The influence of this factor was direct.

Thirdly, in terms of networks, the influence of academics was substantial, although indirect. The main reason why the document was highly intellectual and complex was due to the close cooperation between DDS Stuart Peach and academic network of the time. Although academics were not directly involved in doctrine writing and drafting of the document, they provided substantial knowledge and analytical

materials on changes in the strategic environment of that time. This was achieved through Air Power Workshops and focus groups on security and defence studies conducted a few years prior to the publication of the 3rd edition. The application of the intellectual approach reflected the importance of a wider audience for the service's positioning in the national defence. Although it was assumed that with each level closer to doctrine writing, the influence would be more direct, that was not the case for academics. It was indirect and was reflected in doctrine to a large extent because of Stuart Peach's favourable attitude to intellectualism and a wider academic discourse on air power use.

Fourthly, the influence of the author was direct and decisive to an extent. Although Stuart Peach was responsible for the new edition and made it academic and Army-friendly, his judgements had to correspond to the overview of his superior, meaning CAS. Since both CAS and DDS were actively involved in the doctrine preparation process and had similar perception of the final outlook of the doctrine, the author's contribution was not substantially limited. However, if he wanted to go a different way than CAS, then it would be simply impossible, because doctrine was becoming more of an institutional document than an individual perspective on air power use. Therefore, the influence of the author was not vital. However, in contrast to the first two editions, the freedom of action was diminishing, because doctrine was becoming a recognised phenomenon of the every-day military practice.

The increased attention to doctrine *per se* and in the joint discourse in particular, resulted in the differentiation of approaches to writing environmental doctrine at the strategic level and the role of authors in it. In the case of the first two editions, the process was author-driven and the tendency was to write environmental doctrines within the relevant services and only then to think about synergy and integration towards strategic effects. The 3rd edition was characterised by the beginning of jointery and the indoctrination of a more institutionalised approach to doctrine preparation. Gradually, the authors were beginning to be responsible for collective ideas rather than for their own. This was not entirely the case of the 3rd edition, but the process was on the way. In terms of the approach of writing environmental doctrine, it was a hierarchical 'joined-up' way. This meant that joint doctrine would dictate subordinate doctrines in each environment as to what strategic effects they had to achieve. Practically, the contemporary hierarchy of doctrinal documents was introduced.

Finally, in terms of the institutionalisation of jointery, the 3rd edition of AP 3000 demonstrated that the RAF had realised the joint nature of the three services and that it was the way of adaptation. This was demonstrated once again through the application of the 'joined-up' approach to writing of environmental doctrine. The initial stage of the development of jointery was demonstrated in horizontal cooperation between different services. This was demonstrated by the example of PSO doctrine used for evaluation of the lessons of Bosnia. The use of PSO doctrine in the strategic air power doctrine was also a template of joint thinking on future operations and cooperation between the Army and the RAF. It was an important message stating that the RAF was taking jointery-oriented direction. Only a year after the SDR, the service managed to produce jointery-friendly environmental doctrine. The next two editions of air power doctrine will demonstrate that this orientation was a far-reaching one.

CHAPTER V: CASE STUDY OF THE 4TH EDITION OF AP 3000

During the first post-Cold War decade, RAF doctrine was characterised by three editions of environmental doctrine, which reflected the complexity of the strategic environment and its rapid change. Furthermore, the second decade was not lacking in events and factors reshaping the post-Cold War strategic environment. In terms of the international environment, Kosovo, 9/11, subsequent operations in Afghanistan and Iraq, the global economic crisis and change of various foreign governments took place over this time. Strictly in military terms, jointery was strengthening its position in the reformation of the Armed Forces and in ongoing operations. Its institutionalisation was reflected in active work on the production of the conceptual framework for tri-service cooperation, which was achieved through joint publications of the Joint Doctrine and Concepts Centre (JDCC). Consequently, it could have been expected that new editions of air power doctrine would reflect this change. However, the RAF continued to operate without a new edition of its environmental doctrine until 2009, a decade after the publication of the previous edition. This chapter explains why there was no new doctrine for 10 years and the influential factors which drove the preparation of AP 3000, 4th edition, 2009.

The 4th edition of AP 3000 *British Air and Space Power Doctrine*[1] was initiated by the then CAS Air Chief Marshal Sir Stephen Dalton and prepared by the then DDS Air Commodore Alistair Byford. In the foreword to the 4th edition, Dalton outlined the conceptual framework necessary for the use of air and space power in the new operational environment.[2] The main distinctive feature of this edition was that it no longer concentrated exclusively on air power but also included another environment – space. Throughout, the air and space environments are addressed indivisibly. The consequent conceptualisation of air and space power runs from chapter to chapter. The structure is simple, consisting of four chapters contained in a 67-page document. This was a significant simplification in contrast to the previous edition. Chapter 1, *'The Nature of Air and Space Power,'* explains the new definitions of air power and space power, the unique aspects of space power, the key enablers of both and the unique perspective of airmen. Chapter 2, *'Air Power in the Contemporary Operating Environment,'* looked into the current knowledge of air power's use across the entire spectrum of conflict and in the context of joint actions. Chapter 3, *'The Four*

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[1] *British Air and Space Power Doctrine* (AP 3000) 4th Edition. Prepared under the direction of Chief of the Air Staff (Shrivenham: Air Staff/MOD, 2009).
[2] AP 3000 (2009), 5.

Fundamental Air and Space Roles' were analysed: control of the air and space, air mobility, intelligence and situational awareness and attack, and their connection with joint action. Chapter 4, *'Air and Space Command and Control'* looked into the Network Enabled Capability (NEC) in terms of its incorporation into mission command, and existing air command and control in the contemporary operating environment.

The Context – the absence of doctrine

The absence of doctrine in the second decade after the publication of three editions in the first decade, not to mention the breakthrough of the 3rd edition, was surprising. Although the core conceptual doctrine was not republished until 2009, a collection of Air Power Publications was replenished with *AP 3002: Air and Space Warfare*[3] and *AP 3003: A Brief History of the Royal Air Force.*[4] AP3002 looked into the tactical details of the use of air power and answered the question 'how' it should be used, while AP 3000 was meant to give answers to 'what' and 'why' questions.[5] AP 3003 was written as a summary of RAF history for cadet courses at RAF College Cranwell, which was reflected in the foreword by the CAS of the time Air Chief Marshal Sir Jock Stirrup:

> *'This book is aimed primarily at those who have recently joined or are joining the Service, but we are distributing it to every serving member of the RAF and to the Cadet and Reserve organizations, including the University Air Squadrons. It is crucial that we all share a common understanding of our Service's history.'*[6]

The diversification of the RAF's air power publications and their direct connection to AP 3000, as an umbrella document, affecting lower level doctrines, argues not only for a return of doctrine into RAF practice but also for a more profound attention to its functionality. However, the renewed attention to doctrine and the increase in AP publications does not fit well with the absence of a new edition of an environmental doctrine as a framework document for the subordinate AP publications. This inconsistency was explained by Wing Commander Chris Finn, who was DDS from June 2002 till December 2004 and was involved in the doctrinal process of the time. In fact, the need for a new edition of AP 3000 was one of the first tasks Chris Finn set

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[3]*Air and Space Warfare* (AP 3002) 2nd Edition. Prepared under the direction of Air Warfare Centre Commandant. (RAF Waddington: Air Warfare Centre, 2006).
[4]*A Brief History of the Royal Air Force* (AP 3003), (London: HMSO, 2005).
[5] AP 3002, foreword, iv-v.
[6] AP 3003, foreword, i.

about during his time as DDS. The main rationale for the new edition was not the Kosovo campaign, or 9/11, or intervention into Afghanistan. The rationale was more functional. He argued that the previous doctrine was not well-understood and therefore was not taken into consideration within the service because of the following:

> *'AP 3000, 3rd edition was getting long in the tooth and it clearly needed rewriting. My feeling about that version was that Stuart have tried to put a lot of academic argument into it and it did not actually have a great utility for the Royal Air Force because of the way Stuart Peach had written it.'*[7]

In his article on the subject, Chris Finn was even more specific on why this edition of the doctrine was not accepted by the service. It was suggested that the language of the manoeuvrist approach was more Army-oriented and was of very little practical or guiding relevance for airmen.[8] In this regard, the initial attempt to make air power doctrine Army-friendly and therefore to introduce jointery into the service proved to be counter-productive due to the very form and discourse of the doctrine. From the point of view of a practitioner, the doctrine looked too long, thus time consuming; too academic, thus required extra reading; too Army (actually jointery)-oriented, thus written for the Army to understand the RAF and air power. Therefore, the brilliant idea embodied in the 3rd edition faced the cruel reality of practical consideration a few years afterwards.

What the new DDS aimed to do was to address the issue in a more systematic way. He wanted to make two versions of doctrine, a detailed one and a thin one. The main pupose of the thin version was to be used by the cadets in the RAF College in Cranwell.[9] In terms of this plan, four publications were envisioned: a revised 4th edition of AP 3000; *AP 3001: Air Power Essentials*, *AP 3002: Air Operations*, and AP 3003. The then CAS Air Chief Marshal Sir Jock Stirrup agreed all four documents. While DDS was working on the framework document the Air Warfare Centre aimed at preparation of operational manual AP 3002, which they prepared and later revised into the 2nd edition in 2006.

In terms of AP 3003, Peter Herbertson was asked to write a comprehensive summary of RAF history for cadets at Cranwell. By no means, was it meant to be a

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[7] Chris Finn, interview with the author, Cranwell, 7 November 2013.
[8] Chris Finn "British Thinking on Air Power – The Evolution of AP3000" *Air Power Review*, vol. 12, no 1, (Spring, 2009): 62.
[9] Chris Finn, interview with the author, Cranwell, 7 November 2013.

critical history, because such a work would be too long.[10] Additionally, the document did not have any references, since its main purpose was to inform newcomers and cadets rather than to make an academic contribution to RAF analytical history. Nevertheless, there are numerous books of references stored in the Cranwell library reflecting the tremendous work undertaken.[11] This can be explained by the fact that it was entirely a single-service initiative conditioned by practical necessity for cadets to share knowledge of RAF history and not only Squadron history. This publication was produced in close cooperation with the Air Historical Branch (AHB). Although there were numerous contributors, and writers, Chris Finn wrote a few chapters, while Mary Hutson from the AHB did all of the editing. The next stage was sending it for verification and intelligence clearance to the head of the AHB Sebastian Cox.

Consequently, two documents out of four were published, yet the new doctrine was not one of them. According to Chris Finn, there were two reasons why this was the case. The first reason was that the operations in Afghanistan were not over yet and Operation Iraqi Freedom had begun. In this context, Chris Finn stated:

> 'The AP 3000 did not happen because of the Afghan conflict. The Assistant Chief Air Staff of that time David Walker basically felt that there was no point of rewriting our doctrine until we'd go over the lessons of Afghanistan, plus of course the lessons of the second Gulf War. So, that basically took it out of my timeframe.'[12]

Accordingly, the decision to stop the doctrine preparation process was rational, since it would have been too time and resource consuming to write a new edition after each operation, especially when the gap between them was just a couple of years. Strictly from the practical perspective, if the doctrine preparation process started right after the end of Kosovo campaign, taking the time of average 18 months for its preparation, it might have been disseminated by the beginning of the war in Afghanistan; however, its relevance for the new operation would have been questionable because, first of all, it would not be well incorporated into existing practice. Secondly, because the use of air power in Afghanistan was different, except for a holistic consideration of evaluating lessons of ongoing operations, the beginning of

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[10] Ibid..
[11] Ibid..
[12] Ibid..

the new war had also more practical effect on the potential of doctrine preparation, having the people to do it, including Chris Finn:

> *'At an early stage of drafting in 2003, Operation Iraqi Freedom intervened and the process was put on hold, both to enable the doctrinal lessons of the conflict to be identified and because many of the key players in the process were personally involved in the conflict.*'[13]

The second reason was the ongoing institutionalisation of jointery and the division of responsibilities between single services and joint institutions. The main issue was with the Joint Doctrine and Concepts Centre (JDCC). With the expansion of jointery into various aspects of tri-service practice, the number of joint publications increased. However, each service still wrote its own doctrine, which corresponded to the joint discourse, yet was under a single-service authorship. In order to provide consistency in tri-service doctrinal publications, their drafts were reviewed by the other services and the JDCC. On the other hand, JDCC took a more centralised position and argued for the necessity of joint authorship. Chris Finn called it a *'discussion of who owns a single environmental doctrine.*'[14] The main argument of tri-service practitioners was that in order for the doctrine to reflect specifics of the service, concentrate operational lessons particular to it, and therefore to be accepted within the service, it should be written by practitioners of that service under the authority of the head of the service. On this subject, Alexander Alderson, the specialist in British COIN doctrine, noted:

> *'Any army needs soldiers with relevant and recent experience to write its doctrine and develop the concepts which should drive future tactics, organisation and equipment.*'[15]

In this context, there was developed a clash between two approaches to the preparation of environmental doctrine, outlined earlier by Andrew Vallance. The issue was not resolved in the time of Chris Finn. The joint authorship of environmental doctrines of the three services was introduced with the creation of the Development Concept and Doctrine Centre (DCDC) in April 2006. Although this process influenced

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[13] Chris Finn, "*British Thinking on Air Power*" 62.
[14] Chris Finn, interview with the author, Cranwell, 7 November 2013.
[15] Alexander Alderson, "The Army Brain: a historical perspective on doctrine, development and the challenges of future conflict" *The RUSI Journal*, vol. 155, no 3 (June 2010): 14.

the doctrine preparation practices of the two other services, it still did not affect the 4th edition of AP 3000, which was still written under a single-service authorship.

Irrespective of all these reasons Chris Finn produced a draft of AP 3000. This was influenced by practical cooperation between the services in the operational environment of Iraq, which stimulated further doctrinal considerations. As a means of examining effects-based warfare *'with the aim of exploring what was becoming a common doctrinal language, despite having no basis in explanation or common understanding,'*[16] the three Heads of Defence Studies organised a joint conference. Its additional aim was to analyse the recent operational lessons:

> *'Additionally, the conference was held to capture the air power lessons of Operation Iraqi Freedom in May 2004, including the CAS (Air Chief Marshal Jock Stirrup), General 'Buzz' Moseley USAF (JFACC), Air Chief Marshall Brian Burridge (UK National Contingent Commander) and Air Marshal Glen Torpy (UK Air Component Commander). This established the facts of the air war and also addressed themes such as technology, legality and ethics and their doctrinal implications.'*[17]

Consequently, this conference provided a practical and conceptual basis for the preparation of a new edition and also some considerations of how to place it in joint and tri-service discourse. Although Chris Finn's draft was never published, its distinctive feature was that *'it went through the review process of tri-service environment.'*[18] This fact meant that actual practical jointery cooperation and consultation between three services, despite their differences, was taking place. It also meant that, practically, a new edition of AP 3000 was possible in 2005. However, that was not the case. Since it was impossible to interview the next DDS Group Captain Neville Parton, the reason why the new edition was not published in his time remained unclear. One of the reasons might be the change of campaigns in Iraq and Afghanistan from coercive to peace-building and stabilisation.[19] Consequently, the evaluation of lessons and their adaptation in doctrinal document would require at least the end of these campaigns or the realisation of the main trends in air power functionality. On the hand, another reason

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[16] Chris Finn, "*British Thinking on Air Power,*" 63.
[17] Ibid..
[18] Chris Finn, interview with the author, Cranwell, 7 November 2013.
[19] Stuart Griffin, "Iraq, Afghanistan and the future of British military doctrine: from counterinsurgency to Stabilization" *International Affairs*, vol. 87, no 2 (March 2011): 323.

could be internal; with the establishment of DCDC and the struggle for ownership over environmental doctrine, it would seem wise for the service not to publish anything if it was not going to be recognised by joint institutions and incorporated into training courses.

Consequently, the aforementioned discourse explains why a new edition of doctrine was not issued in the first five years and it also describes the existing tendencies in the doctrine preparation process. First of all, the publication of RAF doctrine depended on cooperation between CAS and DDS. Any inconsistency between their approaches or views on doctrine could result in its simple non-existence. Secondly, the diversity of doctrinal publications reflected the differences in target audience each publication aimed to reach. Thirdly, at that time, practically, environmental doctrine was still in the realm of single-service responsibilities. Consequently, in terms of any synchronisation of doctrinal changes within the tri-service environment, any decisions on a new publication depended largely on single-service considerations and were not conditional on the other services' doctrinal revisions. Therefore, changes in doctrine in one service did not trigger subsequent changes in another one, because there was no system to trigger them. Finally, in terms of the institutionalization of jointery, the process was painstaking and reflected the diversity of approaches from different stakeholders. Nevertheless, although JDCC did not succeed in achieving control over environmental doctrines, in practice, tri-service/joint cooperation in reviewing each others' doctrines took place. It does not mean that the process of tri-service reviewing was smooth, but the fact that it was taking place and attention was paid to the necessity of common doctrinal language in practical matters like effects-based warfare meant that jointery was actually progressing horizontally, while centralised and vertical jointery was still struggling.

Lessons of Previous Operations

The Kosovo campaign was the first post-Cold War NATO campaign conducted on its own without UN authority. The air power contribution to Operation Allied Force was in 48 fixed wing aircraft, *'of these, twenty-eight were strike aircraft (Tornado GR1s and Harrier GR7s), seven were air defence (Sea Harrier FA2 flown off HMS Invincible)*

and thirteen were support aircraft (air-to-air refuelling tankers, E3D early warning aircraft and one Nimrod); in addition some eighteen helicopters were deployed...'[20]

This campaign had many lessons to teach. The Kosovo conflict showed that unlike the Gulf War, *'it was widely and mistakenly believed that coercive air attacks would quickly succeed.'*[21] Another issue of the time was the difficulty in preservation of the legitimacy of coercion and other military actions in the volatile environment of ethno-culturally fragmented country.[22] In this regard, the main problem for air power was not simply in reaching targets, but in getting target-by-target clearance. Both in American and British cases, approval for each target had to be obtained from political decision-makers in Washington and London, which added an extra pressure on the application of air power in politically sensitive environment.[23] Another lesson was the crucial role of intelligence for the actual efficiency of air power. In this regard, target identification was shown to be crucial for the efficiency of air power and its primary role of reaching targets. Participants in the campaign, Brian Burridge and Wesley Clark, argued that the campaign was missing an effects-based approach by its very nature. General Clark commented on the insufficiency of destroying infrastructure in places which were not relevant to the War itself.[24] Later on, this misstep would result in the complexity of the post-conflict recovery of the country.[25] Brian Burridge stated:

'We flew a phenomenal number of sorties, at a significant cost in monetary terms, and yet we actually eradicated only four artillery pieces. And one of the main problems was that the strategy would be the target set, and the target set would be the strategy. So there was no attempt to understand how to generate an effects-based campaign.'[26]

The core of the problem was not in an incorrect choice of targets or a concentration on their achievement irrespective of long-term consequences. It also was not in strict ROEs, which aimed at the limitation of civilian casualties, but resulted in

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[20] House of Commons Defence Committee, *Lessons of Kosovo*. Fourteenth Report of Session 1999-2000 (London: HMSO, 23 October 2000), para 130.

[21] Tony Mason, "British Air Power" in *Global Air Power*, ed. J.A. Olsen (Washington: Potomac Books, 2011), 57.

[22] Wesley Clark, Waging Contemporary War: Bosnia, Kosovo, and the Future of Combat (New York: Public Affairs, 2001), 35.

[23] Goldie Haun, "A-10 FACs over Kosovo" *Air Power Review*, vol. 6, no 1 (Spring 2003): 86.

[24] Clark, *Waging Contemporary War, 169.*

[25] John Lampe, "The Lessons of Bosnia and Kosovo for Iraq" *Current History*, vol. 103, no. 671 (March 2004): 115.

[26] Brian Burridge, interview with the author, London, 11 July 2013.

the repetition of sorties towards the same target, while the characteristics and relevance of the target had changed. A further problem was a lack of understanding between political decision-makers who were driven by effects of the war on the international community, and consequent reluctance to deploy land forces; and military thinking in terms of tactics: reaching targets. Both parties needed to think more systematically in terms of the exit strategy and subsequent implications after achieving the end state: the withdrawal of Serbian forces from Kosovo.

Consequently, political assessment of the RAF performance was far from satisfactory:

> *'The number of munitions dropped by UK air craft per strike sortie was significantly lower than the NATO average. The RAF flew 9.6% of NATO strike sorties, but dropped only 4.2% of the munitions.'*[27]

Except for the strict ROE, this inconsistency between sorties and targets were also due to bad weather and technological inability of laser-guided Paveway I and Paveway II munitions to strike small and mobile targets.[28]

Overall, the lessons of Kosovo for air power included the following considerations. First of all, the campaign demonstrated that NATO as a defensive alliance had no experience in planning humanitarian interventions,[29] resulting in the *'lack of contingency plans for coercive actions.'*[30] Secondly, although overall assessment of the use of air power in this campaign is often *'adjudged as a success,'*[31] it was less effective than in the Gulf War. Features characterising air power in the previous campaign: high tempo and continuity of attacks, were diminished by the complexity of the political situation.[32] Consequently, merging strategic, operational and tactical level targets under the same ROE and approval in London and Washington resulted in a decline in the timeliness and efficiency of sorties. Other problems included flaws in the suppression of enemy air defences (SEAD); difficulty in finding and engaging enemy light infantry; civilian casualties,[33] and need for logistics integration, particularly of a

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[27] HCDC, *Lessons of Kosovo*, para 135.
[28] Tony Mason, "British Air Power", 58.
[29] Benjamin Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment (Project Air Force Series on Operation Allied Force)* (Washington: RAND, 2001), 15.
[30] Tony Mason, "British Air Power," 57.
[31] Benjamin Lambeth, *NATO's Air War for Kosovo*, 12.
[32] Michael Elliot and Michael Hirsh, "Learning the Lessons of Kosovo" *Newsweek*, vol. 134, iss. 24 (December 1999-February 2000): 25.
[33] Benjamin Lambeth, *NATO's Air War for Kosovo*, 13.

multinational component.[34] Thirdly, a new conceptual approach to the use of air power together with political, diplomatic and other means was required. Finally, the operation demonstrated some tactical and technological concerns in the RAF performance:

> *'The campaign exposed RAF deficiencies in all-weather PGM's; battle damage assessment, secure communications; the ability to find, target, and engage mobile forces; and the ability to deploy units from main operating bases. Despite sustained resource constraints, all would be addressed before the next major commitment in 2003.'[35]*

Unlike in Kosovo, **RAF involvement in Afghanistan** was supportive rather than decisive. During the first stage, it was mainly limited by provision of refuelling, surveillance and reconnaissance. RAF Tristars and VC-10s were deployed from the Brize Norton base in Oxfordshire, mainly due to its compatibility with the refuelling system of the US Navy and Marine Corps.[36] The Airborne Early Warning (AEW) E3-D Sentry and the Nimrod R1 provided surveillance while the Canberra PR9 conducted reconnaissance flights.[37] Further on, by January 2002, C17 and C130 Hercules were responsible for strategic and tactical air lift while Hercules and Chinook helicopters were used in support of Special Forces.[38] During the third stage of International Security Assistance Force (ISAF), starting in July 2006, the RAF conducted the same roles but in support of the new government and ongoing process of reconstruction and stabilisation of the country.[39]

Although the campaign became very unpopular due to its protracted character in securing stabilisation and peace building,[40] and death of a Nimrod crew due to technological failure,[41] air power was demonstrated to be capable of performing a supportive role. On the other hand, one of the issues requiring improvement was the suggestion of the need to improve air and land cooperation because *'in Afghanistan we*

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[34] Peter Dye, "The European Rapid Reaction Force: The Contribution of Aviation Logistics" *Air Power Review*, vol. 6, no 1 (Spring 2003): 18.

[35] Tony Mason, "British Air Power", 58.

[36] Mark Oakes and Tim Youngs Operation Enduring Freedom and the conflict in Afghanistan: an update.- (House of Commons Library Research paper 01/81) 31 October 2001, 26.

[37] Ibid., 26.

[38] Tony Mason, "British Air Power", 59.

[39] HCDC, *Operations in Afghanistan*. Fourth Report of Session 2010-12 (London, HMSO, July 2011),18.

[40] Ben Clements, "Public Opinion and Military Intervention: Afghanistan, Iraq and Libya", *Political Quarterly*, vol. 84, iss. 1 (January 2013): 121.

[41] Charles Haddon, *The Nimrod Review*, Report for the House of Commons. (London: HMSO, 2009).

were finding that we were using close air support for strategic effect and in high manoeuvre, high tempo warfare, the relationship between air and land is now much, much more important[42] which was further demonstrated in Iraq.

The main lessons for air power were in demonstrating efficiency, especially in the supportive roles it could provide. In the later years, before the publication of AP 3000, multi-tasking in the provision of ISTAR roles and striking capabilities was required on a day-to-day basis.[43] What was crucial, in all these supportive roles, was the realisation of the increased necessity of information and improved technological capabilities. In this regard, Brian Burridge, who at the early stage of Afghanistan war was NATO CAOC Commander and commanded CAOC 9, commented:

> *'Back to Afghanistan, November 2001, the nature of technology was fast, giving us better ISR capability; it was fast giving us greater precision, and it was fast giving us the ability to fuse our intelligence and surveillance data and the way in which we could run a CAOC (Combined Air Operation Centre) became much more efficient. In other words, you could build a higher tempo in the CAOC...and I was very lucky with type of people and equipment I had in my CAOC. We reckoned that we had a human limit of about thousand lines of air tasking order, we reckoned we could manage a thousand lines...'*[44]

Consequently, the supportive role of ISTAR was becoming more vital for major strikes and their subsequent accuracy. In terms of the doctrinal discourse on the primary and secondary roles of air power, this would mean the obscuring of this distinction, because what could be considered as a secondary supportive role was actually vital for the provision of the so-called primary role of strategic effect. This was one of the reasons why air power capabilities were exchanged for air power roles in the 4th edition of AP 3000.[45]

For the RAF, **the Second Gulf War** was different from Kosovo and Afghanistan. It was characterised by the first full-bodied air-land integration and close air support together with increase in precision of PGM's and operational tempo. The overall deployment of assets included 46,000 personnel, 19 warships, 14 Royal Fleet

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[42] HCDC, *Lessons of Iraq*, para.61.
[43] Brian Burridge, interview with the author, London, 11 July 2013.
[44] Brian Burridge, interview with the author, London, 11 July 2013.
[45] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.

Auxiliary vessels, 15,000 vehicles, 115 fixed-wing aircraft and nearly 100 helicopters.[46] The British side was represented by Brian Burridge and Glen Torpy. Apart from a rapid and complete integration with US Forces, the key feature of the operation was a faster speed and tempo in comparison to previous operations:

> *'Given the nature of the plan, which was designed to overwhelm the command and control of the Iraqi regime through high tempo and high manoeuvre, decision-making on targeting needed to move from what had been 'sedate' to 'fast and furious.'[47]*

Associated with the high tempo, another feature of air-land integration was a shift from linear to parallel warfare, meaning that instead of conducting an air campaign, preparing the way for ground forces to proceed on the second stage (linear), both air and land forces were attacking simultaneously (parallel warfare). [48] Consequently, the complexity of the target-set and the available time for its reach would determine whether it was approved on the spot or in London. Although strategic targets were mainly approved in London, targets of operational, tactical levels and rapidly mobile targets were approved on the spot.[49] Benjamin Lambeth wrote:

> *'Air Chief Marshal Burridge later summed up his role in this respect succinctly: if a target was to be attacked with a British platform, either he or someone in the British contingent to whom he had delegated authority had to approve it.'[50]*

A more relaxed targeting clearance can be easily connected to the second feature of the campaign – improved efficiency of PGMS and their precision. It was recognised that the shift *'in the nature of the munitions delivered'[51]* was towards PGMs instead of old-fashioned bombing. 679 out of 803 PGMs were dropped, an 85 per cent rate in contrast to 10 per cent in the First Gulf War.[52] The main contribution of the RAF was in the introduction of the Storm Shadow into operation, long before its anticipated entry

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[46]*Operation TELIC− United Kingdom Military Operations in Iraq*, Report prepared by the Comptroller and Auditor General for House of Commons 60 session 2003-2004, (London: HMSO, 2003), 1.
[47] HCDC, *Lessons of Iraq*, 59.
[48] Brian Burridge, interview with the author, London, 11 July 2013.
[49] Ibid..
[50] Benjamin Lambeth, *The Unseen War: Allied Air Power and the Takedown of Saddam Hussein* (Annapolis: Naval Institute Press, 2013), 161.
[51] HCDC, *Lessons of Iraq*, 60.
[52] Ibid..

date, which was provided through the Urgent Operational Requirements (UOR) scheme.[53] Its place in the operational arsenal was outlined as follows:

> *'Indeed, apart from the B-2 stealth bomber armed with GBU-37 hard-structure munitions, Storm Shadow provided General Moseley with the only significant deep-penetration target attack capability available to CENTAF. In all, 27 Storm Shadow munitions were fired throughout the campaign, mostly during the first few days against especially hardened enemy command and control facilities.*[54]

Another technological aspect of the campaign was the performance of UAVs. The RAF also extensively used the UAV Phoenix, which was used in 138 sorties. In terms of lessons, the active use of UAVs in Afghanistan and Iraq suggested a new era for air power, indicating that, finally, with new technologies, air power could achieve what it always promised − surgical performance. On the other hand, it also triggered a long-term argument about the costs of these technologies, which would be even more important during a policy of austerity.

One of the most crucial lessons of the campaign was the necessity of increased cooperation with the land forces, particularly in terms of Close Air Support operations. Air Vice Marshal Glen Torpy stated:

> *'There is no doubt that we need to do more air-land integration. It is something that we knew about at least 18 months before we started this operation, and it was work that we had in hand: improving the procedure; looking at our equipment...'*[55]

Consequently, in terms of jointery transformation in the national Armed Forces, it is unarguable that the experience of Iraq and aforementioned statements of the key figures of the campaign would stimulate further development of jointery among the three services and air and land integration in particular. This was further reflected in the addition of the new chapter to the SDR and in the 4th edition of AP 3000.

The reflection of operational experience in text

The influence of operational experience can be traced in two ways. First, it can be seen in the changes operational experience triggers in the strategic environment. Consequently, air power has to adapt to the new trends in strategic and operational environments with consideration of all three services. In this way, incorporating

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[53] Lambeth, *The Unseen War*, 155.
[54] Lambeth, *The Unseen War*, 165.
[55] HCDC, *Lessons of Iraq*, 61.

experience is more systematic and usually reflects overall tendencies in the national defence system and strategic discourse. On the other hand, the second way to trace operational experience is to demonstrate, using examples from previous operations, how air power was used and what it is capable of in the new strategic debate. Thus, the second way is more single-service in its nature.

In terms of a reflection of all three campaigns, the new doctrine demonstrated equal attention to Iraq and Afghanistan, referring to each case nine times. In contrast, Kosovo was mentioned only once, in the introduction, as recognition that this conflict actually took place.[56] The omission of this campaign can be explained by the lessons of Kosovo for the service and their subsequent evaluation. It was also influenced by the fact that the contemporary strategic environment was more substantially shaped by the last two campaigns, which had demonstrated the diversity of air power's roles by *'full spectrum capability.'*[57]

The operational experience of Iraq and Afghanistan affected the entire tone of the new doctrine which argued for increased integration among all three services. Afghanistan and Iraq demonstrated the diversity of roles air power could play throughout the entire spectrum of conflict. In a sense, the general impact of operational experience was a practical demonstration of the improvement of jointery and air-land integration under the new technological and strategic realities. As AP 3000 4th edition stated:

> *'other developments meriting consideration since the publication of AP 3000 Edition 3 include the renewed emphasis on air-land integration, the consequences of the fruition of joint theory and practice anticipated by the SDR, and the impact of Network Enabled Capability (NEC) on air command and control processes.'*[58]

Operational experience notwithstanding, it is clear that NEC, which reflected the new stage of ISTAR development and information-driven approach to the Armed Forces integration and cooperation, was a vital additional issue. The essence of NEC is in integration of the Armed Forces into *'network of networks'*[59] through coherent

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[56] AP 3000 (2009), 8.

[57] Ibid..

[58] AP 3000 (2009), 8.

[59] B. Kazaryan "Operations, Combat Actions, and Network-Centric Warfare," *Military Thought*, vol. 19, iss. 1(2010): 85.

implementation of new technologies, information processing software, and training of personnel. *British Defence Doctrine*, suggests the following benefits of this initiative:

> '*Network Enabled Capabilities have particular utility, conferring decisive advantage through the timely provision and exploitation of information and intelligence allowing effective decision-making and the agile synchronization of activity.*'[60]

The inclusion of the concept of NEC in this edition demonstrates a few considerations. Although this concept had been introduced before Iraq and Afghanistan, operational experience and the need for air-land integration re-emphasised its importance for the Armed Forces. So this is an example of how operational experience can affect the whole national system of defence and not just a single service. Since this concept would influence all three services; inevitably, it was going to be imposed through joint mechanisms; in this case, through joint doctrine. Consequently, for the RAF to adapt to the re-emphasised trend in national strategic discourse, the concept had to be reflected in environmental doctrine. Accordingly, the incorporation of the NEC concept from higher to lower doctrine demonstrates the functioning of doctrinal hierarchy introduced by jointery. Comparing the reflection of operational experience in the 3rd and 4th editions, a few features can be outlined. Although the 3rd edition also reflected general trends in the strategic environment, it used the same level Army doctrine as its source and not joint doctrine. This was the case for horizontal jointery. However, the 4th edition demonstrates vertical jointery imposed through hierarchical subordination between different levels of doctrinal documents. Since JDP 0-01 recognised the existence of NEC, its subsequent reflection in the 4th edition of AP 3000 (environmental doctrine) showed its subordination. Once again, this suggests a new stage in the institutionalisation of jointery.

Concerning the second way of reflecting operational experience in doctrinal text, examples often were used in order to show a certain aspect of air power use. Afghanistan was referred to in order to demonstrate the flexibility of air power using the example of Harrier aircraft, which in May 2007, conducted an attack, then provided surveillance support for the land forces and ended with demonstrating presence in support of the land patrol.[61] Air attacks in 2008, when *'limited target sets within a well-*

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[60] JDP 0-01 (2008), 4-11.
[61] AP 3000 (2009), 28.

controlled battlespace[62] had a profound effect on the local population, were cited in order to demonstrate the nature of hybrid and irregular warfare. Other examples referring to Afghanistan included the air drop and transportation tasks of Hercules aircraft in terms of precision air drop[63] and force multiplication,[64] an argument in favour of *'the discrete insertion of small patrols in low-density battlespace;'*[65] and use of close air support in routine checks for Improvised Explosive Device (IED) activity.[66]

References to Iraq outlined the long-term period of no-fly zone enforcement following the First Gulf War: *'the successful policing of the no-fly zones over Iraq on a twenty-four hours-a-day, seven-days-a-week basis for an eleven-year period from 1992 to 2003 demonstrates that the impermanence of air power is relative.'*[67] Also discussed was securing freedom of air and surface manoeuvre through the control of the air above Iraq,[68] and the flexibility of air sensors and their adaptation to irregular warfare, including, for example, the use of fast jet thermal imaging system in finding insurgents hiding in reed beds.[69] Iraq was quoted in detail when referring to precision in Conventional Counter-Surface Force Operations; improvement in precision, it was argued, made precision air attack the primarily means in force-on-force attacks.[70] Furthermore, the Iraq experience suggested complexity in the use of air power:

> *'flexing high-value the United States Marine Corps (USMC) assets to service higher priority tasks elsewhere in theatre was very difficult, and the perception that organic capabilities were always available to the Marines sometimes inhibited a reciprocal flow of air support when it was urgently required.'*[71]

Notwithstanding the experience of Iraq and Afghanistan, the new doctrine addressed one of the most substantial changes in air power of the time – the introduction of UAVs and their efficiency in both campaigns. In this regard, UAVs are mentioned four times. First of all, it was argued they increased ubiquity, covering a wider

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[62] AP 3000 (2009), 30.
[63] AP 3000 (2009), 43.
[64] AP 3000 (2009), 44.
[65] AP 3000 (2009), 45.
[66] AP 3000 (2009), 47.
[67] AP 3000 (2009), 17.
[68] AP 3000 (2009), 38.
[69] AP 3000 (2009), 47.
[70] AP 3000 (2009), 51.
[71] AP 3000 (2009), 63.

geographical area than surface systems could do.[72] Secondly, to refute the argument that air power lacked permanence or endurance, it was claimed, that UAVs provided the extension of range and endurance: *'through space-based assets and high endurance UAVs, air and space power may now provide an unblinking eye.'*[73] Finally, UAV's were stated to be used not only for kinetic purposes but also non-kinetic, as it was argued they provided psychological effect by their mere presence.[74] Therefore, UAVs were shown as a potent element of air power across the entire spectrum of conflict. On the other hand, the UAV discourse also reflected the core dependence of air power on technological development and its availability, as in the case of Storm Shadow.[75]

Overall, it can be concluded that previous operations had a substantial impact on air power doctrine. While the 3rd edition paid attention to the role of air power in peace-support operations, the 4th edition stressed the place of air power in counterinsurgencies. However, in both cases, the emphasis was placed on the functionality of air power across entire spectrum of conflict and its inherently joint nature. Both editions reflected operational experience both at strategic and single-service levels. However, the 3rd edition paid more attention to the explanation of strategic reality, which would be more suitable for joint rather than single-service environmental doctrine. With the introduction of strict doctrinal hierarchy, the 4th edition sporadically referred to the main trends emphasised in joint doctrinal publications, stressing practical operational lessons relevant for air and space environments. Consequently, the main difference between the two editions was in their different ways of evaluating operational experience. The 3rd edition concentrated on the explanation of general strategic discourse while the 4th edition was more practice-oriented, paying more attention to the lessons particular for air power.

The Internal Environment

General defence policy discourse

The second post-Cold War decade can be characterised as turbulent and changeable in all aspects, and political life was no exception. Although the political dimension with all layers of its complexity could have been analysed here in depth in

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[72] AP 3000 (2009), 16-17.
[73] AP 3000 (2009), 47.
[74] AP 3000 (2009), 55.
[75] Michael Fiszer and Jerzy Gruszczynski, "RAF Flying into the Future" *Journal of Electronic Defence*, vol. 26, no. 8 (August 2003): 33.

order to trace how it affected doctrinal development, it would require a thesis of its own. Accordingly, in this thesis attention is paid only to political reflection on the Iraq and Afghanistan campaigns, how they shaped the national approach to fighting new wars and its reflection in the studied doctrine.

The path of defence policy transition over the decade started from the introduction of a new Chapter to the SDR.[76] It reflected the national response to the terrorist threat and thinking on the counterinsurgency means of fighting what became the Long War on Terror. The relevance of this paper for the doctrine of 2009 is that, first of all, it recognised the lessons of Afghanistan and suggested a systematic way of fighting new wars. It also reaffirmed the expeditionary nature of future operations. It was also the paper that re-emphasised the vital importance of the concept of Network-Centric Capability (NCC) for the military discourse:

> 'Network-Centric Capability encompasses the elements required to deliver controlled and precise military effect rapidly and realisably. At its heart are three elements: sensors (to gather information); a network (to fuse, communicate and exploit the information); and strike assets to deliver military effect. The key is the ability to collect, fuse and disseminate accurate, timely, and relevant information with much greater rapidity (sometimes in a matter of only minutes, or even in "real time") to help to provide a common understanding among commanders at all levels.[77]

This document also raised the question of the practical implementation of tri-service cooperation at that stage in terms of jointery as a precondition for the achievement of Network-Centric Capability. Consequently, a profound review of jointery could have been expected right after but for Iraq.

The next wave of defence and political papers was again conditioned by lessons of the previous campaign, in this case Iraq. Both MOD and the Foreign Office argued that ongoing campaigns and future operations would be combined.[78] The asymmetric

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[76] Ministry of Defence. *The Strategic Defence Review: A New Chapter.* Presented to Parliament by the Secretary of State for Defence (London: HMSO, July 2002).
[77] MOD, *A New Chapter*, 15.
[78] Ministry of Defence, *Delivering Security in a Changing World. Defence White Paper.* Presented to Parliament by the Secretary of State for Defence (London: HMSO, December 2003): 3; Foreign and Commonwealth Office, *UK International Priorities: A Strategy for the FCO.* Presented to Parliament by the Secretary of State for Foreign & Commonwealth Affairs (London: HMSO, December 2003):14.

nature of counterinsurgency was becoming more dominant in the assessment of future requirements of the Armed Forces:

> *'We must be more prepared for 'asymmetric' attacks (those avoiding direct conventional conflict with our military forces) by both state and non-state actors, including the employment of WMD delivered through a variety of means.'*[79]

Although *Delivering Security in a Changing World* mentioned jointery only in terms of the conclusion of the SDR 1998, it re-affirmed the crucial role of NCC in fighting counterinsurgencies effectively and as a stimulating factor for the inter-service integration in order to fight the entire spectrum of conflicts.[80] While the official defence papers looked into evaluating the lessons for defence policy and their relevance for future wars, the political sector was more interested in the core reasons behind some issues of previous operations and subsequent implications for national policy. In this regard, the issue of jointery was raised once again right after Iraq. The House of Commons Defence Committee stated:

> *'The future challenge of close air support, demonstrated by Afghanistan and repeated in Iraq, is how to supply timely and precise air support to small numbers of friendly forces in non-linear engagements, not how to destroy large enemy divisions such as Saddam's Republican Guards. It is a problem that does not appear to have been resolved by MOD. Given Repeated References to "jointery" in official policy documents we are surprised that the operational practice of air-land integration has been so slow to change. We recommend that MOD addresses this question with much greater urgency than has been displayed to date.'*[81]

The significance of Afghanistan and Iraq, in this and the previous reports is in triggering attention to the practical implementation and institutionalisation of jointery. No matter how unflattering and inward-looking the recommendations of the HCDC may seem, they still emphasised the existing gap between conceptualisation of jointery which was conducted by JDCC and its implementation by services and its operational application in the battlespace. Consequently, it stimulated even more profound

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[79] MOD, *Delivering Security in a Changing World*, 7.
[80] Ibid., 11.
[81] HCDC, *Defence White Paper 2003, Fifth Report of Session 2003-04, Volume I*. (London: HMSO, 23 June 2004), 44.

conceptualisation of jointery implementation which was embodied in the Comprehensive Approach:

> *'commonly understood principles and collaborative processes that enhance the*
> *likelihood of favourable and enduring outcomes within a particular*
> *situation.'*[82]

Its origin was in Joint Discussion Note 4/05 published in January 2006 by the JDCC. The main rationale for it was in combining capabilities to fit into the entire spectrum of potential conflicts, which required inter-departmental and inter-service cooperation across various levels. The argument behind this approach was simple − provision of a cost-efficient way for the Armed Forces and civil institutions reorganisation in the synchronised and cohesive environment:

> *'Post-operational analysis of situations and crises at home and abroad has*
> *demonstrated the value and effectiveness of a joined-up and cross-discipline*
> *approach if lasting and desirable outcomes are to be identified and achieved.'*[83]

For the military forces, the introduction of this approach required profound changes in how they cooperated with other governmental institutions and JDCC was to become the key coordinator of cross-Governmental and inter-agency dialogue and subsequent cooperation.[84] The development of integration and cooperative tendencies among other agencies and the strengthening of JDCC resulted in a new wave of jointery, deepening its institutionalisation. At that time, acceptance of this approach by Whitehall and its subsequent dominance in the upcoming Defence Review resulted in the renewal of jointery in a new institution of the DCDC in 2006, and its subsequent resolution of environmental doctrine ownership in favour of joint authorship, which would influence all services, yet leaving the RAF until the last.

The description offered above of the national defence policy discourse suggests the following considerations. The line between external and internal factors influencing doctrine was becoming more obscure. Operational experience was not only embodied in the doctrine through specific lessons relevant for air power but also through its reflection in the national approach to reformation of the Armed Forces. In this regard,

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[82] HCDC, *The Comprehensive Approach: the point of war is not joust to win but to make a better peace.* Seventh report of session2009-10 (London: HMSO, March 2010), 9.
[83]*The Comprehensive Approach,* Joint Discussion Note 4/05. Promulgated as directed by the Chiefs of Staff (Shrivenham: JDCC 2006), 1-2.
[84] JDN 4/05, 1-15.

the experiences of Iraq and Afghanistan raised attention to adaptability of the Armed Forces to the realities of COIN and asymmetric warfare. Consequently, the need for a more synchronised cooperation between services brought back attention to NEC and jointery, triggering governmental attention to these matters and the consequent intensification of jointery.

Comparing the correlation between external and internal influences for the 3rd and 4th editions, it can be stated that, in case of the 3rd edition, reformation of the Armed Forces through jointery was conditioned by internal political reasons of cost-efficiency and transition from the Cold War legacy. In that case, operational experience was relevant in order to describe which roles air power could play in joint discourse. Thus, external and internal factors were relatively separated. In the case of the 4th edition, the correlation between two became more entwined. Analysis of operational experience triggered consequent national evaluation of the Armed Forces in terms of their performance and ability to cooperate.

Comparing the two editions in terms of the institutionalisation of jointery, the shift from horizontal to vertical cooperation took place. The 3rd edition, influenced by the SDR and PSO, addressed their impact on air power through referencing the SDR report and PSO doctrine, demonstrating the horizontal level of doctrinal jointery. On the other hand, the 4th edition reflects the vertical level embodied in the doctrinal hierarchy. The general strategic trends and new concepts relevant for all three services would be introduced in joint doctrine publications, and only referenced and briefly mentioned in the environmental doctrine prepared by a single-service team. In order for jointery to be fully synchronised between the services, it had to obtain control over environmental doctrines. Consequently, it may be argued that this was the last attempt of the service to show that it could write joint environmental doctrine under its own, RAF authorship.

Single-service joint environmental doctrine?

The aim of this section is to demonstrate the extent to which the 4th edition was joint or single-service in its nature, and therefore the extent to which joint tendencies had influenced it. In the foreword to the 4th edition, CAS Air Chief Marshal Sir Stephen Dalton outlined the joint/single dichotomy of this edition:

'While the RAF is the prime custodian of the United Kingdom's air and space power capability and takes the conceptual lead in its delivery, AP 3000's title - British Air and Space Doctrine – reflects the inherently joint nature of air and

space operations and the contribution of the other components.'[85]

In the context of internal political discourse, it can be argued that this edition practically aimed to demonstrate the wider military audience that the RAF, irrespective of its independent tendencies, was capable of delivering a joint environmental doctrine under single-service authorship. It can be argued that this was the last attempt by the service to keep its single-service authorship of environmental doctrine. This was further demonstrated on distinguishing of two main aims and subsequent types of target audience in terms of the Comprehensive approach:

> *'AP 3000 therefore has two aims: to provide authoritative directions on the employment of air and space power to airmen; and to explain as clearly as possible its utility to sailors, soldiers and all of the other actors who, as part of the Comprehensive Approach to ordering crises, influence, or are influenced by, the use of air and space power.'*[86]

A particular feature of this edition, and characteristic for any other doctrinal document of the last decade, was a paragraph outlining doctrinal hierarchy and the place of a presented document in it. First of all, this introduction helps in understanding the correlation between different levels of the doctrinal hierarchy and therefore to trace the influence of main themes and trends at different levels from joint, strategic and operational to environmental and tactical. Secondly, a clear hierarchy provides an understanding of what doctrine of each level is about and what information can be found and where. Reference was also made to the previous edition being *'generic to defence rather than being specific to the air and space domains...so AP 3000 Edition 4 has been précised to distil the essence of air and space power into a concise and digestive format, with the aim of complementing joint doctrine rather than replicating it.'*[87]

The importance of these comparisons is in actual commitment to the existing joint doctrinal hierarchy of the time and subordination of the single-service environmental doctrine to it. The joint tone was demonstrated, not only in the introduction, but also through the whole document. In this regard, the most crucial commitment was in emphasising the joint nature of air power. First of all, this was demonstrated through the shift of emphasis in the definition of air power from means to

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[85] AP 3000, (2009), 5.
[86] AP 3000, (2009), 7.
[87] AP 3000, (2009), 8.

ends. Consequently, the new definition of air and space power was *'the ability to project power from the air and space to influence the behaviour of people or the course of events,'*[88] whereas, the previous definition reflected technological and means-oriented approach to air power:

> *'The ability to project military force in air or space by or from a platform or missile operating above the surface of the surface of the earth. Air platforms are defined as any aircraft, helicopter or unmanned aerial vehicle.'*[89]

This change of emphasis is crucial, since instead of the technological nature of air power and the necessity to appropriate cutting-age technological platforms, the emphasis was on the functionality and orientation towards final results. In terms of function, it was easier to connect air power to the two other services and the joint environment, driving through common objectives to final ends. It can be stated that a more strategy-oriented definition was applied.

As regards air and space power's characterisation, the new doctrine has re-emphasised the same attributes as the 3rd edition: joint, combined and multinational in nature; encompasses forces from all three services; uses existing air and space power assets effectively; incorporates civilian and commercial resources; and has a reciprocal relationship with land and maritime environments.[90]

The airman's perspective was described as inherently joint due to the necessity to think in terms of an entire theatre or Joint Operations Area (JOA) rather than in terms of individual geographical Areas of Operations (AOO).[91] It was argued that in the *'expeditionary and influence-based approach to future operations'*[92] the inherent joint-mindedness of airmen would ease cooperation between different agencies, governmental institutions, and NGOs in the context of the Comprehensive Approach. Once again, the RAF, as the custodian of the air and space environments, emphasised the importance of the air mindedness. The intention was to engage airmen who would understand and appreciate air power in order to use it to its full capacity and efficiency.[93] In effect, it was still an attempt at a self-serving doctrine, placing the RAF

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[88] AP 3000, (2009), 14.
[89] AP 3000, (1999), 1.2.1.
[90] AP 3000, (1999), 1.2.2.; and AP 3000, (2009), 15.
[91] AP 3000, (2009), 24.
[92] AP 3000, (2009), 25.
[93] AP 3000, (2009), 25-26.

as the only guardian of the air and space environments and its practical ability to create joint environmental doctrine.

The aforementioned HCDC criticism on the practical implementation of jointery was also addressed in the doctrine. Some suggestions of improvement of air and land integration were made. It was outlined that in the multinational and inter-component environment, integral planning was required. It was suggested this could be achieved through joint design of the campaign from the outset, *'rather than air operations being added to a plan that has already been developed.*[94] This was to be achieved through incorporation of liaison officers into all three-service headquarters. The need for a more profound mutual sympathy and understanding of each environment was also addressed.

The core chapters of the doctrine devoted to *Air Power in the New Contemporary Environment* and *The Four Fundamental Air and Space Roles*, paid attention to jointery in more detail. It argued that in the contemporary battlespace, which is parallel rather than linear,[95] the full potential of air power largely depends on improvement of friendly-force tracking techniques.[96] Although the potential of air power in the new environment was shown and its main limitations outlined, this argument was a step back from the uniqueness and multi-tasking of air power to its role of supporting the Land component at the tactical level. Although air power would provide ISTAR, it was concluded that *'close combat is likely to remain primarily the domain of the soldier.*[97]

This duality in explaining the contemporary operational environment does not simply state the necessity of jointery, but it is emphasised by recognising of the dominant role of the Army, and the supportive role of air power. The reality of air-land integration dominated such recognition; however, from the point of air power environmental doctrine, such recognition of the Army's supremacy was also political and jointery-oriented. It was based on the assumption that jointery at that time meant the dominance of the Army. Another feature of the document is that it argued in favour of jointery and deeper tri-service integration in contrast to independent air power, arguing that *'while highly responsive, is fixed and relatively inflexible.*[98] It was also stated that

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[94] AP 3000, (2009), 28.
[95] Brian Burridge, interview with the author, London, 11 July 2013.
[96] AP 3000, (2009), 30.
[97] Ibid..
[98] AP 3000, (2009), 32.

the key to tri-service integration is not in purchasing new joint platforms, but in mutual understanding. [99] This entire discourse is reminiscent of the argument for the preservation of the service and prevention of its dissolution between two other services in the later SDSR process.[100] This narration is also particularly interesting in terms of the technological choices made by the RAF under the SDSR.[101]

The air power core capabilities from the 3rd edition were replaced by four air power roles, which brought us back to the initial roles outlined in the post-World Wars' doctrines. Although all four roles were described in terms of air power-orientation, the main emphasis was once again on joint and inter-service cooperation and subsequent practical considerations. The most crucial sign of a cooperative approach to air power was by excluding of a strategic role of air power. It can be argued that the exclusion of what historically was the core of RAF independence can be viewed as a sacrifice to jointery. It is also another argument in favour of the service's ability to write environmental doctrine of the joint discourse. On the other hand, each of the roles can be performed at the strategic level.[102]

It was argued that control of the air was a precondition and facilitating tool for securing freedom of manoeuvre in all three environments. Control of outer space was argued to be entirely joint and *'counter-space operations are conducted by the entire joint force, across all three levels of warfare'*[103] through space situation awareness, defensive counter-space (DCS) operations, offensive counter-space (OCS) operations.[104] Air mobility and air lift were explained in terms of their use in a wider global discourse of political objectives, from transportation of military and civilian personnel and materials to provision of support of the local population in disaster relief or other humanitarian operations.[105]

The main emphasis in the third role of intelligence and situational awareness was on timeliness of the relevant intelligence, which can be achieved only through increased integration. The challenge of air and space capabilities is not in collection of the relevant and multi-dimensional data in order to develop awareness, but to develop

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[99] Ibid..
[100] Steven Germy, interview with the author, 13 February 2013.
[101] Andrew Dorman, "Making 2+2=5: The 2010 Strategic Defence and Security Review," *Defense & Security Analysis*, vol.27, no. 1 (March 2011): 79.
[102] Peter Gray, interview with the author, Birmingham, 18 June 2013.
[103] AP 3000 (2009), 40.
[104] AP 3000, (2009), 40-41.
[105] AP 3000, (2009), 41-42.

situational understanding based on situational awareness.[106] In order to achieve this, integration and synchronisation of efforts are needed:

> *'Effective surveillance demands both broad context and detailed information. Better understanding of situations and higher responsiveness are achieved when the two are balanced: too much time spent on context can lead to a late focus on necessary detail. While air (and to a lesser extent space) capabilities may provide a measure of both, all sources must be closely integrated − and the direction, collection, processing and dissemination of products balances − to permit situational understanding to be developed from situational awareness.'[107]*

In terms of the offensive role of air power, it was argued that in the environment of vague and overlapping levels of warfare, air power is flexible and adapts to requirements of each level which was shown in Afghanistan: *'the successful use of air power as a coercive instrument operating seamlessly across the strategic-operational-tactical continuum has permitted a lower ground footprint to be adopted in conflicts such as Afghanistan since 2003, reducing friendly casualties and imposing a relentless pressure on adversaries.'[108]* Subsequently, it was argued that air power serves as force multiplier decreasing the number of troops required on deployment, thereby mitigating casualties or the political implications of the larger deployments.[109]

In terms of this role, the importance of air power in irregular warfare was argued to be in the use of precision weaponry and complementary capabilities. In terms of jointery, attention was paid to three environments in terms of attack delivery.[110] A particular feature of attack delivery was also the recognition of the fourth environment, which was not space but information. Among information operations, electronic warfare, influence operations and computer-network operations were distinguished.[111] To emphasise the joint discourse of the doctrine and contemporary air power, the last section of Chapter Three addressed the four fundamental air and space power roles in the context of joint actions. In such a way the entire chapter was summarised and its joint, integrating purpose was shown.

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[106] AP 3000 (2009), 46.
[107] AP 3000 (2009), 47.
[108] AP 3000 (2009), 50.
[109] Ibid..
[110] AP 3000 (2009), 54-55.
[111] AP 3000 (2009), 56.

Overall, it can be concluded that the internal factors influencing joint structural changes and the development of new procedures in recognition of the external strategic environment into the national military discourse had a significant influence on the 4th edition of AP 3000. First of all, the general lessons and conceptual implications of previous operations were adopted in the doctrine not through the actual policy-making documents, but through the developed doctrinal hierarchy. On the other hand, awareness of general defence trends and their political context was present in doctrine in terms of references to NEC, the Comprehensive Approach and a new chapter of the SDR. Secondly, the new doctrine was largely influenced by the competition for ownership over environmental doctrine, and this edition was an attempt to show that the RAF could write joint environmental doctrine under single-service authorship. Thirdly, in fact, the RAF wrote a joint environmental doctrine, which was demonstrated not only in its title but also in the entire discourse of the document. Fourthly, unlike the previous edition, this doctrine aimed at demonstrating jointery at its most practical aspect, both in terms of known experience from previous operations and new ways of cooperation and integration for future operations. Consequently, this leads to the conclusion that the main reason for the previous edition's generic nature was that it reflected a proto-stage of jointery development, while the later edition was more practical, due to the implementation of jointery and of challenges it posed through the complexities of air-land integration. In terms of forces driving the preparation of this publication, both the reflection of operational experience and new joint realities were of equal relevance. A particular feature of this process is that with further development of jointery, the line between factors is beginning to disappear, resulting in operational experience being digested by the joint environment and only then being transferred into environmental doctrine. In other words, a more institutionalised approach was coming into practice, and it was not within a single service but from a centralised joint centre of DCDC.

The Role of Academics

As might have been expected, the constant involvement of the Armed Forces in diverse overseas campaigns triggered academic and specialist thinking on the meaning and roles of air power in these new types of conflicts. As in the previous decade, Air Power Workshops continued to take place under the supervision of CAS and DDS. The result of the next workshop was the publication of the *Air Power 21: Challenges for the*

New Century.[112] It was edited by the then DDS Group Captain Peter Gray. From the very title, the aim of the volume and preceding workshop is clear – to examine the experience of the first decade for air power after 1991and look at how it might develop in the coming century. In this regard, attention was paid to the political limits of air power in military intervention, with reference to the Balkan experiences; the flexibility of air power as first choice option; air power in the RMA discourse; air strategy of recent operations from the perspective of the underdog and implications for the air power utility. Other aspects covered in this volume include: European aspects of air power; dilemmas in commanding and controlling of air power; air power in expeditionary warfare, and thoughts on changes of its conceptual framework. An article by Brigadier Mungo Melvin looked into the historical aspect of the land/air interface,[113] *'which at this time was a neglected area.'*[114] However, as the experience of Iraq demonstrated, it was the most likely future of air power, yet the least predictable.

The next Air Power workshop volume was *British Air Power*[115] also edited by Peter Gray. It concentrated on the functionality of air power in terms of Afghanistan emphasising the necessity of an effects-based approach to operation planning:

> *'inter alia, addressed evolving views on effects-based warfare, particularly with regards to strategic effect of air power and the challenges of the age of transformation.'*[116]

The continuation of these workshops and their multi-dimensional thinking on air power showed the endurance of cooperation between academics and professionals on the wider intellectual discourse of the application of air power. More informal academic discussion of the relevant topics was taking place on the pages of an academic, peer-reviewed journal, *Air Power Review*. Having chaired its editorial board for three years, Peter Gray argued that it served as means of stimulating wider thinking on air power and reflection of some-time unorthodox views on the subject. It usually publishes staff college papers, essays and views of practitioners. It can be summarised as *'recycling of*

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[112] Peter Gray, ed. *Air Power 21: Challenges for the New Century* (London: HMSO, 2000).
[113] Mungo Melvin, "Air Power and Expeditionary Warfare" in *Air Power 21: Challenges for the New Century,* ed. Peter Gray (London: HMSO, 2000), 153-182.
[114] Chris Finn "British Thinking on Air Power – The Evolution of AP3000" *Air Power Review*, vol. 12, no 1, (Spring, 2009), 62.
[115]Peter Gray, ed. *British Air Power* (London: HMSO, 2003).
[116] Chris Finn, "British Thinking on Air Power"62.

thinking, exchange of ideas of enthusiasts.'[117] Although this publication is more academic than Air Power Workshop publications, it still demonstrates the continued cooperation between academics and professionals and also the presence of a more creative thinking on air power which could be used in doctrine preparation.

Another source of academics' and practitioners' cooperation is the Royal United Services Institute (RUSI). It is conducted through various publications, discussion groups, and official talks by senior practitioners from all three services and overseas allies. For instance, RUSI conducts Annual Chief of the Defence Staff Lectures, providing an opportunity for wider academic and professional audience to communicate with the three Chiefs. The Chief of the Air Staff's Air Power Conference is of particular relevance, since it collects practitioners and academics from around the world and gives an opportunity to exchange the most recent practical and analytical materials on trends of air power use in the changing world.

Consequently, it can be argued that cooperation between academics and practitioners continued through the second decade, developing analytical materials of various views and degrees of creativity. It could have been assumed that in the environment of such diverse cooperation and broader interest, academics would be actively involved in the preparation of the doctrine of 2009. However, they were not involved at all. According to the author of the 4th edition, academics were not involved in the process.[118] In a certain sense, this feature of doctrine development should be contextualised in terms of the previous edition, which was viewed by the RAF as too academic and intellectual. Consequently, one of the other considerations might have been that the new edition excluded academics from its preparation process, in order to make the doctrine more clear and digestible for air practitioners. On the other hand, another consideration might have been the situational nature of this edition and subsequent restraints in time, which did not allow enough time for discussion groups to take place. In any case, the role of academics in the preparation of the 4th edition of AP 3000 was very limited.

The Role of Authors

Air Commodore Alistair Byford became DDS after Neville Parton and Mike Hart. His career with the RAF started when he was a university cadet at St Catharine's

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[117] Peter Gray, interview with the author, Birmingham, 18 June 2013.
[118] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.

College Cambridge. During the First Gulf War, he was qualified as Tornado Strike pilot, resulting in 4000 fast jet flying hours. Later, he commanded No31 Squadron at RAF Marham and No. 904 Expeditionary Air Wing at Kandahar.[119] In terms of staff tours, he had duties within the NATO and European Policy Group. In terms of educational perspective, he took Higher Command and Staff Course at the Joint Services Command and Staff College, Shrivenham. There he was awarded the British Aerospace and Sir Michael Howard trophies. At present, he is Director Advanced Command and Staff Course and Assistant Commandant (Air).

Looking into Al Byford's background, it becomes clear that if anyone could write a clear and comprehensible doctrine both for airmen and Army, that would be him. He argued that the main rationale for the new edition of AP 3000 was in the numerous changes taking place over the decade. The main changes outlined by him included that fact that the country was in the middle of counterinsurgency both in Iraq and Afghanistan, which demanded a concept for air and land integration. The concept of effects-based approach was no longer popular. The new doctrine also had to reflect changes in the national doctrinal process, particularly to reflect the themes of the new edition of the joint doctrine. Additional pressure was from the upcoming SDSR and elections. In terms of internal considerations, a new edition was needed, which would be more comprehensible for the Army, since the previous edition was not understood even by all airmen.[120] Therefore, the new edition was timely.

The impetus to write the new edition originated with CAS, who stated that a new edition was needed and that DDS was to look into its preparation. In this regard, Alistair Byford argued that the timeframe for its preparation was quite restrained and additional assistance was limited. It was written in a month and was not submitted for internal consultation and consideration due to the lack of staff at that time.[121]

Alistair Byford stated that he explained air power in terms of four roles in order to place it into joint campaigning. The four roles corresponded to the historical roles of air power reflected in the early doctrines of the AP 1300 series (particularly the 2nd edition of AP 1300). Concerning history, he said that irrespective of its relevance for the understanding air power, it was not the place to elaborate on it. AP 3003 was the right

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[119] Peter Gray, interview with the author, Birmingham, 18 June 2013.
[120] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.
[121] Ibid..

book for studying history of the service.[122] However, the 3rd edition paid also attention to the history of RAF doctrine, which was excluded from the 4th edition and was never looked into in the official history of the service. In the rapidly changing national doctrinal environment, knowledge of the historical stages of doctrine development might have been over-burdening. Comparing the 3rd and 4th editions, Al Byford outlined that the 3rd edition was *a great book but very comprehensive,'*[123] and, in terms of the air-land integration and mutual understanding as its preconditions, clarity and simplicity were the main requirements.

Taking into account the author's perspective on doctrine preparation and its conditionality, it can be concluded that the final version of the document was once again largely influenced by operational experience and its embodiment in jointery. The necessity of making doctrine clear and understandable to the Army was a reflection of an ongoing process of language development and harmonisation of terms in the joint discourse. The ongoing emphasis on the necessity of mutual understanding as a key to collaboration and subsequent integration suggests that, despite of joint efforts and new stages of jointery institutionalisation, the three services could not eradicate a century-long history of inter-service rivalry, especially in the context of the approaching SDSR.

In terms of the authors' general role in doctrine preparation process, it can be argued that, from one perspective, it was becoming less flexible in the joint environment. In this regard, although the doctrine was initiated by CAS, DDS was the one to be responsible for it; he still had to think in advance what review boards from the two other services would accept and what they would challenge in the light of their backgrounds. Accordingly, the challenge of writing a single-service environmental doctrine incorporating jointery was actually in having it approved and published. In other words, the main challenge for the service producing environmental doctrine of a joint discourse was to write what was required by the service, yet have it approved in the joint reviewing. On the other hand, joint authorship provided an opportunity for a more smooth amending process, while restricting content.[124] This dichotomy would be emphasised in the doctrine preparation process of JDP 0-30. The experience of the 4th edition still does not demonstrate a complete institutionalisation of authors in the doctrine preparation process. Probably, it is due to the fact that Al Byford was the only

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[122] Ibid..
[123] Ibid..
[124] Chris Finn, interview with the author, RAF College Cranwell, 7 November 2013.

person responsible for its preparation in a restricted timeframe and with constraints on staff availability.

Conclusion

Overall, the following conclusion can be drawn.

The absence of new doctrine for a decade was dictated by practical considerations and institutionalisation of jointery and consequent ownership of environmental doctrines. Although a new edition would have been possible already in 2005, it can be assumed that the ongoing campaigns in Iraq and Afghanistan could have undermined operational lessons learned in 2003, producing a negative influence on the service and its framework document – doctrine.

Consequently, in terms of those factors influencing the doctrine preparation process it can be argued that **operational experience,** although it stimulated thinking about and studying the lessons of the previous/ongoing operations, was not the major driving force of doctrine preparation of the 4th edition. Although the lessons of both Afghanistan and Iraq had been processed by 2005 both on single-service and joint levels, their inclusion in the RAF framework document was conditioned by the favourable internal environment rather than reflection on the new operational experience. It can be concluded that the new edition was largely influenced by the most recent operations in Iraq and Afghanistan rather than by Kosovo, the mentioning of which was scarce. This fact may have a couple of explanations. First of all, the entire Kosovo campaign aroused controversy as to its political and military value. Therefore, for political reasons, it was sensible to avoid controversy in a document which was meant to be written in a simple manner. Second, the last two operations were aimed at fighting counterinsurgencies, and the main aim of the new doctrine was to reflect the use of air power in COIN environment. Therefore, attention was paid to up-to-date experiences of the two most recent operations.

In terms of the **internal environment**, it can be concluded that its main impact on doctrine was in stimulation of the further stages of Armed Forces reformation based on political assessment and digestion of the lessons learned in previous operations. In this regard, the experience of Afghanistan and Iraq resulted in further stages of the institutionalisation of jointery through the conceptual framework of Network Centric Capability and the Comprehensive Approach. The stimulation of attention to jointery in the political sphere had direct implications for the doctrine preparation process of all

three services, since in order to establish its complete authority and consequent synchronisation, JDCC and later on DCDC, had to gain control over environmental doctrine. Inevitably, the new edition had to reflect jointery.

However, it also had to incorporate environmental doctrine into joint discourse rather than jointery into environmental doctrine. Thus, the approach still corresponded to the bottom–up principle of the first two editions of AP 3000. On the other hand, the 4th edition demonstrated that environmental doctrine can be joint, although written by a single service. It can be concluded that the last edition of AP 3000 was aimed to demonstrate that even under single-service authorship, the environmental doctrine still can be joint in its very core. Thus, it can be concluded that the timing and therefore a driving force of doctrine preparation in this instance was the centralisation of jointery and the struggle for ownership of environmental doctrine, as a means of promoting a single service and its preferred concepts. This was partly driven by the approaching SDSR, where self-promotion could be crucial for the service's survival.

In terms of the **academic contribution**, it was limited, not because of any reluctance to include academic opinion or because the new edition was planned to be simpler than the previous one. The situational nature, restricted time and the number of staff availabile to produce doctrine meant that doctrinal workshops and discussion groups could not be conducted. The limited role of academics in this instance was determined by circumstance rather than an inter-service tendency to limit academic involvement in the process.

The role of **authors** in the 4th edition was once again significant. Although it could have been expected to be more restrained with the development of jointery, the fact that authorship was still single-service meant a greater freedom of action. Greater autonomous decision-making by the author once again influenced the nature of the 4th edition and its functionality, in terms of ownership of environmental doctrine, time restraints, and limited members of staff involved. Inevitably, as with the previous edition, the new edition encompassed the opinions of DDS and CAS. However, as jointery became institutionalised, requiring the support of the other services, the authors had to be thoughtful of which content would go through such review and which might be negotiable. However, ownership of environmental doctrine still provided the RAF and its authors with greater freedom than joint authorship.

Although the 4th edition of AP 3000 could have been published in 2005, it would not have included the Comprehensive Approach, which was by then the salient point of joint doctrinal thinking Consequently, there was no single driving force behind the publication of the 4th edition of AP 3000, but a complexity of external, national and inter-service considerations. While operational experience provided the lessons to be adopted in the doctrine, national political absorption of these lessons and general operational trends in terms of the global strategic environment provided the form and direction in the way it should be performed. This absorption is conducted through the process of jointery, which is different in each stage of its institutionalisation. In its turn, the degree of jointery progress defines the degree of freedom in reflection of single-service experience or intentions of doctrine in its wider functionality.

Finally, when comparing the influences behind the preparation of the 3rd and 4th editions, it can be concluded that in both cases, operational experience, although crucial for realisation of air power use, was not an immediate reason for the revision of doctrine. Unlike the first two editions, the 3rd and 4th were created for the joint environment, which required a certain degree of synchronisation with other processes within the Armed Forces. Consequently, the changes in the internal environment were becoming more influential and defining in doctrine developing of the last two editions. While the 3rd edition aimed at explanation of jointery *per se*, the 4th edition aimed at demonstrating that the RAF could create joint environmental doctrine before the SDSR. While the 3rd edition reflected prescriptions of the SDR, the 4th was preparing for it, sending a message to the SDSR review board.

Accordingly, doctrine development became tightly connected with the defence review cycle and the reform of the Armed Forces. From the systematic perspective, it meant that, in order to secure tri-service integration, and harmonisation of their doctrines under a joint umbrella, the doctrine development process was not only meant to be centrally initiated but also connected to the crucial revision of the Armed Forces direction of development – the SDSR. The question was no longer about how well a single service could write a joint environmental doctrine, but about how to establish a unified national joint system, which could simultaneously reflect and adapt to any changes in the external strategic environment. The final stage of the institutionalisation of jointery and its functionality in Allied cooperation will be reflected in the case study of joint environmental doctrine JDP 0-30, which is addressed in the next chapter.

CHAPTER VI: CASE STUDY OF JDP 0-30

The next edition of air and space doctrine JDP 0-30 '*UK Air and Space Doctrine*'[1] was published in July 2013. Unlike all previous editions, this one was the result of tri-service efforts under the joint umbrella of DCDC. One of the authors and contributors to its preparation was the author of the 4th edition of AP 3000, Alistair Byford. In terms of timeliness, the doctrine was issued after another essential operational experience in Libya, the global economic crisis and the Strategic Defence and Security Review. It also reflects changes in the conceptualisation of jointery and the development of a new doctrine preparation cycle. In fact, it introduces a new chapter in RAF doctrinal history.

Like the previous edition of AP 3000, this doctrine explains both air and space power but in a different way. While the previous doctrine traced the roles and functionality of air and space power as a unity, the new edition makes a distinction between the two, emphasising the difference in scale and distinctive attributes of each. Therefore, the document is divided into two parts, reflecting the specifics of each environment separately. Each part consists of four chapters explaining the nature, character, delivery and application of each form of power. A two-page conclusion is given in the end, followed by a Lexicon and Terms and Definitions. Subsequently, in contrast to the previous edition, the overall size of the document is twice as big, resulting in 130 pages. Just as the previous edition the main emphasis was placed on clarity and simplicity both in the structure of chapters and language. It may also seem that the language is even simpler than in the previous edition. Each chapter had key points, summaries, and different colour boxes outlining '*cross-cutting concepts and themes.*'[2]

In terms of the conceptual perspective, it was outlined that the replacing of AP 3000 with JDP 0-30 was '*a part of the migration from single Service to joint theory and practice.*'[3] It was also stated that the previous edition was largely influenced by the counterinsurgency campaigning and subsequent air-land integration as an enabler of the Comprehensive Approach. This doctrine follows the same approach but shifts the emphasis from campaigning to contingent operations:

'*By definition, contingencies are difficult to predict or anticipate, so JDP 0-30*

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[1] *UK Air and Space Doctrine* (Joint Doctrine Publication 0-30). Prepared under the direction of the Joint Forces Commander and Chiefs of Staff (Shrivenham: DCDC, July 2013).
[2] JDP 0-30, vii.
[3] JDP 0-30, v.

considers UK air and space power within a broader spectrum of conflict, where a cross-domain and integrated approach is more effective than bi-lateral air-land or air-sea cooperation.[4]

In this regard, changes include conflict prevention, homeland defence, the projection of influence and power; the return of air power strategic effects in all its roles; the significance of partnerships; the shift from decentralised to centralised approach to command and control and subsequent adaptive execution; and greater attention to space power in the national system of defence.[5]

This publication also reflects new tendencies in doctrinal hierarchy, which were not mentioned in the previous edition. In this context, the main difference was not even in the variety of joint notes, which were mostly related to Unmanned Aircraft Systems, or other capstone doctrines at the operational/strategic level. It was in the attention to predicting the future of air power. In this regard, the Joint Concept Note 3/12, *Future of Air and Space Operating Concept*[6] was mentioned. The essence of this document is in explanation of *'the future of UK's air and space capabilities and takes the core doctrinal tenets of JDP 0-30 and projects them out to 2035.'*[7] In this context, the doctrine explains the tenets in the doctrinal hierarchy. Another curious feature of doctrinal links is that apart from quite common relation to the equivalent NATO doctrine *Allied Joint Publication – 3.3 Air and Space Operations,*[8] the relation to another nation's doctrine was outlined:

'US Joint Publication 3-14, Space Operations describes the doctrine of our primarily source of space capability, while DCDC's The UK Military Primer contains additional details.'[9]

The entire shift from single-service to joint authorship of environmental doctrine after a long history of single-service organisational culture would inevitably result in a biased perception of a new doctrinal document. The correlation between the single-

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[4] JDP 0-30,vi.

[5] Ibid..

[6]*Future of Air and Space Operating Concept (*Joint Concept Note 3/12*). Prepared under the direction of the Joint Force Commander and Chiefs of Staff (Shrivenham: DCDC, September 2012).

[7] JDP 0-30, vii.

[8]*Allied Joint Doctrine forAir and Space Operations (AJP - 3.3 (A))* Promulgated by the Director of NATO Standardization Agency (Brussels: NATO Standardization Agency, November 2009).

[9]JDP 0-30, viii.

service bias and joint realities was addressed in the foreword to JDP 0-30 by the Chief of the Air Staff:

> *'A joint approach to operations is almost always essential, using well-honed single-Service capabilities in approaching every scenario with an intuitive joint mindset. As airmen, we must develop a deep understanding of the environment in which we operate, and play that air-minded expertise back into joint, multinational and inter-agency discussions, from a knowledge and expertise point of view, but without undue single-Service bias.'*[10]

The importance of this foreword is crucial to the validity of the publication in the eyes of the RAF personnel, since it is authorised and supported by CAS, and suggests a holistic approach in the single-service/joint dichotomy. On the other hand, the name of CAS who wrote the foreword, was not mentioned in the document and the photo that traditionally preceded the foreword was not there. The curious feature of this discourse is the fact that the date of this doctrine's publication corresponded with the change of CAS. The previous CAS, Air Chief Marshal Stephen Dalton, was succeeded by Air Chief Marshal Sir Andrew Pulford, who took office on 24th July 2013. The doctrine was published on the MOD website on 17th July 2013, preceding the new CAS. Consequently, due to the long term of doctrine preparation and publication before the actual work of the new CAS, it may be assumed that the foreword was still prepared by Stephen Dalton and the absence of his name under it was because a new CAS was to be appointed.

The External Environment/Operational experience of Libya

One can try to see into the future and hope to apply experience and reform capabilities according to objectives. It could be expected that the next operational involvement would occur before all capabilities were reformed as planned. The Libyan war was such a case for the British Armed Forces, mainly since it was immediately after the results of the long-awaited SDSR were announced and during its implementation. While the internal implications of the Libyan war will be addressed in the section devoted to internal factors, this section addresses exclusively military considerations.

The Libyan civil war was another challenge for the Allied Forces in terms of conducting another military intervention after the negative experience of Iraq and Afghanistan. In this case, the main concern was the avoidance of a full-bodied military

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[10] Ibid..

presence on the ground, which characterised the two previous campaigns. In other words, *'the question of how to pressurise Gaddafi from power without having to commit NATO ground troops into the conflict became the major talking point'*.[11] In this regard, the preference was given to the other two services and consequent types of military power. The British participation in US-planned Operation Odyssey Dawn, which aimed at the provision of a no-fly zone to support anti-Gaddafi forces, went into the history of the British Armed Forces as Operation Ellamy. According to a MOD estimate in November 2011:

> *'At its peak, some 2,300 British servicemen and women were deployed on Operation ELLAMY. We deployed 32 aircraft including 16 Tornado GR4s, six Typhoons, five attack helicopters, refuelling tankers and specialist surveillance aircraft and helicopters. Over the course of operation we also deployed eight warships and attack submarines.'*[12]

During the Libyan war, air power was used in all four roles envisioned by the previous doctrine. In the early stage the main tasks included cooperation with the Navy in the evacuation of UK citizens from the conflict zone, and reconnaissance. Over a couple of days, over 800 UK citizens and over 1,000 citizens of 50 other countries were evacuated.[13] For this role, helicopters, Hercules aircraft and HMS Cumberland were used. In the long run, the projection of air power in Libya was intended to achieve three objectives: the suppression of the Libyan air defence system, the provision of ISTAR and consequent protection of the ISTAR platform:

> *'These were to provide airborne command and control of the missions entering Libyan air space, and deliver near-real-time intelligence to enable fleeting targets to be attacked.'*[14]

In technological terms, the RAF Typhoons which flew their first combat missions[15] were initially intended for air-to-air combat in the support of no-fly zone task. They were further modified for the ground attack tasks which Typhoons performed

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[11] Dave Sloggett, *The RAF's Air War in Libya: New Conflicts in the Era of Austerity* (Barnsley: Pen and Sword, 2012), xvii.

[12] HCDC, *Operations in Libya*, Ninth Report of Session 2010-12. Volume1. Report together with formal minutes (London: HMSO, February 2012), para 96.

[13] HCDC, *Operations in Libya*, para 102.

[14] Sloggett, *The RAF's Air War in Libya*, 74.

[15] "RAF Typhoons patrol Libyan no-fly zone" last modified March 22 , 2011, https://www.gov.uk/government/news/raf-typhoons-patrol-libyan-no-fly-zone

together with Tornadoes.[16] The ISTAR data for target detection was provided by a Sentinel platform. The Allied fire power was complemented with Storm Shadow and Brimstone air-launched missiles.[17]

The main targets were the pro-Gaddafi command and control sites. However, with the escalation of the conflict and the transferring of warfighting from the rural to urban area, the main concern in targeting and strikes became the factor of collateral damage and civilian casualties.[18] Although the consideration of non-combatant casualties is a part of the risk-assessment of any target, in the Libyan war, it was extremely sensitive since the main rationale for the intervention was the prevention of civilian casualties.[19] Consequently, the attention to civilian casualties by the media and the public was extremely intense, and tactical actions could easily have tremendous strategic implications for the legitimacy of campaign and its subsequent success.[20] In this context, the process of target approval was stricter than in Iraq and *'many potential targets were rejected because of the risk of civilian casualties.'*[21] However, the high level of precision was generally acknowledged.

Overall, UK Air Forces had flown around 3,000 sorties, 2,000 of which were strikes; of all NATO sorties as of 23 October 2011, an estimated 26,281 sorties and 9,646 strike sorties, the UK contribution is estimated at 11 per cent of the total and 20 per cent of strike sorties.[22] The performance of Brimstone missiles was particularly emphasised in terms of the certain type of targets, particularly command and control centres and ammunition sites.[23] They were demonstrated to be efficient against mobile targets like Main Battle Tanks (MBT):

> *'On the 5th April, as the reporting commences by the RAF, twelve targets were*
>
> *engaged and destroyed in a single day in Misrata. The attacks carried out*
>
> *throughout April saw close to twenty MBT destroyed by the RAF, and NATO*

[16]HCDC, *Operations in Libya,* para 103.

[17]HCDC, *Operations in Libya*, para 96.

[18] U.S. Army Command and General Staff College, NATO's *Air War in Libya: A Template for Future American Operations* (Damascus: Penny Hill Press, 2014), 32.

[19] Bruno Prommier, "The use of force to protect civilians and humanitarian action: the case of Libya and beyond" *International Review of the Red Cross*, vol. 93, no. 884 (December 2011): 1064.

[20] Steven Rose. "Moving Forward with the Responsibility to protect: Using Political Inertia to Protect Civilians" *Boston College International & Comparative Law Review*, vol. 37, no. 1 (Winter 2014): 223.

[21]HCDC, *Operations in Libya*, para 107.

[22]HCDC, *Operations in Libya*, para 97.

[23]Ibid..

claiming twenty-eight MBT destroyed in Misrata alone, close to half of the
sixty-four MBT destroyed in the month.[24]

One of the greatest paradoxes of Operation Ellamy is actually not in the remarkably impressive performance of the service under conditions of austerity but the fact that some of the prescriptions of the SDSR were not immediate, which provided extra capability and consequent efficiency of the RAF's performance. Of course, this relates to the case of Sentinel and Nimrod, which were demonstrated to be crucial in the provision of ISTAR in Libya. The deployed Nimrod R1 signals intelligence aircraft was meant to have been decommissioned in 2011,[25] yet was extended in service for Libya. Sentinel was meant to have been decommissioned once its role in Afghanistan ended.[26] Paradoxically, precisely these two aircraft provided the essential role − the provision of intelligence, surveillance and reconnaissance (ISR). Sir Stephen Dalton, CAS at that time, assessed Sentinel's performance as follows:

'It [Sentinel] was fundamental. We were able to link up and securely pass
information from the Sentinel aircraft providing the ground-mapping capability
through the AWACS in E3 aeroplanes, through secure satellite comms, through
data links to the Typhoon and form Typhoon to Tornado and onwards. All that
was done...The technical capability is there, and it has proven itself to be
combat-ready and combat-capable.'[27]

Operational lessons and their reflection in doctrine

So what did Libya change in the air power discourse, what lessons can be derived and how were they reflected in the doctrine? First, once again air power demonstrated to be capable of achieving objectives both on its own and in cooperation with other services. Consequently, the return of the argument that air power is the tool of 'the first choice' was quite sound and could be used to support the RAF in the next SDR. The predominant and also successful use of air power in the Libyan war also demonstrated that it is not only capable of conducting supportive roles, but also remains a key player in the provision of strategic effect directly, which was the case of air

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[24]Sloggett, *The RAF's Air War in Libya,*130.
[25] Cabinet Office, *Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review.* Presented to Parliament by the Prime Minister (London: HMSO, October 2010), 27.
[26]Ibid..
[27] HCDC, *Operations in Libya*, para 108.

strikes.[28] In this context, although the previous doctrine outlined four roles of air power, their strategic context was omitted, and Libya demonstrated that it was premature to look at air power exclusively in terms of synergy and supportive roles.

Secondly, this war demonstrated that air power is not an abstract term and its achievements depend heavily on the unity of human potential and available technologies. The main emphasis is on the available technologies. In this context, the operation showed a high degree of the flexibility of air power in terms of targets reached both in rural and urban areas. It also demonstrated high precision even under the conditions of restraining ROEs. Consequently, irrespective of the austerity, the technological core of air power should correspond to the strategic objectives and future operations; thus, the need for a wider variety of UAVs was mentioned.[29] The technological consistency and timeliness crucial for contingent operations are considered to be dominant in the future.[30]

Thirdly, Libya demonstrated another feature of contemporary warfare −'a war amongst the people.'[31] This feature had already become evident in Vietnam, Malaya, Bosnia and Kosovo, in Afghanistan and Iraq. In Libya, this issue was raised once again because air forces were responsible for this campaign practically on their own. On the other hand, functionality of air power and the number of tasks it could accomplish was restrained by the necessity of avoiding civilian casualties. The situation was even more complex since the operation in Libya aimed at the protection of civilians in urban areas.[32] Fourthly, Libya also showed that contemporary warfare was no longer only about physical manoeuvre and its coercive effects on the adversary, it was also about what Dave Sloggett calls 'cognitive manoeuvre.'[33] In this context, he argues that one of the reasons why Gaddaffi supporters resisted for so long was due to the use of media

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[28] U.S. Army Staff College, *NATO's Air War in Libya, 16.*

[29] Andrea Gilli, "Procurement Lessons from the War in Libya," *RUSI Defence System* (Autumn/Winter 2012), 25.

[30] Bill Sharon, *Risk Management in an Uncertain World: Strategies for Crisis Management* (London: Bloomsbury, 2012), 75.

[31] Rupert Smith *The Utility of Force: The Art of War in the Modern World* (New York: Allen Lane, 2005), 18.

[32] Michael, John-Hopkins, "Regulating the conduct of urban warfare: lessons from contemporary asymmetric armed conflict" *International Review of the Red Cross*, vol.92, no. 878 (June 2010): 473.

[33] Sloggett, *The RAF's Air War in Libya,* 117.

broadcasting in support of his regime.[34] In terms of the use of air power, this lesson has two implications. First, in order to remain efficient in contemporary war, air power should consider its secondary effects in terms of population in the battlespace. Once again, the psychological effect of air power had to be taken into account. However, this time it was no longer about the suppression of morale of the adversary's population but about the support of civilians and the legitimacy of actions. Consequently, another implication is in securing and keeping domestic and international support.

Finally, irrespective of the successful performance of UAVs and the conduct of strategic attack, synergy between different air power roles was demonstrated to be vital. Without ISTAR provided by Sentinel and Nimrod, the accuracy of target choice and consequent precision would be undermined by inaccurate intelligence. Once again technology was demonstrated to be vital to the performance of all of these roles and their further synergy.

Since Libya was mainly an air war campaign and had a different emphasis on the use of air power than previous operations, doctrine had to reflect it. The most substantial change in the air power doctrinal discourse of the time was the return of strategic effect in JDP 0-30. In this regard, although the four roles were preserved from the previous edition, strategic attack was outlined in terms of Role 3 Attack (Coerce).[35] Therefore, strategic attack was mentioned, but it was not given a separate role as in the first three editions of AP 3000; it was discussed in terms of two other types of targeting: counter-surface force operations and information activities. Page-long attention to strategic attack included its definition and an example of Israeli Operation Babylon 1981:

> *'We aim strategic attack operations at our adversaries' fundamental*
> *capabilities to wage war. We may conduct strategic attack operations*
> *independently, or as part of a joint campaign. Targets are set deep inside our*
> *adversaries' structures or organisations. They may include (but are not limited*
> *to) centres of gravity (such as leadership and command elements) critical war*
> *production resources or key supporting infrastructure... Strategic describes the*
> *effect we expect to create, not the location or range to the target, or type of*

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[34] Ian Black, "Gaddafi-controlled media wages propaganda war" *The Guardian*, March 17, 2011. Accessed February 18, 2014 http://www.theguardian.com/world/2011/mar/17/gaddafi-controlled-media-propaganda-war-libya
[35] JDP 0-30, 3-10.

weapon system/delivery platform we intend to use.[36]

This suggests that although Libya demonstrated the independent performance of air power and the important role of strategic attack, it was not considered to outweigh all other roles of air power. Thus, it can be concluded that the inclusion of strategic attack was a step towards a systematic evaluation of the functionality of air power rather than an attempt to demonstrate its sovereign status in contemporary warfare. One of the important aspects of this description is that it tries to clear the audience's perception of air power strategic attack from its historical discourse and consequent misperception of the dogmatic nature of its utility. This feature can be another demonstration of jointery at work and joint authorship, since it is aimed at a tri-service audience, particularly the Army, which would be tempted to perceive air power strategic effect as the dogma of strategic bombing.

Furthermore, the experience of Libya and all the campaigns of the last two decades were embodied in the description of targeting. The success of air attack was argued to depend on reach, penetration of enemy defences, precision and matching effects correctly for targeting.[37] In this regard, the emphasis was placed on the political will to use force and consequent necessity to use both kinetic and non-kinetic air power capabilities. This consideration was based on the previous experiences of air attacks which would achieve military/tactical purposes but have negative political or strategic implications:

> *'Traditional targeting processes are not appropriate for a full spectrum of effects. This is because we are unlikely to delegate decision-making authority below the strategic level where there is the potential to create unforeseen or unwanted consequences. For example, degrading a power grid through a non-lethal attack may disable an air-defence system but it could also shut down a city's hospitals unless we can accurately predict and contain the effects we create.'*[38]

Apart from the strictness of ROE in the previous operation, this emphasis also argued for the need of winning wars at home and in the international arena, as well as in the battlespace. In such a way, the doctrine also reflected the need of 'cognitive manoeuvre' and consideration of the aftermath of tactical successes.

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[36] JDP 0-30, 3-13.
[37] JDP 0-30, 3-12.
[38] Ibid..

In terms of national and international public support, the doctrine addressed it in terms of legality and legitimacy. In this regard, it was suggested that to avoid the misperception of air power as *'a disproportionately violent, detached and indiscriminate form of force,'*[39] the force had to be more pro-active in the explanation of what was done, how and why. This should be achieved through *'establishing, managing and archiving a comprehensive audit trail to record out actions and decisions so that we can prove our activities are legal.'*[40] Although this approach to assessing performance might seem quite rational from the point of lawyers, from the perspective of practitioners, it will be quite a challenge. On the other hand, the paper trail of achievements could be a useful evidence/argument in the next defence review.

Another feature of this edition, which is derived from all previous operations, is the addition of centralised execution in air command and control. In this regard, it was stated that although the traditional approach of centralised control and decentralised execution remained predominant in the RAF practice,[41] centralised execution was desired or required in certain circumstances. *'These include:*

- *small-scale missions, where the stakes are particularly high or where the highest-value assets are in play;*
- *if the participation of unfamiliar, or less-capable, coalition partners makes it inappropriate (or unwise) to decentralise execution authority; and*
- *if a lower-level decision-maker may not fully appreciate the link between tactical actions and strategic effects.'*[42]

Consequently, the new approach to execution is adaptive, meaning that centralised or decentralised execution is chosen depending on the situational requirements of a particular task. It can be argued that this change is conditioned by the experience of all previous operations, where lines between levels of warfare became too vague and actions on the tactical level have implications at the strategic.[43] Furthermore,

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[39] JDP 0-30, 2-7.
[40] JDP 0-30, 2-7.
[41] JDP 0-30, 3-30.
[42] JDP 0-30, 3-31.
[43] Metin Gurcan, "Drone warfare and contemporary strategy making: Does the tail wag the dog?" *Dynamics of Asymmetric Conflict*, vol. 6, no. 1-3 (October 2013): 159.

this is also due to the significance of civilian casualties in contemporary warfare and preservation of legitimacy of actions.[44]

The important feature of the section on the legal aspect was that it also addressed moral and ethical issues concerning UAVs and remotely-piloted air systems. In this context, the main argument was that the use of new technologies in maximizing warfighting capability was not anything new, nor was the argument about fair and unfair means. It was also stated that UAVs do not lower the threshold for conflict because they still require political authorisation, just as conventional means do. Furthermore, the morality of autonomous or robotic systems was argued to be controlled either by *'human oversight over all weapon-release decisions'*[45] or algorithms which determined their actions according to the imposed ROEs. Finally, the argument that control over UAVs was detached from reality was once again refuted through strict ROEs and the previous observation of targets by conventional manned aircraft prior to the strike.[46]

This justification of UAVs was largely conditioned by the existing diversity of arguments in terms of the relevance of UAVs and their role in shaping contemporary warfare.[47] On the one hand, addressing this topic in doctrine suggests that the official military refutation of negative discussion was required. Consequently, in an attempt to reach a wider audience, this justification outlined that the performance and relevance of UAVs should be determined by military capabilities and warfighting rather than simple public discussion. The justification of UAVs was a part of a more profound theme reflected in this doctrine – an even further step away from non-precision weaponry towards cutting-edge technologies and precision: *'Although non-precision weapons are legally permissible and can create precise effects, perceptions are important. And we must, therefore, use them very carefully to avoid undermining our legitimacy.*[48] In the

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[44] Samuel Issacharoff and Richard Pildes, "Targeted Warfare: Individuating Enemy Responsibility" *New York University Law Review*, vol. 88, no. 5 (November 2013): 1525.
[45] JDP 0-30, 2-9.
[46] Ibid..
[47] Caroline Holmqvist, "Undoing War: War Ontologies and the Materiality of Drone War," *Millennium*, vol. 41, no. 3 (June 2013): 535-552; Paul Kahn, "Imagining Warfare" *European Journal of International Law*, vol. 24, no. 1 (February 2013): 199-226; Samuel Moyn, "Drones and Imagination: A Response to Paul Kahn" *European Journal of International Law*, vol. 24, no. 1 (February 2013): 227-233; Michael Boyle, "The costs and consequences of drone warfare" *International Affairs*, vol. 89, no. 1 (January 2013): 1-29.
[48] JDP 0-30, 2-8.

light of this discourse, the justification of UAVs for a wider audience seems to be even more rational.

Consequently, the successful performance of Storm Shadow and Brimstone in Libya[49] demonstrated not only the importance of technologies in contemporary warfare and in air power performance but also its vital need under the conditions of austerity and means of power projection in terms of quality and precision rather than quantity and duration. Examples of this emphasis can be traced through the entire document. For instance, the main strengths of air power were waged in terms of quality and multi-tasking. The speed and reach characteristics of air power are to *'**concentrate** air effects in time and space, delivering overwhelming force when and where it is required. Precision technology means we may create psychological shock by concentrating effects without necessity using large numbers or aircraft.'*[50] In terms of operational experience, this holistic approach to technologies argues for the increased efficiency of PGMs over the last two decades and their consequent success in the last operation. However, this approach to technology is also largely conditioned by the internal factor of the SDSR and the policy of austerity, which argues for the increased multi-tasking and complementarity of existing military capabilities.[51]

Although the crucial role of cutting-edge technologies for air power was mentioned in all air power doctrines, the last publication has placed a different emphasis. In this regard, air power's high technological costs could be outweighed by its potential multi-functional application. [52] In this regard, the next paragraph summarises two decades of air power operational experience and suggests its future implementation:

> *'Air power is **cost-effective**, despite the high price of military aircraft and the sophisticated technology they use, because it multiplies effects. In some operational circumstances, this means we may avoid the need to commit surface forces altogether. Alternatively, we may create influence with economy of effort by using air capabilities to enhance the potency of other environmental*

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[49] Christian Anrig, "Allied Air Power over Libya," *Air and Space power Journal* (Winter 2011): 95.
[50] JDP 0-30, 1-3.
[51] Paul Cornish and Andrew Dorman, "National defence in the age of austerity," International Affairs, vol. 85, no. 4 (July 2009): 738.
[52] Robert Wall, "Austerity's Aftermath," *Aviation Week & Space Technology*, vol. 173, no. 4 (2011): 36.

capabilities.[53]

In this regard, air power can play a decisive role in counter-land operations in conventional warfare or supportive and potential enhancing in irregular warfare, where attention is paid to *'people-centred security and stabilisation operations.'*[54] Regarding the supporting roles of air power, particularly non-lethal and non-kinetic aspect, the doctrine paid due attention to ISR. Once again this can be an argument for the reflection of operational experience in the document or the recognition of information age reality, which again is verified through operational experience and day-to-day security monitoring.[55] However, unlike the experience of Libya, which argued for the need for and availability of technologies, doctrine concentrated on the explanation of the relevance of ISR for the situational awareness. Consequently, the ISR discourse corresponded to the second role of air power − to inform. As in the previous edition, the emphasis was placed on the need of informational awareness as a precondition for campaign planning and evaluation of its effects. In terms of the five targeting functions *'find, fix, finish, exploit and analyse,'*[56] the Cold War narrative concentrated on fix and finish; the new adopted approach *'switched to find and analyse to promote understanding.'*[57] A particular feature of this understanding is that it is aimed at preparation of an interdisciplinary and systematic profile, including such terrains as human, cultural and social.

In terms of practical improvement of ISR, this edition followed the previous one in terms of NEC development. Although the language used was more general and less concept-oriented, it explained the same idea. The emphasis was placed upon the integration of *'cross-component capabilities into networked combat system to counter the more complex or sophisticated threats that we may face in contingent operations.'*[58] From one perspective, this is the argument in favour of networking to improve the timeliness and accuracy of collected intelligence in the extremely versatile environment of contingency. From another perspective, this complementarity of capabilities corresponds to the conclusion of the SDSR and the consequent considerations of

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[53]JDP 0-30, 1-4.
[54]JDP 0-30, 3-14.
[55] David Alberts et al., *Understanding Information Age Warfare* (Vienna: CCRP Publications, 2001), 42.
[56]JDP 0-30, 3-7.
[57]Ibid..
[58]JDP 0-30, 3-9.

austerity − the ability to deploy small yet sophisticated and multi-functional military force in the shortest time in any place in the world. Once again, technologies and UAVs are the assets according to this rationale.

From all the above, it can be concluded that the operational experience of Libya was reflected in doctrine and thus influenced its preparation. In terms of the exemplary value of the recent experience, it was combined with diverse examples through the entire history of air power. Libya was used as a comparison to Kosovo in terms of lessons of air-led campaigns.[59] Then, it was mentioned as projecting power in Operation Odyssey Dawn,[60] the coercive role of air power,[61] sustaining expeditionary air operations,[62] the cross-domain interoperability in Operation Unified Protector[63] and offensive counter-space operations.[64] These examples once again suggest the relevance of the Libyan operational experience for the future of air power use and consequent impact on the recent edition of air power doctrine. However, it should be outlined that doctrine uses diverse operational examples of air power use over the last four decades. In its turn, this feature suggests not only the relevance of operational experience for air power and doctrine, but also the importance of history for both.

Internal Factors

From the experience of the two previous editions of air power doctrine, it can be argued that Defence Reviews have a crucial impact on the Armed Forces and consequently on their self-perception and explanation for the internal and external audiences. While the 3rd edition introduced jointery into air power discourse as the reflection of the SDR of 1998, the 4th edition was explaining further development of jointery at institutional-conceptual level in preparation to the new SDSR 2010; JDP 0-30 reflected the conclusion of SDSR and consequent changes for the service and the doctrine preparation process. The main impact of the new defence review was not in the introduction of a new core conceptual framework of the Armed Forces' reformation but in the placement of limitations and budgetary restraints for the Armed Forces to act accordingly. In this regard, the impact can be considered indirect, but this author would argue that it is sequential and hierarchical, affecting each level of defence hierarchy in a

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[59]JDP 0-30, 1-8.
[60]JDP 0-30, 2-4.
[61]JDP 0-30, 3-11.
[62]JDP 0-30, 3-28.
[63]JDP 0-30, 4-9.
[64]JDP 0-30, 7-13.

different way. First, this section addresses the general implications of the SDSR on the RAF. Then, the role of the SDSR in stimulation of jointery in doctrine preparation process, which influenced JDP 0-30, will be discussed.

The SDSR 2010

The new defence review was a document of its time and reflected situational factors effecting its preparation and motivation. One of the features was the protracted commitments of the UK in Afghanistan.[65] It is not surprising that the main theme of the review was cost-efficiency posed against unchanged defence objectives. [66] Consequently, the emphasis shifted from a mass approach to a qualitative one. The essence of the Armed Forces' restructuring was in the development of high-quality, rigorously prioritised, balanced, efficient, well-supported, flexible and adaptable, expeditionary and connected capabilities.[67] Since the numerical approach was not an option for the achievement of these characteristics, the combination of multi-functionality and technological superiority was chosen.

Consequently, the number of Armed Forces personnel was to be reduced. By 2015, the RAF personnel were to be reduced by around 5,000 to about 33,000, aiming at 31,500 by 2020. [68] However, compensation was intended in the modernisation of equipment. In this regard, future capabilities were meant to include a fast jet fleet of Typhoon and new Joint Strike Fighter aircraft, which were chosen once again because of their multi-tasking potential. They are argued to be *'able to operate in the future high-threat airspace while providing air defence, precision ground attack and combat ISTAR capabilities.'*[69] The Harrier fleet was to be removed from the service, while the Tornado fleet was reduced. In terms of strategic and tactical airlift fleet, the previous TriStar and VC10 were to be substituted with C-17, A400M Airbus A330. As was already mentioned, Sentinel and Nimrod were to be substituted by *'the E3D Sentry AWACS to provide airborne command, control and surveillance. Rivet Joint signals intelligence aircraft to provide global independent strategic intelligence gathering, and*

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[65] Douglas Barrie, "Recuperative Route" Aviation Week & Space Technology, vol. 171, no. 20 (2009): 36.

[66] Robert Dover and Mark Phythian, "The Politics of the Strategic Defence and Security Review: Centralisation and Cuts" *Political Quarterly*, vol. 83, no. 1 (January-March 2012): 170.

[67] Cabinet Office, *Securing Britain in an Age of Uncertainty*, 17-18.

[68] Cabinet Office, *Securing Britain in an Age of Uncertainty*, 32.

[69] Cabinet Office, *Securing Britain in an Age of Uncertainty*, 25.

a range of unmanned air systems to complement our strategic ISTAR assets and reduce the risk to our forces of operating over hostile territory.[70]

The assessment of the SDSR in professional and academic literature is quite diverse and is not, in fact, the topic of this research.[71] The main relevance of the SDSR for this research is the changes it triggered and their reflection in JDP 0-30. First, the conclusion of the review argued for the technology-based concentration of functionality in the joint, integrated environment. Although technology was always important for warfare, in this review its relevance was explained in terms of the vital need for sustainable capabilities rather than a traditional modernisation. This tendency was further reflected in the MOD White Paper *'National Security Through Technology: Technology, Equipment, and Support for UK Defence and Security'*, February 2012.[72] The focus of the entire document is on how the MOD is planning to achieve 2020 targets through the open procurement principle[73] and value-for-money approach.[74]

Consequently, the concentration of both the SDSR and the MOD paper on the financial rather than conceptual aspect of defence suggests an inevitable atmosphere of economy and merging of functions. Accordingly, the emphasis on cooperation rather than independent actions was to be expected. This need of cooperation and synergy was reflected in the internal integration of the Armed Forces through jointery and in the external cooperation with the Alliance. Although there is nothing new in these two tendencies, their economy-driven motivation is manifested. In terms of these considerations, the shift from costly campaigning towards a cost-effective and mobile contingency seems more rational, especially if it reflects the same tendency within

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[70]Cabinet Office, *Securing Britain in an Age of Uncertainty*, 26.

[71] Andrew Dorman, "Providing for Defence in an Age of Austerity: Future War, Defence Cuts and the 2010 Strategic (Security and) Defence (and Security) Review" Political Quarterly, vol. 81, no.3 (July 2010): 376-384; Steve Chisnall, "Why Defence Reviews Do Not Deliver" *Political Quarterly*, vol. 81, no.3. (July 2010): 420-423; Paul Cornish and Andrew Dorman "Breaking the mould: the United Kingdom Strategic Defence Review 2010" *International Affairs*, vol. 86, no. 2 (March 2010): 395-410; Nick Ritchie, "Rethinking security: a critical analysis of the Strategic Defence and Security Review" *International Affairs*, vol.87, no. 2 (March 2011): 355-376; John Kiszely, "What Does the Military Want from the Strategic Defence Review?" *Political Quarterly*, vol. 81, no. 3 (July 2010): 434-437.

[72]MOD, *National Security Through Technology: Technology, Equipment, and Support for UK Defence and Security*. Presented to Parliament by the Secretary of State for Defence (London: HMSO, February 2012).

[73] *'The Open Procurement principle is wherever possible, we (MOD) will seek to fulfill the UK's defence and security requirements through open completion in the domestic and global market'* (MOD, *National Security Through Technology,* 13).

[74] MOD, *National Security Through Technology*, 13.

NATO.[75] Although it may seem that the two ways of cost-efficient integration within the Armed Forces and external cooperation with NATO are separate initiatives. It is not the case, and the internal integration of the Armed Forces is a precondition for further intensification of cooperation with NATO. This connection is demonstrated in terms of the new doctrine preparation cycle and the institutionalisation of jointery described onwards.

The Institutionalisation of Jointery

Unlike the previous doctrine, by the time of the new edition, DCDC had become responsible for the production of operational and strategic doctrines.[76] In other words, they produce capstone joint doctrine publications, a variety of subordinate joint publications, joint concepts and notes. They also became responsible for the preparation of environmental doctrines in consultations with the specialists from the three services.[77] The ownership of environmental doctrines, no matter how controversial it is from the single-service perspective, gave DCDC an opportunity to institutionalise vertical jointery and the consequent reformation of doctrine preparation processes.

Consequently, no doctrine at the operational, strategic and environmental levels could be changed without profound changes in the national defence policy, joint doctrine, allied doctrine or strategic trends developed by DCDC. Accordingly, the entire process of doctrine preparation became centralised and hierarchical − changes at the upper level doctrines would trigger consequent changes at the lower-level doctrines, introducing interdependence and complementarity. Consequently, unlike the previous two decades, doctrine initiation was no longer in the hands of service enthusiasts or CAS. Furthermore, the situational requirements, strict doctrinal hierarchy and the centralised authorisation of changes envisioned a more mechanical and institutionalised approach to doctrine preparation.

Although previous doctrines were personalities-driven and thus reflected the impact of personal background or overview on air power and its functionality, the new approach argues for the collective thinking and instrumentalism of the doctrine preparation team rather than an individual contribution.[78] The new approach has a

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[75] NATO, *Active Engagement, Modern Defence*. Strategic Concept 2010. November 19, 2010. Accessed February 2014, 15. http://www.nato.int/cps/en/natolive/topics_82705.htm.
[76] *Developing Joint Doctrine Handbook*. 4th Edition. Prepared under the direction of the Joint Forces Commander and Chiefs of Staff (Shrivenham: DCDC, November 2013), 1-4.
[77] DCDC, *Developing Joint Doctrine Handbook* (2013), 1-7.
[78] Peter Gray, interview with the author, Birmingham, 18 June 2013.

number of benefits. First, a strict prescription of what should be at each level of doctrine eliminates the potential of duplication and overstretching of its boundaries and functions. In terms of rational progression, ideally each level lower should detail the ideas and themes of the previous level; thus, knowledge is deepened according to the requirements of each level. Secondly, the interdependent hierarchy and the centralised production of doctrines at the operational and strategic levels contribute to the synchronisation of changes. In other words, the reformation of doctrinal network can be triggered in accordance with the wave principle, resulting in gradual changes on each level below the trigger. In the contemporary strategic environment of rapid changes and concentration on unpredictability of contingencies, such synchronisation can be beneficial for the rapid adaptation of the Armed Forces to these changes.

In terms of the systematic approach to data collection, processing and analysis, DCDC has enough resources and staff to provide systematic and inter-disciplinary analysis of case studies and operational examples relevant to a certain conceptual framework. Unlike the previous edition, more people could be involved in the doctrine preparation process and more time could be spent on its crystallisation.[79] Another benefit is potentially increased understanding among the three services, which can be achieved through joint work on each environmental doctrine and the simplification of terminology and concepts. This was the case of air power doctrine simplification for the benefits of the Army audience in 1999. In terms of doctrinal hierarchy, it remained relatively the same within the levels of warfare, with a slight increase in joint publications, which are aimed at detailing of existing doctrines or the reflection of new issues not covered in them existing doctrines.

How does jointery lead to NATO?

The strengthening of jointery and consequent synchronisation of the doctrine preparation process contributes to a smoother and more centralised way for Armed Forces' reformation through the means of doctrine. The synchronisation of changes also contributes to a faster doctrine preparation process, which on average should be 18 months. Therefore, in the synchronised doctrinal environment, incorporation of complex techniques of inter-Allied cooperation towards integrated and harmonised command and control could be achieved through doctrine. In this regard, the SDSR commitment to continue cooperation with NATO corresponded to NATO's new

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[79]Alistair Byford, interview with the author, Shrivenham, 11 September 2013.

Strategic Concept adopted in November 2010 at the Lisbon summit,[80] which reflected the need of cooperation and cost-efficiency of efforts. The need of procedural improvement of bilateral and Allied cooperation, which was shown in previous operations, argued for a new approach to collaboration. The answer was in jointery as a facilitator of adaptation to a more profound cooperation with NATO in terms of a conceptual framework and consequent tactical synchronisation.

In the previous two decades, the supremacy of the Allied joint doctrine was recognised and aimed at the provision of *'Allied Armed Forces with a framework of guidance for the conduct of operations.'*[81] However, the new approach to national doctrines is to keep them as close to the NATO framework as possible. In this regard, DCDC published a handbook on the development of joint doctrine, which explained this approach for the case of endorsed doctrines as follows:

> *'As the contemporary operating environment increases our likelihood to operate as part of a NATO-based coalition, doctrine should reflect common practices as far as possible. Therefore, it is policy to adopt NATO doctrine as our national doctrine except where there is a specific national doctrinal need.'*[82]

Consequently, it was suggested that except for the strategic and operational level doctrines, national capstone joint doctrine and keystone publications prepared by the DCDC, in preparation of other doctrines the following options were suggested:

- *'adopt a NATO publication as a direct replacement for the JDP equivalent;*
- *add green elements to NATO publications to highlight national differences in approach; or*
- *produce national doctrine only when we are unable to use a NATO publication,*
- *or if there is no NATO equivalent.'*[83]

In the case of an unendorsed doctrine, it is envisioned for both NATO and the UK to make sure their publications are up-to-date and correspond to the existing/prevailing strategic environment and specific features of operations. In the event of a doctrinal gap or an immediate need to update existing doctrine, DCDC will

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[80] NATO, *Active Engagement, Modern Defence*. Strategic Concept 2010.
[81] *Allied Joint Doctrine*, (AJP - 01 (D)). Promulgated by the Director of NATO Standardization Agency (Brussels: NATO Standardization Agency, December 2010), 1-1.
[82] DCDC, *Developing Joint Doctrine Handbook* (2013), 1-4.
[83] DCDC, *Developing Joint Doctrine Handbook* (2013),1-4.

produce a Joint Doctrine Note (JDN).[84] This process can be initiated through the Joint Doctrine Steering Committee (JDSC). Consequently, due to the supplementary status of JDNs, they also favour greater degree of freedom and functional flexibility rather than doctrines. In this regard, it can be used in order to stimulate debates, collect and disseminate best practice to cover a gap when joint doctrine needs to be modified for operational requirements. JDN can also serve as means to stimulate a new doctrinal publication.[85]

In terms of the doctrinal levels, joint strategic and operational levels were to be covered by NATO Standardized Agency (NSA) and DCDC. In this regard, the previous leading role of DCDC in the preparation of the Allied Joint Doctrine is now shared with NSA.[86] However, DCDC still own JDP series. Joint (Allied) tactical level was again shared by NSA and Joint Force Command Joint Warfare. Tactical (environmental) level doctrines were owned by the three services. This division of responsibilities is demonstrated in the table below.

Level	Responsibility	Examples
Strategic/operational (joint)	NATO Standardization Agency (NSA)[6]	AJPs
	DCDC	JDPs/JDNs
Tactical (joint)	NATO Standardization Agency (NSA)	ATPs and ATTPs
	Joint Forces Command Joint Warfare	JTTPs
Tactical (environmental)	Single-Service lead	Naval Publications, Army Field Manuals and Air Publications

Table 1 − Division of responsibilities[87]

In terms of Air Power doctrine, its status was outlined in terms of doctrinal subdivision into functional, thematic and environmental. Functional doctrine was aimed

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[84] DCDC, *Developing Joint Doctrine Handbook* (2013),1-5.
[85] Ibid..
[86] Peter Squires, interview with the author, Shrivenham, 11 September 2013.
[87] DCDC, *Developing Joint Doctrine Handbook* (2013), 1-7.

at the covering of J1-J9 military branches,[88] while thematic would place functional doctrine into a specific context. On the other hand, environmental doctrine is meant to incorporate the other two into the specifics of each environment.[89] Having outlined this cross-level doctrinal typology, the document does not clearly state who would be responsible for the preparation of each type and how that would fit into the new doctrine preparation cycle. However, knowing that the new edition of air power doctrine was written under the joint authorship of DCDC, and is part of the JDP series, consequently, it is its responsibility. The question is the extent to which NSA will be further consulted when the next edition is published.

Another crucial feature of the reformation of the doctrinal process was the introduction of doctrine writing procedures and strict division of responsibilities and deadlines for their achievement. Since the process is multi-component and well-structured, there is no point in explaining each step. However, the importance of this prescription of duties should be outlined. First, the exact division of duties and their clarity in the well-staffed environment contributes to timelier and better-organised doctrine preparation, especially in times of austerity. Secondly, the centralised authorship of all JDP publications within one institution gives an opportunity of in-depth discussions. Consequently, numerous discussion groups consisting of academics and practitioners can contribute to the intellectualisation and systematisation of the process. The clarity of criteria to doctrinal drafts and their consequent relation to NATO standardization procedures give an opportunity not only for sufficient understanding of Allied practices. These criteria also serve as means for the effective implementation of Allied practices in the national discourse. In terms of national and Allied doctrinal synchronisation, the newly introduced doctrine preparation procedures are basically aimed at the adoption of Allied doctrine writing procedures and techniques, which are also characteristic of the American doctrine writing apparatus, which is famous for its organisation and strict subordination.[90]

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[88] J1-J9 are recognized military branches: J1 – personnel; J2 – intelligence; J3 – operations; J4 – logistis; J5 – plans, J6 – communications and information technology; J7 – training; J8 – resource management; J9 – civil military cooperation.

[89] DCDC, *Developing Joint Doctrine Handbook* (2013), 1-7.

[90] Alexander Wathen, "Revised USAF Doctrine Publication: Air Force Doctrine Document 2-1.7, Airspace Control in the Combat Zone" *Air & Space Power Journal*, vol.21, no.1 (Spring 2007): 48.

The reflection of the new process in JDP 0-30

The aforementioned doctrine writing process was embodied in the publication of the handbook only in November 2013. This means that indoctrination and implementation of the process outlined above is still in progress. For the studied JDP 0-30, this means that although certain considerations of the process described above were taken into account and introduced in its preparation, JDP 0-30 was not yet a full-blooded result of this process. Various procedural features were yet to be implemented. However, this document still has some elements of the institutionalisation of jointery and the new doctrine preparation process inspired by it. Consequently, the impact of the new process in JDP 0-30 can be traced both in its content and in the procedures of its preparation. In terms of the content, the document argues for the new doctrinal hierarchy and the emphasis on NATO orientation. In terms of procedural changes, the changing roles of the authors and academics would be the answer.

The reflection of hierarchy

In the very beginning of the document, the new doctrinal hierarchy and the connection to other joint publications were outlined, as discussed in the beginning of this chapter. The distinctive feature of this metioning is not in the mere statement of where the existing document fits in but at the explanation of the inter-connected nature of the new doctrinal environment. In this environment, JDP 0-30 is based on and complemented by the JDN3/10, *Unmanned Aircraft Systems: Terminology, definition and Classification*[91] and JDN2/11, *The UK Approach to Unmanned Aircraft Systems.*[92] In this regard, joint doctrine notes reflect the technological dimension of JDP 0-30, demonstrating wide discourse and details which could not be fitted into environmental doctrine. However, the importance of new technologies, the demonstration of the moral and ethical arguments together with technological efficiency were reflected in this edition. This suggests that the presence of the UAV argument in JDP 0-30 was influenced both by operational experience and also by consequent analysis and thinking reflected in JDNs. In this regard, it can be argued that operational experience and also national political emphasis on the importance of technology in terms of cost-efficiency suggest that their analysis was first reflected in the corresponding JDNs and then the

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[91]*Unmanned Aircraft Systems: Terminology, definition and Classification* (Joint Doctrinal Note 3/10). Promulgated under the direction of the Chiefs of Staff (Shrivenham: DCDC, May 2010).
[92]*The UK Approach to Unmanned Aircraft Systems* (Joint Doctrinal Note 2/11) Promulgated under the direction of the Chiefs of Staff (Shrivenham: DCDC, March 2011).

distillation of conclusions was reflected in the environmental doctrine. This statement is based on the preceding time of JDNs publication and its correspondence to the new doctrinal process.

Apart from JDNs, JDP 0-30 was also influenced by *Joint Concept Note 3/12*,[93] which looked into trends of air and space power use in the nearest future of 2035. Consequently, in terms of the levels of warfare, JDP 0-30 guides the lower-level single-service doctrine, meaning tactical AP 3002. The feature of this process is that due to the difference in authorship status and approaches, certain publications of the AP series documents were rewritten. At present, work is being conducted on the new editions of AP 3002[94] and AP 3003.[95] This shows a need for doctrinal synchronisation within the service in order to fit into the joint hierarchy and further Allied system of doctrinal publications.

NATO orientation

In terms of NATO orientation, it can be argued that all previous doctrinal documents suggested that most likely future operations would be allied and under the supervision of NATO. Consequently, it can be argued that there is nothing new in outlining the Allied nature of future operations and no doctrinal change would be seen in the text. However, although the previous two editions of AP 3000 outlined the Allied nature of future operations, they did not state any commitments to the Alliance and its consequent primarily role in operations. In this regard, JDP 0-30 re-establishes this commitment at the environmental level:

> 'We are **committed to NATO as the principal framework for UK operations.**
> *Not only is it our primary guarantor of security, but operations in Libya and*
> *Afghanistan have demonstrated that it can act as the core of wider partnerships*
> *outside its traditional areas of interest.*'[96]

The presence of this emphasis in the environmental doctrine reflects not only the predominance of NATO in future operations, which is a usual direction, but that the new doctrinal process was at work. In this regard, in the previous doctrinal process, such commitments would be reflected exclusively in joint publications at the strategic and at the operational level, and not in environmental doctrine. Consequently, this

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[93] *Future of Air and Space Operating Concept (*Joint Concept Note 3/12*).*
[94] Peter Squires, interview with the author, Shrivenham, 11 September 2013.
[95] Chris Finn, interview with the author, Cranwell, 7 November 2013.
[96] JDP 0-30, 2-6.

demonstrates the joint authorship and its orientation towards the new NATO-led discourse of the national doctrinal practice. Further justification of the importance of the Alliance was explained in terms of US capabilities in command, control, communications, computers and intelligence (C4I), which are far more advanced than those of the European allies. However, the new leading roles were suggested:

> *'However, states such as the UK and France may have to act as framework nations for military operations if the US is not the lead nation. This may include the ability to plan, execute and enable an air campaign. Although, we will need substantial support from other allies and partners to provide specialised capabilities and a viably sized force in many operational circumstances.'*[97]

Once again, this discourse argues for profound cooperation with NATO, yet within a potentially different framework nation. Although it is unlikely that such a case will occur, if it does, a more profound synchronisation with NATO conceptual/doctrinal framework would ease the planning process and consequent timely execution. This consideration of the new potential roles in the Allied operations also argues for NATO-oriented national doctrinal practice. This NATO orientation was further placed into the discourse of the UK dependence on the multinational cooperation and cross-government integration approach. This once again reflects the impact of the wider political framework of the time, meaning the conclusion of the SDSR and the consequent need of cooperation and integration for the sake of cost-efficiency:

> *'Our dependence on multinational cooperation means we must take **every opportunity to promote interoperability and engage with as broad a range of potential partners as possible.***[98]

It was argued that although budgetary restraints could be felt, the integration in conceptual framework is vital for alliances and partnerships in future operations. Consequently, the UK commitment to partnerships and alliances was in continued manning of NATO and EU air headquarters posts and ***'by developing and implementing NATO doctrine and command and control as the basis for interoperability.'***[99] In the footnote to this commitment it was detailed as implementation of NATO C4I; however, it was essential to emphasise the role of doctrine as means of this process implementation in the national practice.

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[97] Ibid..
[98] JDP 0-30, 2-6.
[99] JDP 0-30, 2-7.

Apart from the general conceptual reference, the new NATO orientation was emphasised in some structural and formational aspects. In terms of land-based deployment, the organisation of force was into expeditionary air groups and expeditionary air wings, each under the individual command of a senior UK airman. Expeditionary air wings are to replicate command and control structures characteristic of *'UK main operating bases in an expeditionary construct.'*[100] However, the main guidance was meant to be on NATO orientation:

> *'the guiding principle is that our national air command and control structures must be interoperable with NATO architecture, processes and doctrine wherever possible.'*[101]

Consequently, the main argument was based not on political or conceptual justification of the chosen path but rather in terms of practical considerations and efficiency in future Allied operations:

> *'This is because it is easier to withdraw UK command and control entities from a NATO framework for national operations than to force-fit bespoke national command and control systems back into a NATO structure for the more likely case of alliance operations.'*[102]

The example of the structural considerations of NATO-orientation reflected not only the aforementioned doctrinal process in its more crucial and profound embodiment, but also an important feature of the previous operational experience of Allied campaigns. In this regard, despite the usually quite successful cooperation between diverse forces of the Allied nations, one of the main difficulties in terms of structure and its consequent doctrinal reflection was command and control differences. For instance, one of the outcomes of the Second Gulf War was another discussion of different command and control approaches between the UK and US Armed Forces.[103] In this regard, it was argued that the U.S. approach was *'heavily dependent on the personalities of the most senior involved principals.'*[104] Since future UK operations were unlikely to be outside an Allied framework and consequent cooperation with USA;

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[100] JDP 0-30, 3-35.
[101] Ibid..
[102] Ibid..
[103] Benjamin Lambeth, *The Unseen War: Allied Air Power and the Takedown of Saddam Hussein* (Annapolis: Naval Institute Press, 2013), 183.
[104] Lambeth, *The Unseen War*, 184.

changes in the British approach to command and control were suggested already in 2003 in terms of the joint context.[105]

Other references to NATO included mostly practical illustrations from the Allied operations, which corresponded to the described tasks and particular features of the performance of air power. In this regard, the examples included a range of operations from the Gulf War to Libya. Another interesting feature of NATO reflection in the document is in the use of footnotes, which were often used to explain a particular aspect in terms of NATO discourse. For instance, in terms of ballistic missile defence, a NATO 2010 statement on the intention to develop a capability against missile attack was outlined.[106] In this regard, the doctrine states the need of ballistic missile defence and how it can be achieved at the national level and outlines the place of this statement in the Allied discourse and cause-effect relationship in terms of NATO initiative.

Another example was when carrier-enabled power projection of littoral manoeuvre was explained in terms of joint and allied discourses. In this regard, the description of a capability was entirely oriented at the joint context with a consequent incorporation of the allied operational environment:

> *'Carrier-enabled power projection is an integrated and sustainable joint capability, interoperable with NATO that enables the projection of UK Carrier Strike and Littoral Manoeuvre power, as well as delivering Humanitarian Assistance and Defence Diplomacy. This in turn enables a joint effect across the maritime, land and air environments at a time and place of political choosing.'*[107]

In this explanation, the complexity and inter-dependence of the new strategic environment and its conceptual reflection become clear. Consequently, it reflects all mentioned above political and joint changes. First, it demonstrates the profound integration of all three services as a precondition of power projection. Secondly, such jointery is consistent with the Allied environment. Thirdly, it is multi-tasking and flexible because it can be applied in different scenarios and types of operations; therefore, it is cost-efficient and can be applied depending on the existing political

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[105] Iain McNicoll, "Effects Based Air Operations: Air Command and Control and the Nature of the Emerging Battlespace" *RUSI Journal*, vol. 148, no. 3 (June 2003): 38-44.
[106] JDP 0-30, 3-6.
[107] JDP 0-30, 3-20.

situation. Finally, it is systematic and corresponds to all the above-mentioned criteria of the new strategic and political realities.

In terms of the general NATO discourse, it was conducted through technical referencing to the NATO sources. For instance, *NATO Glossary of Terms and Definitions* [108] is refered to on a couple of occasions in order to reflect certain terminological changes.[109] Among other quoted documents related to NATO were the Alliance's *Strategic Concept*, *Allied Joint Publication (AJP) 3.3 Air and Space Operations*, *NATO's Future Joint Air and Space Power.*[110] Again, in such a technical way the national environmental discourse was gradually incorporated into a wider allied framework in order *'to develop an effective conceptual framework for joint, multinational, intra-governmental and inter-agency air and space operations of the future.'*[111]

Simplicity as another feature of the process

Another feature of the new doctrine preparation process is attention to the simplicity and accessibility of doctrinal texts. Although the entire simplicity discourse is nothing new for the subject matter, its emphasis in the new doctrinal cycle is of particular relevance due to its rationale. In this regard, the simplicity is targeted not only at making doctrine more accessible for a wider audience, meaning beyond military personnel, but also at making it understandable across services and in accordance with NATO terminology. Consequently, the key to mutual understanding is in the use of consistent, clear language and mutually-recognised terminology. The doctrinal guidance suggests that authors should write at unclassified level, *'keep language simple and structure your work logically.'*[112] In this regard, the emphasis was placed on the use of plain English, limiting the number of abbreviations through the text and use of terminology either in generally accepted terms or in accordance with *NATO Glossary of Terms*:

> *'The ultimate source of document for all terminology is the Concise Oxford English Dictionary. Where a definition already exists in the dictionary, you*

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[108] *NATO Glossary of Terms and Definitions* (AAP-06), (Brussels: NATO Standardization Agency, 2013).
[109] JDP, 0-30, 3-4.
[110] *NATO's Future Joint Air and Space Power(NFJASP)* (Kalkar, The Joint Air Power Competence Centre, April 2008).
[111] JDP 0-30., Conclusion-2.
[112] DCDC, *Developing Joint Doctrine Handbook*, 2-15.

should use it without modifying or enhancing it. Before proposing a term, refer to AAP-06 and our national supplement to see if the term already exists.'[113]

The reflection of these prescriptions in the text of JDP 0-30, can be seen on various occasions. The commonly used military terms were explained through their equivalents in the Oxford dictionary. Accordingly, even the definition of air power was given in accordance with the dictionary.[114] Among other terms defined through the dictionary were 'secure', 'coerce', 'synergy' and 'influence'. AAP-06 was advised on such terms as the substitution of 'disembarkation' with 'debarkation', definition of 'surveillance', 'air interdiction', 'close air support', 'collateral damage', 'counter-insurgency operation', 'deep attack', 'deterrence', 'situational awareness', and 'unmanned air(craft) system'. Other definitions were taken from various joint publications as advised by the handbook.[115]

Another distinctive feature of this publication is that it includes a lexicon at the end. While the 4th edition lacked a lexicon and the 3rd edition included a list of general terms and bibliography, JDP 0-30 reflected the new doctrinal process even in the typology of terms and the sources from which they were taken. In this regard, the lexicon included used abbreviations, terms and definitions. The latter were subdivided into *'terms used for reference in this publication only*,'[116] *'new definitions'* and *'endorsed definitions.'*[117] A particular feature of each definition was that its original source was stated in brackets, reflecting the interconnection of diverse joint and allied documents and consequent NATO-oriented discourse of the language used.

The Role of Academics

One of the relevant precautions in the doctrine writing handbook was against using too complicated language and the orientation toward academic rather than military discourse.[118] Accordingly, it could have been expected that in the new institutionalised doctrine preparation process, the role of academics would be non-existent or quite modest as in the case of the previous edition. However, the situation was slightly different. In terms of the doctrine preparation process of JDP 0-30, according to Alistair Byford, academics were included in the discussion of drafts and

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[113] DCDC, *Developing Joint Doctrine Handbook*, 2-22.
[114] JDP0-30., 1-1.
[115] DCDC, *Developing Joint Doctrine Handbook*, 2-22.
[116] JDP 0-30., lexicon 2.
[117] JDP 0-30., lexicon 5.
[118] DCDC, *Developing Joint Doctrine Handbook*, 3-2.

their opinions were *'fairly influential and largely accepted.'*[119] In terms of continuity, this statement suggests that the role of academics in the doctrine preparation process remained the same throughout the studied period, and that the situational character of the 4th edition lacked their contribution due to time constraints and the lack of staff to be involved in the preparation process. In the joint environment of DCDC, the provision of staff for doctrine preparation and drafting is not an issue. Consequently, involvement of academics is more easily arranged on a centralised basis.

Given the outlined role of academics, their suggestions were largely accepted, albeit not all of them. One of the longest academic discussions referred to the roles of air power, particularly to control of the air and air supremacy. Practitioners argued for the inclusion of control of the air, while academics stated the necessity of air superiority. According to Alistair Byford, the main rationale for the exclusion of the latter was that it was not relevant and *'the Taliban had no air power that could affect us.'*[120] Consequently, as the text shows, air superiority was omitted. One of the academics taking part in the discussion, Dr. Christina Goulter, confirmed that although not all academic suggestions were accepted; for example, air superiority did not make it to the final document, *'there was a sufficiently respected attitude to academics.'*[121]

So, how does academic involvement fit into the new process? Just as before, the role of academics is advisory rather than decisive. This is natural, since military doctrine is an official and institutional document and should be prepared by practitioners. However, unlike before, academics have less influence on the initial draft. Consequently, they contributed through the doctrinal workshops preceding the drafting process. In this regard, the initial impact of academics was through a close cooperation with DDS, who would then write a draft. This was the case of the first three editions. However, now, DDS is no longer responsible for the preparation of environmental doctrine,[122] and like any other senior practitioner is invited to take part in discussion groups as an advisory member.[123] In this context, the factor of critical and systematic awareness of air power tendencies embodied in DDS shifted from the primary participation in drafting process to the advisory stage of discussion. Although the

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[119] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.
[120] Ibid..
[121] Christina Goulter, interview with the author, Shrivenham, 11 September 2013.
[122] Peter Squires, interview with the author, Shrivenham, 11 September 2013.
[123] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.

general pool of opinions and perspectives would still remain the same, this shift once again confirms jointery, since the initial draft is prepared by the joint authorship and could not be influenced by academics and DDS directly, as for instance, in the case of the 3rd edition, when Stuart Peach closely cooperated with academics.

In terms of the prescribed procedures of the new process, the role of academics on the initial stage of doctrine preparation is quite passive. It is in the provision of materials for widening the scope of the future draft. In this regard, among other main sources of information, project officers are advised to explore *'research papers from military education and/or academic institutions.'*[124] Once again, it is up to writers to decide what resources they will consult and how thoroughly. In terms of further involvement of academics, the handbook suggests working with them in order to achieve objectivity and a systematic view on the prepared draft:

> *'You should also consider inviting outside organisations to assess your work. This will avoid bias as well as making sure that you have considered diverse perspectives, consulted the relevant subject matter experts and, therefore, have a better informed opinion.'*[125]

Consequently, the very statement of the need of unbiased and well-informed systematic opinions on the produced doctrine corresponds to the targets of reaching a wider audience and consequently making the document simple and accessible. This conditionality of the unbiased nature of doctrine explains why academics are consulted together with the representatives of single-service and overseas practitioners:

> *'It is worth considering:*
> - *interviewing all relevant joint and single-Service subject matter experts;*
> - *enrolling academics and/or study groups at universities or research establishments;*
> - *researching the experiences and lessons of foreign militaries, including NATO; and*
> - *researching historical perspectives.'*[126]

In this regard, it can be concluded that the role of academics is recognised although it is not very distinctive from other potential sources of unbiased, systematic reflection of changes in the strategic environment. Another feature of this process is that

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[124]DCDC, *Developing Joint Doctrine Handbook* (2013), 2B-1.
[125]DCDC, *Developing Joint Doctrine Handbook* (2013), 2B-2.
[126]Ibid., 2B-2.

not every academic proficient in his field of doctrine is going to be invited for discussions. In this regard, two factors would be relevant. First, the general background of an academic with regard to the Armed Forces, serving history or practical relation to the services tends to be relevant. In this context, a separate category of academics would be the teaching staff of the Defence Academy in Shrivenham. Their perspective is probably the most accurate, since apart from the academic and practical knowledge on the subject they can also apply their experience of teaching joint staff courses and the challenges of teaching doctrine. Secondly, personal contacts still remain a crucial factor for an academic's involvement.

The Role of Authors

The main implication of the shift from single-service to joint authorship was in the consequent change in the procedural and decision-making hierarchy of doctrine preparation. Consequently, the previous symbiosis of CAS and DDS in doctrine preparation was no more. The joint authorship of environmental doctrine resulted in the elimination of DDS from the main decision-makers and writers of the new doctrine. Although Alistair Byford was one of the authors of the new joint edition; at that time, he was involved in the process mainly because he had a new appointment within DCDC and not because he was DDS.[127] As already mentioned, the current DDS Peter Squires was invited for the discussion of the working drafts; however, he was not involved in the drafting process.

DCDC had more than a decade to build well-structured doctrine preparation mechanism, where each element has its functional role which is exact and prescriptive almost like tactical level doctrine. Consequently, in the new NATO-oriented framework, precise functionality and the division of duties are crucial in the achievement of national and Allied jointery. The management level of the national doctrine development is described in the figure below.

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[127]Alistair Byford, interview with the author, Shrivenham, 11 September 2013.
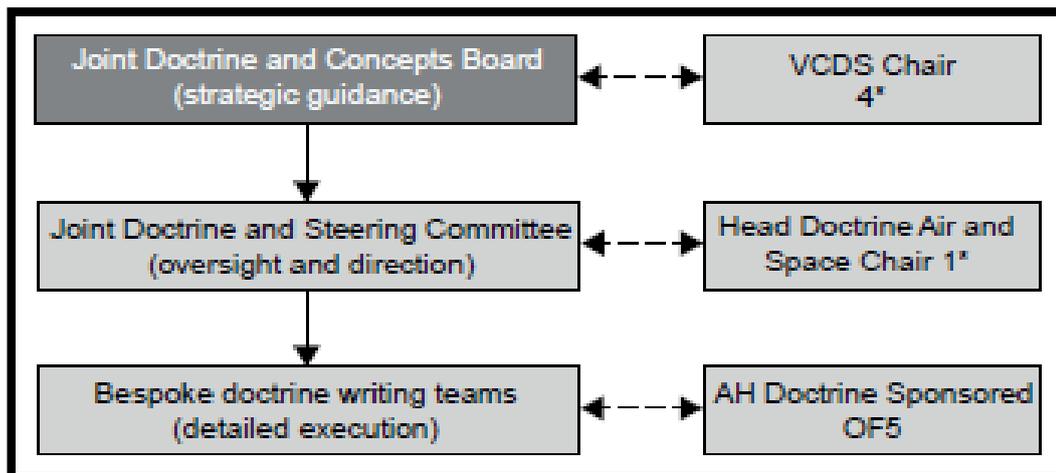
Figure 4 − Managing and directing national doctrine development[128]

The role of the Joint Doctrine and Concept Board (JDCB) is in the provision of general and systematic guidance of tendencies in doctrinal and conceptual development. In other words, it establishes the general doctrinal-conceptual framework for all doctrinal documents. It is chaired by the Vice Chief of the Defence Staff, currently Stuart Peach. In this regard, it can be suggested that having experienced the doctrinal jointery from single-service and environmental perspectives. Stuart Peach has the most systematic and well-founded perception on tendencies and challenges of doctrinal harmonisation. While the JDCB outlines the framework in which doctrine should develop, the Joint Doctrine Steering Committee (JDSC) provides procedural directions for writers on how to write doctrines. The chair is Director Concepts and Doctrine; however, the main duties are often delegated to the DCDC's Head of Doctrine, Air and Space. Below JDSC are writing teams formed for specific tasks.[129]

In the distribution of duties, Director Concepts and Doctrine is responsible for strategic and joint level publications, the authorisation of publishing and the distribution of doctrines. Assistant Head Doctrine, who represents the UK at the Allied Joint Operations Doctrine Working Group (AJOD), through Head of Doctrine, Air and Space is *'the final judge on all doctrine layout, structure and content matters.'*[130] While project managers are responsible for the project in general, project officers make it happen on time. Quite often they are the authors of the project. However, in the case when there is no specialist in the target field within DCDC, lead agents from an external organisation

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[128]DCDC, *Developing Joint Doctrine Handbook*, 2-8.
[129] Ibid..
[130] DCDC, *Developing Joint Doctrine Handbook,* 2-9.

and contractors can be invited. When the adoption of NATO publication as a national doctrine occurs, external project officers can be invited.

In terms of joint and single-service correlation, *'each service maintains a doctrine point of contact (ideally a SO1) within its warfare centre. Their function is to coordinate doctrine development within their Service. All single-Service doctrinal issues (including comments on draft publications) should be staffed through these representatives.'*[131]

The above described structure of the doctrine preparation process corresponds to the final stage of jointery institutionalisation, meaning the development of an exact procedures and division of duties between structural elements. This gives an opportunity to control and modify doctrines within 18 months, which is the target timeframe for a doctrine preparation process. Consequently, the instrumentalist approach to doctrine preparation and consequent use was applied. From the perspective of covering gaps in the constantly changing strategic environment, thus improving the Armed Forces' adaptation, such an approach can be considered holistic and purposeful. On the other hand, from the point of view of doctrine writing *per se,* the new approach makes doctrine less personalised in terms of service and environmental orientation and consequent authors' contribution. In this regard, the transition is away from an author-driven doctrine to institution-conditioned one. As Peter Gray has suggested, authors have begun to be responsible for the common ideas and existing organisational perception on the subject matter.[132]

Alistair Byford is the best person to ask about the changing role of authors in the new process. Having written the 4th edition practically on his own and contributed to the production of the latest joint one, he has a unique experience in this field. Comparing single-service and joint authorship from the writer's perspective, he argued that with the 4th edition, he had more freedom of writing and shaping the initial draft, while the joint environment placed constraints on the writer's freedom.[133] This means that writers were no longer decision-makers on what was in the draft. They also became more dependent on the decisions of review boards, discussion groups and workshops. From one perspective, it can be viewed as an instrumentalist approach to writers. From another, the importance of wider involvement of diverse specialists in order to achieve diversity

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[131]DCDC, *Developing Joint Doctrine Handbook* (2013), 2-10.
[132]Peter Gray, interview with the author, Birmingham, 18 June 2013.
[133]Alistair Byford, interview with the author, Shrivenham, 11 September 2013.

became obvious. In this regard, the motive of commonality resulted in the attention to systematic and interdisciplinary approach to the military tasks. In its turn, voluntarily or not, a wider discussion contributes to a more profound exploration and consequent knowledge of the studied issue. As Alistair Byford stated, the 4th edition was written in haste and with minimum involvement of academics and limited discussions, while the preparation process of JDP 0-30 was *'staffed extensively, involving the Army and the Navy; lots of workshops and three or four drafts.'*[134]

Consequently, comparing single-service and joint authorship, it can be argued that although the joint environment limits the freedom of writers, instead it can contribute to profound exploration and understanding of the studied issues in the inter-service and systematic framework. This is largely conditioned by the availability of resources, particularly human resources who can be allocated to a specific doctrinal project within an institution which was created for the sake of doctrine preparation. Consequently, it is easier not just to get staff involved in doctrine preparation, but also to increase their experience and thus to speed up the synchronisation of various doctrinal publications and their consequent acceptance within the Armed Forces. Christina Goulter concluded that doctrine preparation *'became more rigorous, more profoundly thought; they put more capable people, goal thinkers in the front line.'*[135]

In terms of the service's self explanation through environmental doctrine, naturally the joint authorship was constraining. Alistair Byford stated that, in the new process, the service would lose actual control over environmental doctrine and could not promote certain suggestions of technological and financial nature. However, *'you have a credibility of a joint doctrine,'*[136] meaning that this doctrine would be recognised by other services while a single-service one could be still quite debatable in the inter-service interpretation. In terms of the stimulation of jointery and inter-service understanding, the shift towards joint authorship *'is a good thing, since it compels other services to realise that they need this document.'*[137]

Until a certain extent, the functionality of doctrine *per se* had shifted from benefiting any particular service to functioning as means of the Armed Forces' joint adaptation to the changes in the internal and external environments. In this regard, the

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[134] Ibid..
[135] Christina Goulter, interview with the author, Shrivenham, 11 September 2013.
[136] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.
[137] Christina Goulter, interview with the author, Shrivenham, 11 September 2013.

newly introduced five-year cycle of doctrinal changes and its consequent connection to the cycle of defence reviews, suggests that doctrine is a military means to send a message to political decision-makers. It is envisioned that the Joint Doctrine Publication should be revised every five years. Consequently, this would trigger relevant reviews and changes in the entire hierarchy of doctrinal publications. A particular feature of the cycle is that it is aimed to be in the middle of the SDSR cycle. The reason is for doctrines to *'influence policy in the middle of the SDSR cycle'*[138] and thus to provide a more up-to-date information on the conceptual framework of the Armed Forces.

Conclusion

This chapter has described the most recent stage of doctrine preparation process and consequent changes in air power doctrine writing. From all that is mentioned above, the following conclusion can be drawn. Irrespective of the previous RAF attempt to write single-service joint environmental doctrine embodied in AP 3000 4th edition, it did not have the desired outcome, meaning the demonstration of the RAF joint commitment and potential preservation of ownership over its environmental doctrine. Therefore, ownership over environmental doctrine was transferred to the joint institution of DCDC. This was largely conditioned by the need to synchronise all environmental doctrines under joint authorship in order to create a national doctrinal system, which could adapt to new changes altogether and immediately, rather than when a single service would decide to do so. In the global terms of Allied operations, this meant that the national conceptual framework and consequent practice could be easily adapted to the new trends within NATO. Thus, a better cooperation and performance could be achieved.

In terms of the influential factors of doctrine preparation, as in the previous two editions, most recent **operational experience** had a profound influence on doctrine writing. However, this influence was not the primary force driving the initiation of doctrine preparation. In other words, although the lessons of the Libyan conflict were processed and reflected in JDP 0-30, it was not operations themselves which triggered doctrine preparation. Although it reflected the tendency towards contingency rather than COIN operations, the new doctrine reflected not only the lessons of Libya but also relevant experiences through the entire history of air power, paying slightly more attention to the post-Cold War era. In terms of the role of air power in contemporary warfare, it can be argued that Libya demonstrated that air power remained functional

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[138] Alistair Byford, interview with the author, Shrivenham, 11 September 2013.

both on its own and in cooperation with other services, in that case, with the Royal Navy. In this regard, while the second post-Cold War decade was characterised by the decline of air power optimism, the beginning of the third decade demonstrated that air power remains extremely functional and efficient these days.

In terms of the **internal environment**, once again the doctrine preparation process was related to a Defence Review. Unlike the first two case studies, the implications of the SDSR were not only in the reflection of the new conceptual framework or in the preparation to the next Defence Review. The role of the SDSR was in emphasising austerity and its implications for the Armed Forces. Inevitably, it meant the importance of technological advantage as a means of multi-tasking and efficiency in contingent operations rather than the numerous deployments of the Armed Forces. It also meant that cooperation in terms of jointery was meant to evolve, which resulted in the process of synchronisation of national doctrinal practices in order to harmonise changes shaped by the Allied environment.

Finally, after the SDSR 2010 and the consequent stimulation of jointery, the internal and external environments of broader sense outlined by Oliver Daddow demonstrate to be less dividable. In other words, with the process of institutionalisation of jointery and the introduction of 5-year doctrinal cycle with the NATO doctrine in the heart of the national practice, the line between factors of internal and external environment becomes even vaguer than it used to be. In this context, doctrine does not only become influenced by the general trends of NATO doctrinal discourse or procedures of doctrine preparation, but it gains new functionality. This functionality is in the accommodation of Allied trends into national military practice. This can be achieved in two ways. First, it can be done through a conceptual framework reflected in a series of doctrinal publications. Secondly, the exact hierarchical structure and inter-service subordination in terms of doctrines give an opportunity to make adaptation to any changes systematic and fast, like a wave effect. However, although JDP0-30 was prepared under a joint authorship and reflected the transition to the new doctrinal cycle and NATO-oriented doctrine, it also demonstrated that the new changes are still in the process of systematic introduction. They will be tested by the next Defence Review.

Concerning **the role of academics** in the new doctrine preparation process, it can be concluded that their involvement is highly advised and encouraged. Consequently, the role of academics is in the provision of critical thinking on defence

and strategy and their advisory role in the evaluation of concepts and new paradigms. However, as in the previous editions, academics are not involved in the preparation of drafts but in their discussions and analysis. Therefore, the role of academics remains advisory and not decisive. Another feature of JDP 0-30 is that although the doctrine writing guide briefly mentions the involvement of academics in discussion of drafts, the reality demonstrates that conceptual and scholar discussions are essential in the preparation of doctrine and that some of their advice is taken into account. In terms of the shift from single-service to joint authorship and the centralised production of doctrines in DCDC, the involvement of academics becomes easier. This is because the Defence Academy is right across the street and the involvement of teaching staff can be systematic. The centralised nature of joint authorship also contributes to a long-term relationship with academics from around the country. Thus, they can be consulted for different doctrinal processes over a long period of time. Consequently, the centralisation of jointery can contribute to a profound cooperation with academics, although the doctrinal guide does not emphasise it.

Concerning the **authors**, the first joint edition demonstrated the final stage of transition from a personalities-driven to an institutional approach. In this regard, although Alistair Byford, the author of the last single-service air power doctrine, was involved in the joint authorship, the degree of freedom he favoured with the previous edition had decreased substantially. The fact that there is no longer one author responsible for a doctrinal project suggests the need for a higher degree of compromise. Placing the process in the joint environment of tri-service review, the authors' personal inspirations and the ability to make a creative and constructive contribution became limited. Consequently, doctrines become more and more institutional in their nature. Unlike the first post-Cold War doctrines, instead of reflecting institutional trends within a single service, nowadays, environmental doctrines project joint trends into a single service.

Overall, the new doctrine preparation process suggests a few considerations. First of all, unlike before, the national Armed Forces are treated as an inter-dependant system, capable of rapid, synchronised changes. These changes can be caused by factors of the external environment; however, the response to them is conducted exclusively through internal, joint means. Secondly, treated as a joint system, the Armed Forces and consequent doctrines are inevitably connected with Defence Reviews. In this context,

the functionality of doctrine in the newly introduced doctrinal cycle is in informing of the Defence Review board on how the Armed Forces are going about their business, emphasising their functionality. In other words, doctrine continues to play a self-justifying role in SDR cycle; however, unlike before, it plays it at the joint level rather than at a single-service and competitive one. Doctrine becomes a means of policy direction between SDRs. Thus, the additional functionality in the national defence system creates an inclination towards a more crucial role of the internal environment in doctrine preparation rather than external factors of operational experience. The final part of this thesis integrates all three case studies into a summary of evolution of doctrine in the process of the institutionalisation of jointery.

CONCLUSION

From 1999 to 2013, the development of RAF air power doctrine was characterised by a change in approach to working environmental doctrine, various features of which were influenced by the process of the institutionalisation of jointery. The approach that characterised the first two post-Cold War editions was personality-driven and substituted for an institutional approach. The defining trigger of this change was the process of jointery as a centralised process of reforming the national Armed Forces. Therefore, at each stage of the institutionalisation of jointery, environmental doctrine had a different shape and purpose. In the most recent stage of the development of jointery, environmental doctrine has changed its owner from a single service to joint authorship.

The complexity of introduction of doctrine into RAF post-Cold War practice and its further use for the institutionalisation of jointery were influenced by the history of the RAF. In this regard, Chapter II showed how single-service authorship may contribute to the misuse of doctrine for political purposes and its dogmatisation. With the establishment of the RAF as an independent service, the main function of the doctrine was to embody the service's primary concept − strategic bombing. Although various revisions of AP 1300 took place, the concept remained the same. Inevitably this contributed to the perception of doctrine, as the vessel of this concept, being dogma and the source of narrow-mindedness. Historically, the RAF's misuse of doctrine was influenced by political considerations and the need of the service to survive. Although to an extent such conceptual self-sufficiency had contributed to a unique role of the service in the national system of defence in 1918-1956, it also resulted in complete redundancy of RAF doctrine, when it could not secure the strategic nuclear function for the RAF.

Thus, from the 1970s, the RAF existed without a conceptual framework of its own and only used NATO tactical-level doctrine. Furthermore, the political use of doctrine through RAF history and the dogmatic character of the first doctrines resulted in the complete non-perception of doctrine within the service. The main outcome of such a history was the development of a distinctive anti-intellectual culture within the service. Since doctrine was viewed as dogma and the service's attempts to promote its interests, everything written on a strategic level, stimulating creative thinking was treated with suspicion and immediate rejection. Therefore, the anti-intellectual

atmosphere of the service made the return of doctrine into RAF practice in 1991 painful. However, in the conditions of the end of the Cold War, the service needed a precise conceptual framework in order to know where it was at that time and how it had to change in that uncertain strategic environment.

RAF doctrinal history has demonstrated one of the most crucial lessons to take into account while studying RAF doctrine; it is that the contemporary perception of doctrine is influenced by decades of doctrinal dogmatism and created the doctrine-hostile culture within the RAF. Although Andrew Vallance did not have to fight the reluctance of RAF personnel to accept doctrine, the service's inner culture, created during the described decades and which is passed to the new generation, is characterised as doctrine-sceptical, at best. Thus, diverse groups within the service considered doctrine to be other means of bureaucracy. They were convinced that tactics-oriented approach to air power was the most functional for the RAF. The struggle between intellectuals and tacticians should not be forgotten in the research of doctrinal documents. The main relevance of this lesson to this research is that the struggle between different groups within the service was reflected in the texts of the studied doctrines. The changes of doctrinal discourse in the context of this inter-service struggle demonstrated certain tendencies within the service's dynamics. This is one of the occasions when the history of the service can provide an answer or solution of its contemporary challenges.

The doctrinal history of the RAF paved the way to the development of personalities-driven approach to doctrine writing in the first two editions of post Cold War doctrine. Andrew Vallance's initiative in the first two editions of AP 3000 was conditioned by the need of the Armed Forces to adapt. Hence, the first edition explained where the service was at the end of the Cold War; the second edition evaluated the experience of the Gulf War and lessons for the RAF. These two editions were the basis for the development of the RAF doctrinal practice, because they summarised the Cold War and the first post-Cold War operational experience. Although it is often argued that they were still Cold War-oriented, they paved the way for the post-Cold War doctrines looking towards the future and exact ways of reformation of the RAF in the joint environment. This historical discourse answers two questions. First, it demonstrates the organisational culture concerning the place of doctrine in RAF practice before the studied period. Secondly, it shows that the first two doctrines were transitional in their

nature, due to the unclear strategic environment of that time. However, only with the centralised initiative of reforming the Armed Forces could crucial changes in the process of doctrine writing become possible.

The introduction of jointery created the necessity of more profound commitments to tri-service cooperation demonstrated in Chapters III and IV, which were devoted to the case study of AP 3000 3rd edition. At the time of preparation of this edition, jointery was on its proto-stage of institutionalisation and could require services to establish their commitment to the joint environment. Consequently, the 3rd edition of AP 3000 was aimed at the interpretation of the operational experience in terms of joint discourse with a consequent commitment to a close cooperation with the Army. In this regard, although vertical jointery and exact doctrinal hierarchy were yet to be developed, the doctrine outlined the existence of horizontal jointery. Accordingly, PSO doctrine was used in order to synchronise the lessons of Bosnia and joint thinking on the Armed Forces' functionality in future operations. This feature of the process of doctrine preparation demonstrated the RAF's jointery-oriented position and capability of producing jointery-friendly doctrine.

Consequently, from this edition RAF environmental doctrine was jointery-oriented rather than personalities-driven like in the first two editions of AP 3000. Regarding the correlation between the factors influencing doctrine, the degree of influence was demonstrated to be different. In terms of the external environment, the operational experience of the Gulf War and PSO realities of Bosnia had a dominant impact in rethinking of the roles of air power in a new strategic environment, while other factors of the external environment were indirect in their influence. First of all, NATO doctrine was in transition as well and it had no direct influence on AP 3000; it could only have an indirect impact through the allied publications. Secondly, the little influence of foreign doctrines of Allied nations was shaped by differences in strategic cultures. Thirdly, the exchange of ideas and technologies with American counterparts was of the indirect nature, conducted through joint courses, common training and in the battlespace. The visits of DDS to Maxwell were taking place at that time and could have shaped a particular mode of thinking; however, no evidence was found that these visits were the forces shaping contents of the 3rd edition of AP 3000. Therefore, although the factors of the external environment were triggering the necessity of doctrinal reflection

of the new trends, it was the internal environment of jointery that dictated the tone and shape of the new edition.

In the joint discourse of the 3rd edition of AP 3000, the shift from personalities-driven to the entirely institutional approach was still not finalised. This was demonstrated in the roles of academics and authors. The role of academics was significant and it had a tremendous impact on the text of doctrine through diverse workshops and consequent discussions of drafts, but mainly because of the openness of the author of the doctrine to academic audience. In this regard, the influential role of academics and reflection of academic discourse in the text and structure of the 3rd edition demonstrated that personalities still mattered, albeit to a lesser extent than before.

Chapter V demonstrated that the experience of the following campaigns and their reflection in the national political discourse only stimulated further stages of the institutionalisation of jointery. In the environment of inter-service rivalry and established doctrinal hierarchy, the fight for the authorship of environmental doctrine became crucial for the further institutionalisation of jointery. In terms of the ownership of environmental doctrine, the 4th edition of AP 3000 was aimed at the demonstration that the RAF was capable of writing joint environmental doctrine under single-service authorship. Accordingly, such an attempt could provide the service with extra leverage in the environment of strengthened jointery and its centralisation in DCDC. Regarding the factors influencing the process of doctrine preparation, continuous operational involvement, protracted and changing character of campaigns resulted in the lack of a new edition for almost a decade after the previous one. Although the 4th edition was aimed at the analysis of British experience in COIN operations, the document practically emphasised the diversity of air power roles in the joint environment of COIN.

However, the significance of operational experience was rather in the stimulation of domestic debate on jointery and the Network Centric Capability and the Comprehensive Approach. Furthermore, it resulted in the renewal of the discussion on air-land integration and the necessity of the synchronisation of environmental doctrines under the joint umbrella. Since the aim of the 4th edition was to demonstrate how joint a single-service environmental doctrine can be and since it was written after the SDSR, the role of academics was limited, and the role of the author was dominant. However,

unlike the first two editions of AP 3000, although the doctrine was written by one author, his influence was limited by the joint purpose of the edition and the necessity of tri-service review. Consequently, the process of doctrine writing was one step closer to an entirely institutional approach. Overall, the timing and therefore a driving force of doctrine preparation was the centralisation of jointery and the dispute for the ownership of environmental doctrine, as a means of single services' promotion of their preferred concepts. This was partly conditioned by the approaching SDSR, where an extra means of self-explanation could be crucial for the service's survival.

Chapter VI addressed the last stage of the institutionalisation of jointery. At this stage jointery is characterised by the centralisation and strict division of duties and responsibilities between the NATO Standardisation Agency, DCDC and the three services. The doctrinal hierarchy, interim procedures and the process of doctrine preparation were harmonised in relation to the national defence reviews. Consequently, the last studied edition of air power doctrine, JDP 0-30 demonstrated the joint authorship of environmental doctrine and the new procedural elements envisioned by the new joint doctrine writing process. It also reflected the most recent trends in the institutionalisation of jointery and placed NATO in the heart of the national doctrinal practice. Accordingly, the doctrine emphasised the increased number of joint publications and the place of JDP 0-30 in it. The text also corresponded to the requirements of joint publications.

Concerning NATO discourse, unlike previous editions, this one stated direct commitments to NATO practice and its incorporation into the national doctrinal practice. In terms of the last stage of the institutionalisation of jointery, doctrine gained new functionality. In the new 5-year doctrine cycle, revision of doctrinal documents is directly related to the national defence reviews. In this context, doctrine serves as a mean of influencing policy. If environmental doctrine was in single-service ownership, it would give the services extra power. Therefore, centralised ownership contributes to a common direction and consequent influence on policy. However, the extent to which it is considered to be mutually beneficial by the three services remains controversial.

This research also demonstrated that one of the essential contextual factors of doctrine development was and remains inter-service rivalry. Although the institutionalisation of jointery was aimed at the elimination of this rivalry, the reality of the Armed Forces' practice remains conditioned by their organisational cultures that

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were shaped by the historical distinctiveness of each service. For jointery to become a part of each service's organisational culture, it requires more than formal top-to-bottom institutionalisation of the concept and its reflection in doctrinal discourse, the attainable results of its practical implementation and efficiency can change single-service oriented organisational culture of each service. Until then, the factor of inter-service rivalry should be taken into account in the preparation of doctrinal documents.

Regarding the correlation of factors influencing the process of doctrine preparation under joint authorship, once again operational experience was not the driving force. Accordingly, although the lessons of Libya were reflected in JDP 0-30, the operation itself did not trigger doctrine preparation. Furthermore, although the doctrine reflected the tendency towards contingency rather than COIN operations, it outlined diverse relevant experiences through the entire history of air power, being more detailed about the post-Cold War era. Regarding the role of air power in contemporary warfare, Libya demonstrated that air power remained functional both independently and in cooperation with other services. In the case of Libya, the RAF closely cooperated with the Royal Navy. Therefore, while the second post-Cold War decade was characterised by air power pessimism, the beginning of the third decade showed that air power is still extremely functional.

The recent stage of the institutionalisation of jointery and consequent institutional approach to environmental doctrine was also demonstrated in the change of roles of academics and writers. First of all, as before, the role of academics remains advisory and not decisive. They take part in the discussion of drafts and advise in their fields of expertise. However, they have less direct impact on the overview of the writers of doctrine, because the role of writers has changed. DDS is no longer the primary author of air power doctrine; a group of writers is responsible for collective ideas representing the joint institution's perspective on environmental doctrine. Although it can be argued that the doctrinal process suggests the instrumentalist approach to academic involvement, the centralised joint environment provides a wider range of opportunities for academic participation. This was demonstrated in numerous discussions taking place in the preparation of JDP 0-30.

In terms of the aforementioned shift in the approach to writing environmental doctrine, the change of the role of writers in the joint environment was a crucial finalisation of this change. Hence, although the 3rd and 4th editions of AP 3000 reflected

joint tendencies they still were written by DDS. Although, in both cases, doctrine preparation processes were under the scrutiny and authorisation of CAS and still reflected certain institutional restraints on content, authorship was personalised, and each doctrine reflected the distinctive approach of its author. Only with the transition of authorship from the RAF to DCDC, did authorship become truly institutional, joint and impersonal. Overall, the development of the RAF air power doctrine in 1999-2013 was shaped by the process of the institutionalisation of jointery. Although new campaigns were the source of operational lessons, air power doctrine development differed according to the stages of institutionalisation of jointery. With each edition, doctrine was becoming closer to cooperation with the other two services and joint environment. Consequently, the factors outlined by Oliver Daddow began to gain different functionality.

Just as there is no end to the revision of doctrine or ways of its adaptation to the changes of the strategic environment, so there is no end to academic research on the development of doctrine. In a couple of years, in order to keep up with the recent trends this research will have to be expanded with another case study of environmental doctrine. Consequently, in a few years after the next SDSR, it would be relevant to explore how the defence review might influence the 5-year cycle and which changes might be made in the current JDP 0-30. However, before that, at the present stage, the research can be expanded horizontally. In this regard, the role of the same factors can be analysed in terms of strictly joint publication and environmental doctrine. The most ambitious idea is the comparative analysis of British and American procedures in the preparation of environmental doctrine. In any case, the future will show which direction will be the most welcomed and fruitful at that time. After all, this thesis is just the beginning.

All the above mentioned justification of the argument of this thesis reaffirms the academic and practical originality of the research design. As it was stated in the introduction, the thesis has explained how RAF environmental doctrine has changed in the most recent timeframe and how it was conditioned by the stages of the institutionalisation of jointery. It was explained through a systematic analysis based on the modified approach suggested by Oliver Daddow.

This thesis covered the existing gap in the analytical history of the RAF doctrine development. It demonstrates how the service has adapted to the strategic requirements

of the post-Cold War era and which role the doctrine played in that adaptation. The connection between service's organisational culture, jointery, inter-service rivalry and perception of a certain doctrine was demonstrated. The main contribution of this thesis to the debate on the RAF and doctrine is that it offered systematic analysis of the factors influencing doctrine preparation process and the role of jointery in it, which was not conducted in this time frame and on such a scale before this thesis. This thesis is also relevant for the exploration of inter-service rivalry on the formal level of doctrine preparation in the contemporary joint environment, since it outlines the stages of the institutionalisation of formal jointery in single-service oriented organisational culture of the RAF and the two other services.

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