THE POTENTIAL AND LIMITS OF AIR POWER IN CONTEMPORARY MULTINATIONAL OPERATIONS:

THE CASE OF THE UK, POLISH AND SWEDISH AIR FORCES

Maria Ewa Burczynska, BA, MA

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Abstract

This thesis investigates the potential and limits of European air power in multinational operations and assesses how potential problems encountered in the course of multinational cooperation may be overcome. Looking specifically at the cases of the UK, Poland and Sweden, it argues that the benefits European air forces gain from their participation in multinational operations outweigh the challenges they face when involved in that form of military activity. Ultimately, the thesis demonstrates that, considering the significant capability and capacity limitations experienced by European air forces, developing multinational cooperation is essential for maintaining national security and defence of all states involved.

Multinational operations have become the dominant form of Western military intervention in the post-Cold War period and this trend is likely to continue. The main objective of the thesis is to provide a deeper understanding of the potential and limitations of European air forces in multinational operations, a subject which has, to date, been understudied. Air power scholarship remains heavily dominated by studies of the US Air Force and US experience in air warfare. As such, the thesis makes a significant contribution to knowledge in providing a systematic study on European air power in multinational operations. The analysis revolves around three case studies – British, Swedish and Polish air power. All three countries experienced similar challenges in building air forces fit for the post-Cold War security environment, but their efforts were also coined by specific geopolitical, financial and political circumstances. Framed within relevant concepts from international relations, strategic studies and military sociology, the analysis is based on the extensive analysis of relevant documentary materials as well as on fieldwork research conducted in all three countries.

In its empirical part, the thesis gives a perspective on the state of the British, Polish and Swedish Air Forces in the post-Cold War period, showing that each of them underwent a process of concentration and transnationalisation, adapting them to participation in multinational operations. This took the form of their increased participation in various forms of multinational cooperation ranging

from expeditionary military operations, through pooling and sharing initiatives to collective trainings and exercises. All of these processes have raised interoperability and interdependence between European air forces. However, as the thesis also shows, multinational cooperation is complex and poses various problems for the involved air forces which, to large extent, stem from their cultural background. These are inevitable, but may be minimised by even more intensive multinational cooperation.

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List of Abbreviations and Acronyms

AAR	air-to-air refuelling
AATTC	Advanced Airlift Tactics Training Centre
ACE	Arctic Challenge Exercise
AEW	Airborne Early Warning
AGS	Alliance Ground Surveillance
AJP	Allied Joint Publication
AT	air transport
ATARES	Air Transport, Air-to-Air Refuelling and other Exchange of Services
ATO	Air Tasking Order
AWACS	Airborne Warning and Command System
BAP	Baltic Air Policing
C4ISR	command, control, communications, computers, intelligence, surveillance and reconnaissance
CAS	Close Air Support
CASEVAC	casualty evacuation
CBT	Cross Border Training
DCDC	Development, Concepts and Doctrine Centre
DCI	Defence Capabilities Initiative
DTC PAF	Doctrine and Training Centre for Polish Armed Forces
EAATTC	European Advanced Airlift Tactics Training Course
EATC	European Air Transport Command
EATF	European Air Transport Fleet
EATT	European Air Transport Training
EDA	European Defence Agency
EFH	Equivalent Flying Hour
ETAC	European Tactical Airlift Centre
EU	European Union
FMKE	Försvarsmaktens Enhet för Konceptutveckling (the Swedish Armed Forces Centre for Conceptual Thinking and Experimentation)
GDP	gross domestic product

HAW	Heavy Airlift Wing
HQ	headquarters
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
IFOR	Implementation Force
ISAF	International Security Assistance Force
ISR	intelligence, surveillance and reconnaissance
ISTAR	Intelligence, Surveillance, Target Acquisition and Reconnaissance
JAPCC	Joint Air Power Competence Centre
JDP	Joint Doctrine Publication
JP	Joint Publication
JRDF	Joint Rapid Development Force
JRRF	Joint Rapid Reaction Force
KFOR	Kosovo Force
MALE	Medium Altitude Long Endurance
MCCE	Movement Coordination Centre Europe
MEDEVAC	medical evacuation
MINUSCA	United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic
MRTT	Multi Role Tanker Transport
NAEW	NATO Airborne Early Warning
NAEW&C	NATO Airborne Early Warning and Control
NAPMA	NAEW&C Programme Management Agency
NAPMO	NAEW&C Programme Management Organisation
NATO	North Atlantic Treaty Organisation
NORDEFCO	Nordic Defence Cooperation
NSIP	NATO Security Investment Programme
OPD	Operativ Doktrin (Operational Doctrine)
PfP	Partnership for Peace
PJHQ	Permanent Joint Headquarters
P&S	Pooling and Sharing
RAF	Royal Air Force
ROE	rules of engagement

SAC	Strategic Airlift Capability
SALIS	Strategic Airlift Interim Solution
SDR	Strategic Defence Review
SDSR	Strategic Defence and Security Review
SFOR	Stabilisation Force in Bosnia and Herzegovina
STANAG	Standardisation Agreement
SWENDU	Swedish National Defence University
UAS	Unmanned Aircraft System
UK	United Kingdom
UN	United Nations
UNIFIL	UN Interim Force in Lebanon
US	United States
USAF	United States Air Force
USSR	Union of Soviet Socialist Republics, in the thesis also referred to as the Soviet Union
WMD	Weapons of Mass Destruction
WSU	War Studies University

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Chapter 1: Introduction

This thesis investigates the involvement of European air forces in contemporary multinational operations, assessing the potential and limits of such cooperation and considering the ways in which potential problems can be overcome. The main research question for the project is: what is the potential and limitations of European air power in contemporary multinational operations? It is being answered by addressing several sub-questions which are given attention in subsequent chapters of the thesis. These are: (1) Why has the end of the Cold War led to an increasing number of multinational operations? (2) Why have the UK, Swedish and Polish Air Forces specifically been used predominantly in multinational operations since the end of the Cold War? (3) How have European countries sought to create the conditions required for the effective cooperation of their air forces in multinational operations? (4) What role have collaborative initiatives, such as Smart Defence and Pooling and Sharing, played in the creation of these conditions? (5) What are the ongoing problems encountered by European air forces when they participate in multinational operations? (6) How can these problems be overcome?

This thesis argues that although the participation of European air forces in multinational operations faces significant challenges, the benefits of such cooperation predominate. Given the ongoing limitations in the capacity and capabilities of individual European states' air forces, their cooperation with partners and involvement in multinational initiatives is inevitable if their security is to be ensured. Hence the increasing dominance of multinational operations as the form of contemporary military ventures. As discussed in the thesis, the process of adaptation of the European air forces to that new situation after 1990 took form of their concentration and transnationalisation. The concept of concentration is understood in the thesis as the air forces' reduction in size leading to creation of smaller but more specialised and professional units. Transnationalisation then, is recognised as cooperation on multinational level leading to the air forces' increased interconnectedness and interoperability but also interdependence. Although it has been argued that both concentration and transnationalisation have meant that contemporary air forces are of a different,

better quality when compared to the mass armies known during the Cold War,[1] the thesis makes a point that increased multinational cooperation, despite undoubtedly beneficial, is also challenging and may present several difficulties for the involved air forces. These, to a large extent, stem from variations in cultural background, and as such, cannot be completely eliminated. However, they can be anticipated and then minimised in the course of, paradoxically, intensive cooperation on multinational level. At this point, the thesis makes a full circle arguing that the benefits European air forces gain from the involvement in multinational operations outweigh the problems they may encounter.

Since the end of the Cold War, the majority of conflicts fought by European states have been multinational operations. Yet there is little literature available assessing the potential and limits of such operations – i.e. the problems faced in operations fought by a multinational coalition and how to overcome them. The subject has been understudied in a two-fold way. Firstly, the majority of the existing literature on air power has focused and continues to revolve around the US Air Force (USAF) with very little attention given to European air forces.[2] Such situation is not surprising given that USAF is the most advanced air force in the world. Secondly, if the latter ones are studied at all, such work is usually limited to particular air forces (predominantly the more powerful ones) and the assessment of their involvement in specific military operations what, as such, does little to contribute towards a more systematic understanding of the subject.[3] Therefore, the central objective of the thesis is to address this important gap in the literature. Multinational operations are likely to stay and continue being the major form of conflict European air forces are involved in. Some recent

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[1] Anthony King, *The Transformation of Europe's Armed Forces. From the Rhine to Afghanistan.* Cambridge: Cambridge University Press, 2011.

[2] For example, Benjamin S. Lambeth, *Air Power against Terror: America's Conduct of Operation Enduring Freedom.* Santa Monica: RAND, 2005; Benjamin S. Lambeth, *The Transformation of American Air Power.* Cornell University Press, 2000; John A. Olsen, ed. *Airpower applied: U.S., NATO, and Israeli combat experience.* Naval Institute Press, 2017; John A. Olsen, ed., *Global Air Power.* Washington D.C.: Potomac Books, 2011; Martin van Creveld, *The Age of Airpower.* New York: PublicAffairs, 2011; Tim Ripley, *Air War Afghanistan. US and NATO Air Operations from 2001.* Barnsley: Pen & Sword Books Ltd., 2011.

[3] See, for example, Christian F. Anrig, *The Quest for Relevant Air Power: Continental European Responses to the Air Power Challenges of the Post-Cold War Era.* Maxwell Air Force Base, Alabama: Air University Press, 2011; Joel Hayward, ed., *Air Power, Insurgency and the "War on Terror".* Cranwell: Royal Air Force Centre for Air Power Studies, 2009; John A. Olsen, ed., *European Air Power: Challenges and Opportunities.* Potomac Books, 2014.

examples of such multinational operations have revealed some shortcomings arising from their multinational nature that have limited their effectiveness. It is therefore important to have a deeper understanding of the potential and challenges of multinational operations in order to increase their effectiveness in the future.

The aforementioned research question as well as the sub-questions for the project are being answered using the three cases of the Royal Air Force (RAF), Polish Air Force and Swedish Air Force. In order to keep the thesis focused, the research questions are being answered by looking at European air power through the prism of the Air Forces only and omitting the Army or Navy air components. The cases of the British, Polish and Swedish Air Forces were chosen not only because all three are European countries with long air force history and traditions. On the one hand, these three cases were chosen, because, although they have all participated widely in multinational operations – often together – since the end of the Cold War, they are also very different in many ways. The project begun by examining the British and the Polish air power as case studies offering an opposing perspective on European air power at the point of the collapse of the Soviet Union. In the course of the research, the idea emerged to add an additional, contrasting perspective to those two cases in order to achieve a comprehensive and more comparative perspective on the potential and limitations of European air power, therefore Sweden was chosen as the third case study. At the time of the Cold War ending, all three countries found themselves in a very different political and strategic situation – the UK being a NATO and European Union (EU) member, Poland being a former Warsaw Pact member and aspiring to join the Western structures, and Sweden willing to join the EU but also to maintain its non-allied status with NATO. On the other hand, all three Air Forces also share important similarities. Firstly, despite the different geostrategic situations the three states were in in the early 1990s, all of them underwent similar changes and faced similar challenges since then, namely reduction of defence budgets and, following that, concentration and transnationalisation of their military forces. As a result, the three Air Forces ultimately became part of a professional Armed Forces focused on the idea of jointness understood as participating of at least two military services together in an operation. Secondly, all three of them actively participate in various

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multinational ventures, whether military operations, pooling and sharing initiatives of multinational trainings and exercises considering these as an important form of gaining operational and tactical experience as well as building new and strengthening the existing national capabilities. Finally, in all three states international organisations, especially NATO and the EU, are perceived as guarantors of their national security. Hence their willingness to be part of these frameworks, participate in the aforementioned initiatives and, in effect, contribute to and benefit from collective security. Therefore, using the RAF, Polish and Swedish Air Forces as case studies allows for investigating the same processes from very different perspectives what results in a comprehensive view of the involvement of European air forces in multinational operations in the post-Cold War period.

1.1 The post-Cold War strategic context of the UK, Poland and Sweden

The three European countries that are the subject of this thesis came out of the Cold War with different experiences and faced a rapidly changing strategic environment. The situation in Europe was very clear during the Cold War – there were easily defined opponent blocks (NATO and Warsaw Pact) preparing for a large-scale, symmetric conflict.[4] The end of the bi-polar order marked a shift in defence policies and transformation of western militaries leading them towards an increased engagement in multinational operations. First of all, after the collapse of the Soviet Union, Europe was no longer raising primary security concerns for the US and these were directed to other parts of the globe, including Middle East, North Asia and the Pacific region.[5] From focusing on a potential conventional conflict the Soviet Union, the US shifted their concern towards more asymmetric threats to global security such as 'failed states', terrorism, ethnic and religious conflict, and the proliferation of weapons of mass destruction (WMD).[6] The situation looked very different for the European states. To quote Gordon Adams and Guy Ben-Ari, in the 1990s 'Europe's armed forces

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[4] Anrig, *The Quest for Relevant Air Power.*, p. 14.
[5] Gordon Adams and Guy Ben-Ari, *Transforming European Militaries. Coalition Operations and the Technology Gap.* London: Routledge, 2006, p. 2.
[6] Ibid., p. 2.

suffered from a kind of "identity crisis'" – the post-Cold War situation presented new challenges calling for developing new capabilities and keeping up with the US military in order to maintain interoperability. European militaries did not shift their interests towards the global dimension as quickly and smoothly as the US and therefore their primary focus remained national and regional security.[7] For example, the UK, Poland and Sweden did not have relevant air doctrines in place and 1990 marks the point when such documents were started to be developed in order to answer the threats arising in newly emerged security environment. What is more, the diversion of strategic interests between the US and Europe revealed significant limitations of European armed forces calling for developing multinational cooperation in order to fill these gaps. The different struggles on personnel, equipment and doctrinal level that all three, the RAF, Polish and Swedish Air Force had to face are discussed in more detail in Chapter 3.

Facing a changing security environment in Europe after the end of the Cold War, European countries started to re-define their strategic thinking. As Hew Strachan argued, lacking the already well-known threat in their neighbourhood as well as still vivid memory of the Second World War, European countries were faced with uncertainty as of what to expect from future conflicts.[8] The early 1990s were, generally, characterised with very different, often contradicting, feelings about the future ranging from optimistic hopes for a liberal, peaceful world to much more pessimistic visions of a chaotic, anarchical reality.[9] These feelings were obviously not confined to Europe but present on both sides of the Atlantic. The insecurity about the possible state of the future of international relations and security in Europe was widespread. Dandeker called the post-Cold War period as a "violent peace" describing it as characterised with instability originating from ethnic and religious conflicts, irregular threats and terrorism rather than traditional state-on-state aggression.[10] Similarly, Hura *et al.* argue

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[7] Adams and Ben-Ari, *Transforming European Militaries.* pp. 3–4.
[8] Hew Strachan, *The Direction of War. Contemporary Strategy in Historical Perspective.* Cambridge: Cambridge University Press, 2013, pp. 18 and 122.
[9] Saki Ruth Dockrill, *The End of The Cold War Era: The Transformation of The Global Security Order.* London: Hodder Education, 2005, pp. 212–213.
[10] Christopher Dandeker, "Building Flexible Forces for the 21st Century. Key Challenges for the Contemporary Armed Services." In *Handbook of the Sociology of the Military.* ed. by Giuseppe Caforio, 405–416, Springer, 2006, p. 407.

that the years after 1990 were, in fact, much more stressful for the international community that the Cold War used to be.[11] That is because of the abovementioned insecurity about the future conflicts requiring increased interoperability on international level as well as greater flexibility of the military forces to be able to respond to dynamic changes in security environment and wider range of threats.[12] This situation, although the same for both the US and Europe, implied different solutions for their air forces. The USAF, as the most advanced air force in the world, found it much easier to adapt to the changing security focus and, with available adequate investment, was able to engage globally. European air forces, as their land and maritime counterparts, remained focused on regional security, what, together with financial deficiencies and significant reductions in size, prevented them from addressing the new challenges on a global scale.

The new security context was described in 1991 in NATO's *New Strategic Concept.* The publication acknowledged the changing character of security environment in which the Alliance will be operating. Noting that the possibility of a full-scale conventional attack on European members of NATO no longer existed, it characterised the new threats as 'multi-faceted' and 'multi-directional' originating from instability, whether of economic, social or political background.[13] In fact, post-Cold War conflicts took form more apparent to Rupert Smith's concept of 'war among the people' than traditionally understood conventional warfare.[14] That means they are more often being fought among the civilian populations and between non-state opponents that are often part of these populations rather than on a battlefield between regular armies. Considering the complex nature of those new potential risks, the *New Concept* stressed that NATO should use this as an opportunity to adopt a strategy[15] representing a

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[11] Myron Hura, Gary W. McLeod, Eric V. Larson, James Schneider, Dan Gonzales, Daniel M. Norton, Jody Jacobs, Kevin M. O'Connell, William Little, Richard Mesic, Lewis Jamison, *Interoperability: A Continuing Challenge in Coalition Air Operations.* Santa Monica: RAND, 2000, p. 23.

[12] See ibid., pp. 23–24.

[13] *The Alliance's New Strategic Concept*, NATO, November 1991, paragraphs 7–9.

[14] See Rupert Smith, *The Utility of Force. The Art of War in the Modern World.* London: Penguin Books, 2006, pp. 267–370.

[15] Strategy is generally understood as an employment of various tools, including military, to reach national objectives set by the state's politics. This definition is concurrent with the definition of 'grand strategy' proposed by Colin Gray. It should be differentiated from military strategy, which according to both, Gray and Strachan, is understood as the use of the armed

broader approach to security than one focusing on regular conventional conflict.[16] This document was re-visited in 1999 when another *Strategic Concept* was issued by NATO. It re-affirmed that a large-scale conventional conflict is rather unlikely to occur and pointed to non-state actors and the proliferation of WMD as the main threats to Alliance's security.[17] At the same time, unlike the 1991 publication, the *Concept* from 1999 recognised the global dimension of those risks and acknowledged that therefore NATO should consider it operates in a global context now.[18] The approach to that newly emerging security environment represented by particular countries differed depending on their situation and position in Europe at that time. The next sections will show the different perspectives of three countries, two of which are coming from opposite sides of the former barricade – NATO (the UK), former Warsaw Pact (Poland) and one which maintained its neutral status during the Cold War, namely Sweden.

The post-Cold War Strategic Concept defined in NATO publications was reflected in British *Strategic Defence Review* (SDR) conducted in 1997–1998. The document produced by the Labour Government followed two defence reviews by its Conservative predecessors – *Options for Change* from 1990–1991 and *Front Line First* from 1994. The latter two were looking predominantly into reducing defence budgets while the Labour's SDR set the direction for the transformation of British Armed Forces.[19] It recognised the changed security environment in Europe. However, it did not dismiss completely the risk of a direct threat to the UK and Europe placing it, similarly to NATO *Strategic*

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forces to achieve the abovementioned objectives. Following that differentiation, the Polish *National Security Strategy* mentioned later in the thesis would fall under the grand strategy classification as it encompasses not only military actions aimed at preserving state's security but also political, social and economic means. The British SDR from 1998 would then fit more into the definition of military strategy as it discusses in detail how to adapt and employ the armed forces to achieve the set national security objectives. See Colin S. Gray, *Airpower for Strategic Effect*, Maxwell Air Force Base, Alabama: Air University Press, 2012, pp. 35–40 and Strachan, *The Direction of War*. pp. 12–13.

For more discussion on strategy including the evolution of the very meaning of this term, see Strachan, *The Direction of War*.

[16] *The Alliance's New Strategic Concept*, paragraph 14.

[17] *The Alliance's Strategic Concept*, NATO, April 1999, paragraphs 20–24.

[18] Ibid., paragraph 24.

[19] Theo Farrell and Tim Bird, "Innovating within Cost and Cultural Constraints: The British Approach to Military Transformation." In *A Transformation Gap? American Innovation and European Military Change*, ed. by Terry Terriff, Frans Osinga and Theo Farrell, 35–58. Stanford, California: Stanford Security Studies, 2010, p. 36.

Concept, within asymmetric factors increasing instability within region such as proliferation of WMD, terrorism, organised crimes, ethnic and religious conflicts, failing states.[20] The British review characterised future threats as causing instability within countries and across their borders, rather than taking place between particular states.[21] Interestingly, SDR recognised the global scale of those factors (a year before that was done in the NATO *Strategic Concept*) pointing out that instabilities outside of Europe may indirectly threaten the UK's security.[22] In order to respond to those new risks, an internationalist approach was stressed throughout the document. This reliance on expeditionary capabilities within the field of the Navy and Air Force and short-term interventions was repeated in the next Strategic Defence and Security Review (SDSR) issued in 2010.[23] As a founding member of NATO since 1949, a member of the, what was then, European Economic Community[24] since 1973 and as a Permanent Member of the United Nations (UN) Security Council, the UK has always supported and promoted multinational cooperation within these constructs as well as outside of them in order to reinforce and maintain international stability – primarily within Europe.[25] Here, SDR perceived NATO as the primary guarantor of the country's security pointing to its continued relevance in the post-Cold War security environment.[26]

Poland was facing a very different set of challenges. As a former member of the dissolved Warsaw Pact, the country was challenged by the need of adjusting to the new security environment and preparing for the new form of potential threats. Poland had to find its place in Europe after the old structures collapsed. First issue was posed by the creation of new countries in its closest neighbourhood. After the re-unification of Germany (1990), dissolution of the Soviet Union – USSR (1991) and Czechoslovakia (1993) the number of Poland's neighbours rose from three (USSR, Czechoslovakia and German Democratic Republic) to seven: Russia (Kaliningrad Oblast), Lithuania, Belarus, Ukraine,

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[20] *The Strategic Defence Review*, Cm 3999, London: The Stationary Office, July 1998, paragraphs 3–9 and 29.
[21] Ibid., paragraph 30.
[22] Ibid., paragraph 7.
[23] Strachan, *The Direction of War.*, pp. 240–241.
[24] EEC was incorporated into the EU under the Treaty of Maastricht in 1993.
[25] *The Strategic Defence Review*, 1998, paragraphs 18, 21 and 36.
[26] Ibid., paragraphs 37–38.

Slovakia, Czech Republic and Germany. The country signed relevant bi-lateral treaties with its new neighbours during the years 1991–1994.[27] On top of that, Poland was very actively involved in the process of building international cooperation within the region, in such forms as the Weimar Triangle (with France and Germany) and the Visegrád Group (with Czechoslovakia and Hungary) in 1991, as well as the Central European Free Trade Agreement CEFTA (involving the former two groups) in 1992.

Equally challenging for Poland at that time was to learn how to function independently from the USSR, like all the former members of the Warsaw Pact which experienced a prolonged process of transformation of their political systems and assimilation into the Western structures.[28] For example, Poland neither had its own national security (and defence) strategy nor foreign policy and the documents that were in force then were nothing else than executive to doctrinal publications of that organisation and the Soviet Union itself.[29] Therefore the elections of 1989 marked the point when the country gained political independence, but also begun a process of learning and developing its very own strategic thought. It resulted in issuing series of national strategic documents acknowledging the new security context, formulating the national approach to security and defence and setting out the main strategic goals. Along these efforts, Poland also started to re-orientate its political course from the former Eastern- into more Western-European focus in order to make itself even more independent from the influence of Moscow.[30] The efforts towards integrating with Western Europe started almost immediately and, as early as 1991, Poland joined the Council of Europe. The same year it signed the *European Agreement establishing an association between the European Communities and their Member States, of the one part, and the Republic of Poland, of the other part*. However, the main goal here became joining the structures of NATO and the EU. One can see similarity between British and

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[27] Kazimierz Łastawski, „Sytuacja geopolityczna Polski po przemianach ustrojowych i wstąpieniu do Unii Europejskiej." *Studia Europejskie*, 1 (2011), 19-40, p. 27.

[28] Dockrill, *The End of The Cold War Era.*, p. 97.

[29] Stanisław Koziej, „Obronność Polski w warunkach samodzielności strategicznej lat 90. XX wieku." *Bezpieczeństwo Narodowe,* 21 (2012), 19-30, p. 20; Marek Kulisz, „Analiza procesu planowania strategicznego bezpieczeństwa Polski w latach 1990-2007." *Doctrina,* 5 (2008), 99-111, p. 99; Andrew A. Michta, *The Limits of Alliance. The United States, NATO, and the EU in North and Central Europe.* Lancham: The Rowman & Littlefield Publishers, Inc., 2006, p. 12.

[30] Łastawski, „Sytuacja geopolityczna Polski.", pp. 20–22.

Polish defence interests – the UK, being already the member of both organisations, stressed the need to strengthen the country's links with them. For Poland joining NATO and EU became the primary strategic goal which was achieved respectively in 1999 and 2004. But for both countries these memberships formed the basis for ensuring national (and regional) security. For Poland that meaning was also two-fold. Joining NATO and the EU not only strengthened the country's security but also significantly changed its geopolitical position in Europe. After Poland took a completely independent place among other European states and its eastern border became the NATO and EU border, one could no longer call it an outlying state.[31]

There was similarly significant change in Swedish strategic thinking after 1991 resulting in shifting the main focus from national to international context – from national, territorial defence to international crisis management.[32] The end of the Cold War also marked a change in Swedish defence policy from complete neutrality to a stance described as 'non-alignment in peacetime aiming at neutrality in war.'[33] That meant that the country adapted an approach which gave it freedom in deciding whether or not they wanted to get involved in a conflict rather than being dragged into it by an obligation to an alliance.[34] Sweden became a member of NATO's Partnership for Peace (PfP) programme in 1994 what allowed them to adapt the Swedish Armed Forces to the standards set out by the Alliance.[35] However, joining NATO itself was then, and still remains, out of the question for the Swedish Government since it would be an obvious contradiction of the country's non-alignment policy although the country aims at developing international cooperation with the Alliance since it proved to positively influence Swedish military capabilities.[36] The Government's stance

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[31] Ibid., pp. 32–35.

[32] Clive Archer, "The Nordic States and Security." In *Small States and International Security: Europe and Beyond*, ed. by Clive Archer, Alyson J.K. Bailes and Anders Wivel, 95–112, London: Routledge, 2014, p. 100.

[33] Magnus Petersson, "Sweden and the Scandinavian Defence Dilemma." *Scandinavian Journal of History*, 37.2 (2012), 221–229, p. 224; Michta, *The Limits of Alliance.*, pp. 43–46; Mikael Nilsson, „Amber Nine: NATO's Secret Use of a Flight Path over Sweden and the Incorporation of Sweden in NATO's Infrastructure." *Journal of Contemporary History*, 44.2 (2009), 287–307, p. 287.

[34] Ryszard M. Czarny, *Sweden: from Neutrality to International Solidarity.* Springer, 2018, p. 160.

[35] Ibid., p. 237.

[36] See, for example, an interview with the Swedish Minister of Defence, Peter Hultqvist. Krzysztof Wilewski, „Nie wejdziemy do NATO, ale chcemy współpracować z Sojuszem."

was widely represented in the popular opinion of the Swedish society which used to strongly oppose the possibility of joining NATO. According to a survey conducted by the SOM Institute at the University of Gothenburg that trend started to change in 2013 when the support for Sweden becoming a member of the Alliance begun to slightly rise reaching 33 per cent in 2016.[37] Although increasing, that number is still quite low compared to the support expressed for NATO by public opinion in the UK and Poland the same year, which equaled respectively 61 and 70 per cent.[38]

Another argument widely used by the Swedes against joining the Alliance in the early 1990s was the 'Finland argument' which in fact was later part of a wider concept called 'Nordic Balance'. The reasoning behind that was that if Sweden joined NATO, the Soviet Union would respond with establishing military bases (or occupying the territory) in Finland.[39] As a result the tension in the region between the two opposite blocks would significantly increase. Such an effect was also the focal point to be avoided in the Nordic Balance concept. The logic was very similar however spread to all the Nordic countries. It indicated that the Soviet Union could occupy Finland if Denmark and Norway allowed for establishing permanent US military bases on their territories.[40] As a result of escalating tension between those countries Sweden would also need to revise its defence policy accordingly. Therefore, keeping the balance in the region was in the common interest and the concept was very much alive among Swedish, Danish and Norwegian policymakers. Interestingly, the same argument was regarded as not valid by the British and Americans since they would expect the USSR to behave in an offensive not defensive way and act rather when

Polska Zbrojna (21/09/2015) Available at: <http://www.polska-zbrojna.pl/home/articleshow/17139?t=Nie-wejdziemy-do-NATO-ale-chcemy-wspolpracowac-z-Sojuszem> [accessed 30/08/2018].

[37] Joakim Berndtsson, Ulf Bjereld and Karl Ydén, "Starkt stöd för försvaret men färre vill gå med i Nato." *Dagens Nyheter* (15/06/2017) Available at: <https://www.dn.se/debatt/starkt-stod-for-forsvaret-men-farre-vill-ga-med-i-nato/> [accessed 10/03/2017].

[38] See Danielle Cuddington, "Support for NATO is widespread among member nations." *Pew Research Center* (06/07/2016) Available at: <http://www.pewresearch.org/fact-tank/2016/07/06/support-for-nato-is-widespread-among-member-nations/> [accessed 10/03/2017].

[39] Petersson, "Sweden and the Scandinavian Defence Dilemma.", p. 223.

[40] Ibid., p. 223.

NATO shows any signs of weakness or confusion, not when it is strong and united.[41]

Interestingly, the above arguments did not interrupt the process of Sweden's accession to the EU. Similarly, as in case of Poland, preparations to join the structures of European Communities begun as early as 1990.[42] They were finalised on 1st January 1995 when Sweden became a member of the EU. It happened despite earlier reservations initially expressed by both parties in relation to the Swedish neutrality and non-alignment policy.[43] Such a move was possible by a change in strategic thinking among Swedish political leaders, who started to perceive the EU as an organisation responsible for shaping the European security system through deepened integration and therefore regarded it as desirable, or even required, that Sweden contributed to the collective effort.[44] Besides, one should point out that there is a significant difference between NATO being a solely military alliance, and the EU focusing on political and economic integration therefore joining the latter one was much more imaginable for Sweden willing to maintain its non-alignment policy.

However, even though neutral, Sweden did cooperate with Western Europe during the Cold War but, for obvious reason to maintain its neutral credibility, kept that fact secret. And so, for example, close cooperation between Swedish, Danish and Norwegian Air Forces was established focusing on gathering and exchanging intelligence during peacetime and aiming at improving interoperability in case of a war.[45] Another example could be the use of different flight paths over Swedish territory by NATO aircraft. That would involve both, the plans made for wartime[46] as well as use of such flight paths during peacetime for regular communication of Alliance's (mostly US) aircraft

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[41] Ibid., pp. 223–224.
[42] Czarny, *Sweden.*, p. 94.
[43] For a detailed discussion, see ibid., pp. 93–98.
[44] Ibid., pp. 96–98.
[45] Nilsson, „Amber Nine.", p. 288; Petersson, "Sweden and the Scandinavian Defence Dilemma.", pp. 224–225.
[46] That would be for example, NATO's plans dating back to 1956 regarding operations named Support of Nuclear Operations With Conventional Attacks – SNOWCAT allowing the Norwegian fighter bombers to cross over Sweden in order to get to the targets in Eastern Germany, Poland and the Baltic States. Similar plans were made in the UK in the 70s and 80s. See: Nilsson, „Amber Nine.", pp. 289–290.

between Germany, Denmark and Norway and frequent use of two Swedish airports (Torslanda and Bromma).[47]

After the collapse of the Soviet Union and the end of the bi-polar divide in Europe, Swedish policymakers came to the conclusion that the new security environment does not involve any threat to the country's territorial integrity and therefore it allows for a change in focus from national defence to international crisis and conflict management.[48] Such an expeditionary employment of Swedish Armed Forces and developed cooperation on international level is used as an instrument for both, foreign and defence policies pursued by Sweden. That approach finds its best expression in the Swedish Declaration of Solidarity stating that:

> *Sweden will not remain passive if another EU Member State or Nordic country suffers a disaster or an attack. We expect these countries to take similar action if Sweden is affected. Sweden should therefore be in a position to both give and receive civil and military support.*[49]

Therefore, active participation in multinational military operations should enhance and strengthen the solidarity and cooperation between nations in general so that Sweden can count on the help of other countries in return.[50] There is also a practical dimension of that clause. According to Gen. Sverker Göranson, in case of an attack Sweden can defend its territory for a week and then an external support would be necessary.[51] It should not come as a surprise then, that active involvement in multinational cooperation is crucial for Swedish security. That results in a situation when, despite its non-alignment approach, the country participates in operations led by EU, NATO (as a PfP member) and UN and, in

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[47] For more discussion on that little-known fact and its implications for Sweden, see: Nilsson, „Amber Nine."

[48] Jan Joel Andersson, "A New Swedish Defence for a Brave New World." In *Denationalisation of Defence: Convergence and Diversity,* ed. by Janne Haaland Matlary and Øyvind Østerud, 135–156, Ashgate, 2007, p. 135.

[49] Björn von Sydow, "Resilience: Planning for Sweden's "Total Defence." *NATO Review Magazine*, (04/04/2018) Available at: <https://www.nato.int/docu/review/2018/Also-in-2018/resilience-planning-for-swedens-total-defence/EN/index.htm> [accessed 11/06/2018].

[50] Magnus Petersson, "Defense Transformation and Legitimacy in Scandinavia after the Cold War: Teoretical and Practical Implications." *Armed Forces & Society*, 37.4 (2011), 701–724, p. 709.

[51] Oskar Forsberg, "ÖB: 'Sverige kan försvara sig en vecka.'" *Aftonbladet* (03/01/2013) Available at: <https://www.aftonbladet.se/nyheter/a/G1w5lq/ob-sverige-kan-forsvara-sig-en-vecka> [accessed 12/07/2016].

fact, similarly to the UK and Poland perceives them as the guarantors of Swedish security.[52]

As described above, all the three countries found themselves in a different situation when facing the new, post-Cold War security environment, yet all of them moved into the direction of increasingly cooperating militarily with other European countries and participating in multinational operations. The UK was looking into strengthening their cooperation with NATO perceiving the Alliance as primary guarantor of European security, Poland was re-directing its political course and making efforts to integrate with the Western Europe, Sweden changed its politics from national to multinational focus. However, as this thesis argues, one could spot certain similarities in the course their actions took.

One common thing for all three of them that accelerated the growing importance of multinational cooperation was the general trend in decreasing national defence budgets. It resulted from the 'peace dividend' adapted with the end of the Cold War and aimed at reduction of military spending and conversion of military production into civilian.[53] Table 1. illustrates the process for the period between 1990 and 2017 and presents the military expenditure as a percentage of the GDP. During that timeframe, expenses made towards defence dropped from 3.6 to 1.8 per cent in the UK; 2.6 to 2.0 per cent in Poland, and 2.6 to 1.0 per cent in Sweden.[54] There was a marginal rise from 2.2 to 2.3 per cent in the British military expenditure in 2001 and the next three years due to the 9/11 events. A similar slight increase in defence budget can also be noted in Poland's expenditures. After reaching the level of 1.8 per cent in 2000, there was a steady rise to 2.0 per cent in 2007. This is accounted for by the military expenditure being increased in response to the new terrorism threat. However, in case of Poland, this trend indicates the country's attempt to adapt to recommendations set by NATO. Poland joined the Alliance in 1999 and so its

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[52] *Sweden's Defence Policy 2016 to 2020*, Government Offices of Sweden, April 2015, pp. 1–2.
[53] Andrew Marshall, "What happened to the peace dividend?: The end of the Cold War cost thousands of jobs." *The Independent* (03/01/1993) Available at: <https://www.independent.co.uk/news/world/what-happened-to-the-peace-dividend-the-end-of-the-cold-war-cost-thousands-of-jobs-andrew-marshall-1476221.html> [accessed 31/08/2018].
[54] For a detailed database set, see SIPRI Military Expenditure Database 2018, http://sipri.org/databases/milex [accessed 21/05/2018].

defence budget in years 2000–2017 fluctuates between 1.8 per cent and the recommended 2 per cent of GDP. Currently Poland is among only 5 out of 29 NATO members whose defence spending meets the Alliance threshold (next to the US, the UK, Greece and Estonia).[55] There were no similar changes in Swedish military expenditure. After the end of the Cold War, its defence budget has been steadily decreasing from 1990 to 2017.

Table 1 Military expenditure in the UK, Poland and Sweden as a percentage of the GDP, 1990-2017

	1990	1995	2000	2005	2010	2015	2017
United Kingdom	3.6%	2.6%	2.2%	2.2%	2.4%	1.9%	1.8%
Poland	2.6%	2.0%	1.8%	1.9%	1.8%	2.1%	2.0%
Sweden	2.6%	2.2%	1.8%	1.4%	1.2%	1.1%	1.0%

Source: SIPRI Military Expenditure Database 2018, http://sipri.org/databases/milex [accessed 21/05/2018].

Decreasing defence budgets will be referred to throughout the thesis as one of the elements initiating concentration and transnationalisation of European air forces. Reduction in military expenditure had a direct influence on their size, both in terms of personnel and equipment. But it also seriously affected the capabilities possessed by those air forces. Without sufficient funding they could afford neither the newest technological developments nor acquire or upgrade equipment in a capacity sufficient to conduct independent operations. That would suggest that decreasing defence budgets were one of the factors leading to increased participation of European air forces, and the RAF, Polish and Swedish Air Force in particular, in multinational operations and other forms of multinational initiatives.

1.2   Methodology

In order to investigate the subject of the involvement of European air forces in multinational operations, the thesis adopted a qualitative approach

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[55] The Economist, "Military spending by NATO members", 16 February 2017, Available at: <https://www.economist.com/blogs/graphicdetail/2017/02/daily-chart-11>   [accessed 07/07/2017].

which was identified as more suitable than a quantitative one. As Bruce L. Berg argues, 'qualitative research, (…), refers to the meanings, concepts, definitions, characteristics, metaphors, symbols, and descriptions of things' as contrasted to a quantitative one referring to 'counts and measures of things.'[56] Qualitative methods are also argued to be especially suitable for studies seeking to look in a greater detail at a smaller number of cases which, at the expense of somewhat limiting the ability to generalise the findings, provides a much more detailed insight and a deeper understanding of the subject under investigation than a quantitative approach.[57] For this thesis, the author was predominantly interested in investigating the processes being part of the post-Cold War transformation of European air power, the context of these changes and the effect they had on the capabilities of the British, Polish and Swedish Air Forces. To achieve this it was important to look at the different perspectives shared among the three studied Air Forces rather than solely consider the numbers of their personnel, aircraft or defence spending. Since processes and contexts are, among others, elements typical for a qualitative study such approach was chosen as the most suitable design for this project.[58]

Therefore, the thesis utilised qualitative evaluation and analysis of official documents, such as air doctrines, national strategic documents, NATO publications. It also used existing secondary literature and web-based materials, for example news media and think-tanks providing an independent analysis of issues related to security and defence such as the RAND Corporation and the Royal United Services Institute – RUSI. Early versions of British and Swedish air doctrines were obtained in cooperation with the Library at the RAF College Cranwell and the National Archives in London, the Anna Lindh Library at the Swedish Defence University in Stockholm. Relevant Polish air doctrines were obtained from the Doctrine and Training Centre of the Polish Armed Forces in Bydgoszcz. The abovementioned primary and secondary literature was all subject to thematic analysis.

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[56] Bruce L. Berg, *Qualitative Research Methods for the Social Sciences.* Seventh Edition. Boston: Allyn & Bacon, 2009, p. 3.
[57] Peter Burnham, Karin Gilland, Wyn Grant and Zig Layton-Henry, *Research Methods in Politics*. Basingstoke, New York: Palgrave Macmillan, 2004, p. 31.
[58] For the full list of elements which are especially suitable for a qualitative research, see Joseph A. Maxwell, *Qualitative Research Design. An Interactive Approach.* Second Edition. Thousand Oaks, London, New Delhi: SAGE Publications, 2005, pp. 22–25.

Thematic analysis is defined as 'a method for identifying, analysing, organising, describing, and reporting themes found within a data set.'[59] As such, Virginia Braun and Victoria Clarke identified it as the most basic research method providing researchers with foundational skills for conducting widely understood qualitative analysis.[60] In her pursuit to address the main research question, the author identified three main and interconnected themes around which the thesis was structured. These are namely concentration, transnationalisation and challenges of multinational cooperation. Since the thesis is investigating the context and changes taking place among European air forces in the post-Cold War period and is primarily interested in the effects they had on the shape of European air power, it was intentional and reasonable to choose these three issues as the leading themes. All the gathered primary and secondary material was therefore looked at with the abovementioned themes in mind.

The validity of used materials was ensured by using, where possible, primary sources, for example copies of the original official documents, such as air doctrines, national strategies, defence policies or press releases and statements given by official organisations, such as governments, or international institutions. Nevertheless, one must be aware of certain limitations to that project. In a few cases, access to the publications listed above was limited since these were classified documents and could not be shared with the Author who had to rely on secondary literature.

In order to triangulate findings and to fill any gaps that remained following the analysis of available documentary materials, semi-structured interviews were conducted in the UK, Poland and Sweden. A semi-structured interview is a compromise between structured (or standardised) and unstructured (or unstandardised) interview. It contains a list of set, core questions providing the framework but it also allows both, the interviewee and the interviewer, to develop and digress on any issues or themes which arise during the interview and which could bring some new perspective or improve the understanding of

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[59] Lorelli S. Nowell, Jill M. Norris, Deborah E. White and Nancy J. Moules, "Thematic Analysis: Striving to Meet the Trustworthiness Criteria." *International Journal of Qualitative Methods* 16.1 (2017), 1–13, p. 2.
[60] Virginia Braun and Victoria Clarke, "Using Thematic Analysis in Psychology." *Qualitative Research in Psychology*, 3.2 (2006), 77–101, p. 78.

the studied subject.[61] The form of semi-structured interviews was chosen as the most suitable for the project. It allowed to maintain the abovementioned thematic structure and, at the same time, allowed interviewees to include their own perspectives and first-hand experience on discussed issues providing invaluable insight into the state of post-Cold War European air forces. The interviews also provided the author with necessary clarifications and information on issues and processes not directly addressed in the unclassified primary documents or widely available secondary literature.[62] In order to maintain the chosen research design, the interviews as well as the analysis of the collected data were also subject to thematic analysis structured around the themes identified above – concentration and transnationalisation of the British, Polish and Swedish Air Forces as well as the challenges they encountered when involved in multinational cooperation.

The fieldwork was organised mostly in June 2016 – in Sweden and Poland, and September 2016 – in the UK. A total of 25 interviews were conducted, that is including face to face conversations, telephone interviews and email conversations. Out of these, 24 were used in the thesis. The interviewees included individuals employed at various levels at the RAF, the RAF College Cranwell, the British Ministry of Defence, University of Birmingham, Swedish Defence University (SWENDU, Försvarshögskolan), Swedish Defence Research Agency (FOI, Totalförsvarets forskningsinstitut), the Swedish Air Force (Flygvapnet), the Swedish Concepts and Doctrine Centre at DCDC, the Polish Air Force (Siły Powietrzne RP), the Polish Armed Forces Operational Command (Dowództwo Operacyjne Rodzajów Sił Zbrojnych), the Doctrine and Training Centre of the Polish Armed Forces, the War Studies University in Warsaw (Akademia Sztuki Wojennej) and the Polish Air Force Academy in Dęblin (Wyższa Szkoła Oficerska Sił Powietrznych). The interviewees included firstly British, Polish and Swedish officers serving in the Air Forces (also the retired staff) and, secondly, academics working on that subject area. However, in some cases the participants were performing both roles at the same time, being

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[61] Berg, *Qualitative Research Methods.*, pp. 107–109.

[62] The classified documents or internal publications are often referred to as the 'grey literature'. On this and other issues that may be mitigated by conducting qualitative interviews in a military setting see Delphine Deschaux-Beaume, "Studying the military in a qualitative and comparative perspective: methodological challenges and issues." In *Qualitative Methods in Military Studies. Research Experiences and Challenges*, ed. by Helena Carreiras and Celso Castro, 132–147, Abingdon: Routledge, 2014.

both lecturers or professors and officers. Person with the lowest rank interviewed was captain and the highest, major general. The interviewees were initially identified, in the UK and Poland, through the author's network of contacts and, in Sweden, by a web-search. Subsequently, as the research progressed other interviewees were reached by referral (also called the snow-balling technique). This approach resulted in varying numbers of interviewees – six in the UK, nine in Poland and nine in Sweden. This imbalance was partially mitigated by the generally easier availability of primary sources in the UK. For example, the RAF air doctrines are publicly available unlike in the case of Poland where most of the information on the doctrinal issues had to be gathered in the interviews. Similarly, there is much more secondary literature mentioning the RAF and their involvement in various multinational operations whereas the subject of smaller air forces such as the Polish or Swedish, is not that widely covered and hence interviews served as an opportunity to fill that gap.

The fieldwork also involved further collection of secondary literature as well as archival research conducted at the Central Military Library, the War Studies University Library and the Institute of National Remembrance in Warsaw, Anna Lindh Library at SWENDU in Stockholm as well as the Polish Air Force Archives in Nowy Dwór Mazowiecki.

The fieldwork raised several accessibility issues. In order to conduct interviews with officers in the Polish Air Force, an official permission had to be obtained from the Polish MoD. The procedure involved providing the superiors of the potential interviewees with a set of documents including covering letter, a letter from the University confirming the Author's student's status, research proposal and a list of suggested topics for discussion. After gaining their approval for conducting the interviews, the aforementioned documentation was sent to the MoD for the final consent which was ultimately granted for the period 20th June–1st July 2016 with the requirement that all of the interviewees have to remain anonymous.

Similar procedure was applicable for accessing the Polish Air Force Archives and the Institute of National Remembrance. A formal application had to be filled in advance stating the reason for the visit and listing the materials the Author wished to see. The application form had to be accompanied by a letter of reference from the Author's supervisors. Official letters stating the research

objectives also had to be sent to the aforementioned Doctrine and Training Centre of the Polish Armed Forces and the Polish Armed Forces Operational Command in order to obtain a copy of the Polish air doctrine as well as information on the Polish Air Force's involvement in the Baltic Air Policing and ISAF mission.

The project underwent a stringent ethical review at the University of Nottingham. At the beginning of every interview, the participants were informed of their right to withdrawal from the research as well as not to answer certain questions if they are not allowed to share specific information. They could also stay anonymous if they wished so. In case of the active Air Force's staff in Poland, anonymity was a condition for the consent to conduct research given by the MoD. In some cases, individuals asked for anonymity when providing information on behalf of the institution they are affiliated with or on behalf of their superiors. The collected data has been safely stored according to the Data Protection Act.

The research, although providing important insight into European air forces and their involvement in multinational operations, also has some limitations. One must note that even though the thesis identified presence of similar trends taking place among the RAF, Polish and Swedish Air Force (as well as sporadically referring to examples of other European militaries) these may not apply to every European air force. Further research, involving larger number of case studies, would be necessary to validate the results as true for European air power.

1.3   Structure of the thesis

The thesis, as already mentioned, is structured around three main themes, namely concentration and transnationalisation of European air forces as core elements of their post-Cold War transformation leading to increased multinational cooperation as well as potential challenges arising during that cooperation. In order to address these issues, the thesis is divided into four main chapters and a conclusion.

Chapter 2. addresses the first sub-question: why has the end of the Cold War led to an increasing number of multinational operations? It reviews the relevant

academic literature and official documents, on the subject of contemporary air power and multinational operations. Since there is no obvious theoretical framework which could be used for studying that subject, the chapter's main objective is to identify a number of relevant concepts and theoretical approaches that allow for systematic investigation in the empirical chapters. It is organised in two parts. The first part identifies the major trends in the transformation of European air forces during the post-Cold War period, namely aforementioned concentration, transnationalisation and an increase in multinational military operations linking them to the changes taking place in the European security environment after 1990. The second part of the chapter deals with the potential challenges which may be usually experienced by air forces involved in various forms of multinational cooperation. These difficulties often result from differences between the involved air forces, and these are often rooted in their cultural background. In order to illuminate and assess these differences, the chapter introduces Geert Hofstede's model of cultural dimensions. The three themes: concentration, transnationalisation and cultural influences are used in the empirical Chapters 3., 4. and 5. as a conceptual framework to analyse the involvement of the RAF, Polish and Swedish Air Force in multinational operations.

Chapter 3. introduces the concepts of concentration and transnationalisation applying them to the specific cases of the RAF, Polish and Swedish Air Force. It addresses the second sub-question: why have the UK, Swedish and Polish air forces specifically been used predominantly in multinational operations since the end of the Cold War? In the first part, the chapter focuses on the post-Cold War situation of the named air forces and the changes they had to undergo. Reduction of personnel, reduction and modernisation of equipment as well as adaptation to standardised regulations and procedures are identified as traits of the two aforementioned concepts. The latter element is given more attention in the second part of the chapter focusing on the post-Cold War British, Polish and Swedish air doctrines. The chapter investigates then to what extent these doctrines reflect the allied context present in strategic thinking among European countries after the end of the Cold War.

Chapter 4. provides further insight on the concept of transnationalisation of the European air forces focusing on next two sub-questions. These are: how have

European countries sought to create the conditions required for the effective cooperation of their air forces in multinational operations and what role have collaborative initiatives played in the creation of these conditions? The chapter argues that that process is reflected by their increased participation in various multinational initiatives aimed at capacity and capability building and, therefore, leading to increased interoperability and interdependence. The chapter explores examples of such initiatives pursued by NATO, EU and other organisations. These ventures are grouped into three interconnected categories, namely cost and burden sharing, capability building and training. The chapter concludes with a discussion on the continuing importance of building and maintaining national capabilities.

Chapter 5. investigates the potential challenges that British, Polish and Swedish Air Forces are facing when involved in different forms of multinational cooperation. That is done by addressing final two sub-questions posed in the thesis – what are the ongoing problems encountered by European air forces when they participate in multinational operations and how can these problems be overcome? Discussing these challenges, the chapter refers to the complexity of multinational operations being often a result of bringing together units from different cultural backgrounds. It refers at this point to the aforementioned model by Hofstede and uses it as a framework to illustrate these differences between various air forces, especially British, Polish and Swedish. Referring to the actual experiences of the named Air Forces, as well as secondary literature on the subject, the chapter identifies four potential conflict areas in multinational air operations, such as interpersonal relations, language, national caveats, rules of engagement, homogenous procedures and interoperable equipment. The chapter concludes with a discussion of the possible ways of overcoming, or at least minimising these challenges.

Finally, Chapter 6. draws together the topics discussed in preceding three empirical chapters and uses these findings to answer the thesis' main research question. It concludes that despite the challenges discussed in the thesis, multinational operations will remain the major form of war fighting engaging European air forces. Therefore, the potential problems they may encounter in the course of multinational cooperation need to be continually assessed and overcome. Furthermore, considering the currently growing threat from Russia,

the chapter analyses the role that multinational and regional cooperation may play for the national defence and security, especially in case of the UK, Sweden and Poland.

Chapter 2: Studying air power in multinational operations

Multinational or, 'combined operations' have become the dominant form of military operations. This is due to the changing character of military threats, as well as shrinking defence budgets. European air forces do not possess enough capability, or capacity, to conduct independent operations on a large scale. Furthermore, involvement in a multinational operation adds legitimacy to a nation's actions and therefore the importance of that form of military engagement is growing. Although increasingly common, multinational operations are complex and may present certain challenges which, if not addressed, will disrupt cooperation.

The following chapter addresses the first sub-question for the thesis: why has the end of the Cold War led to an increasing number of multinational operations? It reviews the existing academic literature, as well as official documents, dealing with the subject of contemporary air power and multinational operations. Since there is no obvious theoretical framework available to study that subject, the chapter focuses on concepts and issues drawn from the abovementioned sources which are relevant for the study of European air forces, as well as the UK, Polish and Swedish cases in particular. Doing so, it seeks to provide a framework for the systematic analysis of the potential and limits of the engagement of European air forces in multinational operations in the thesis' empirical chapters.

To start with, the chapter identifies some major trends in the transformation of European air forces during the post-Cold War period. These trends are concentration, transnationalisation and an increase in multinational military operations. The chapter starts off with discussing the latter, defining multinational military operations and identifying potential reasons for their increased popularity. The chapter identifies two other trends, namely concentration and transnationalisation of European armed forces, as major factors in the increasing popularity of multinational operations. All three processes are linked to changes in the security environment after the end of the Cold War and the dissolution of the Warsaw Pact. These processes have led to increased interoperability and interconnectedness that would imply smoother

and easier cooperation. However, as this thesis also shows, introducing standardised procedures and regulations and participating in various forms of multinational cooperation, from alliances, through collaborative programmes and training to expeditionary operations does not guarantee easy cooperation. This can still be disrupted by issues related to national politics, compatibility of existing equipment, regulations and knowledge, and above all, cultural background of the involved nations. These issues are discussed in the third part of the chapter. The final section identifies potential challenges usually encountered in a multinational military operation. The chapter concludes with outlining a sociological approach to analysing these challenges, introducing the model of cultural dimensions proposed by Geert Hofstede.[63] This framework will be used in the empirical chapters for identifying and explaining differences between the British, Polish and Swedish Air Forces.

2.1 European air power and multinational operations

According to the definition formulated by NATO, multinational operations are 'conducted by forces of two or more nations acting together'.[64] As such they should be distinguished from 'joint operations'. The latter does not necessarily have to involve different nations, but has to engage elements of at least two services and, optionally, non-military institutions or organisations.[65] A combination of these two is a multinational (combined) joint operation defined by NATO as 'an operation carried out by forces of two or more nations, in which elements of at least two services participate.'[66] The majority of contemporary multinational military operations are, in fact, also joint. According to the *NATO's Joint Air Power Strategy*, the warfighting domains such as land, sea and air, are linked and these connections and interdependencies between them are

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[63] Geert Hofstede, *Culture's Consequences: Comparing Values, Behaviours, Institutions and Organisations across Nations.* Second Edition. London: Sage, 2001.

[64] *NATO Glossary of Terms and Definitions AAP-06 (English and French)*, NATO Standardization Agency, 2017, p. 76.

[65] Jacek Pawłowski *et al.*, *Słownik terminów z zakresu bezpieczeństwa narodowego*. Second edition. Warszawa: Akademia Obrony Narodowej, 2002, p. 85.

[66] *NATO Glossary of Terms and Definitions*, p. 76.

increasing due to the changing security environment and evolving – transnational and multidimensional character of future threats.[67]

Two primary forms that a multinational venture, whether joint or not, can take, are coalitions and alliances. Following Stuart Peach's research on coalition air operations, coalitions can be characterised as less formal, often temporary and ad hoc created groupings, while alliances are formal, often institutionalised, long-lasting and often bound by treaties.[68] Joseph Soeters and Philippe Manigart distinguish two basic types of multinationality – horizontal and vertical as well as simple and advanced cooperation.[69] The first form, horizontal multinationality, occurs when individual units from different countries are operating together within one group.[70] While the battle group is multinational, the individual forces involved remain within their national formations. As a consequence, there is very little, if any, direct interaction between individual soldiers and such contacts are maintained only between the headquarters staff. The other type, vertical multinationality, involves more complex cooperation, not only between the commanders but between the entire military personnel, so truly multinational units are created.[71] Finally, the two above can be pursued at simple or advanced level what is related to the degree of specialisation of the involved units and hence result in teams of even greater complexity. In coalitions formed at simple level the national contingents are not allocated with any specific tasks whereas, at advanced level, the national units specialise, to some extent, in performing certain tasks or missions.[72]

This thesis will investigate the role of European air power in multinational joint operations, including some tasks performed by the air forces in support of other military services. It will evaluate the major benefits and challenges of such operations and identify the solutions that have been sought to overcome potential problems in cooperation.

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[67] *NATO's Joint Air Power Strategy*, NATO, 26 June 2018, p. 2.

[68] Stuart Peach, "Coalition Air Operations." In *Perspectives on Air Power: Air Power in Its Wider Context*. ed. by Stuart Peach, 46–79. London: The Stationary Office, 1998, pp. 46–47.

[69] Joseph Soeters and Philippe Manigart, eds. *Military Cooperation in Multinational Peace Operations. Managing Cultural Diversity and Crisis Response*. London: Routledge, 2008, p. 3.

[70] Ibid., p. 3.

[71] Ibid., p. 3.

[72] Ibid., p. 3.

2.1.1 The growing significance of multinational operations for European air forces in the post-Cold War period

Since the end of the Cold War, multinational operations have gained importance and have become the dominant form of military intervention. It is possible to identify three different reasons for initiating and developing multinational operations, and especially air force cooperation, in Europe. These are: an opportunity to make up for capability gaps and limitations, especially compared to the US; a chance to ease the financial burden by sharing the cost of advanced equipment; and a way of improving the cooperative skills of personnel. These three reasons are discussed in more detail in the following sections.

Limited capability and capacity of European air forces and reliance on US support.

Limitations in the capabilities and capacities of European air forces in the Cold War period have led to an increase in the number of multinational operations, because these have been a way to overcome the limitations of individual states. Hew Strachan pointed out that after many European countries had abandoned conscription since the end of the Cold War, their militaries no longer have the manpower to fight large-scale and high-intensity conflicts.[73] Hans-Christian Hagman points to a significant difference of conducting military operations either by the US or European states, saying that if the American approach – meaning high-intensity warfare, minimal risks and high operational tempo, is desirable then EU countries even collectively cannot conduct and sustain many possible conflicts or crises.[74] However, if speed is not crucial, there is enough time to achieve political consensus and deploy military forces, and there is acceptance for the possibility of collateral damage and casualties a military operation conducted autonomously by the EU may be feasible.[75] With regards specifically to air operations, research conducted for this thesis found that a similar view exists about the potential and limits of European air operations. A number of respondents expressed the belief that the success of a

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[73] Strachan, *The Direction of War.*, p. 122.
[74] Hans-Christian Hagman, *European Crisis Management and Defence: The Search for Capabilities.* Routledge, 2002, p. 61.
[75] Ibid., p. 61.

European-led air operation would depend on the type and scale of the operation. In the words of an Air commodore in the RAF, who wishes to remain anonymous, in the case of a low or even medium scale conflict taking place in a permissive environment, European air forces would probably be able to build a strong coalition, but it would become much more difficult in case of a high-intensity conflict.[76] This is because currently none of the European air forces possesses enough capacity to conduct the full spectrum of air power roles, namely control of the air, attack, air mobility and intelligence, surveillance and reconnaissance.[77]

The conflicts in Bosnia and Kosovo and, more recently, in Libya revealed shortcomings in Europe's capabilities and their high dependency on American resources.[78] What European air power lacked in these operations were precision munitions, air transport (AT), intelligence, surveillance and reconnaissance (ISR) and air-to-air refuelling (AAR), which all were to a large extent supplied by the US. According to Elisabeth Quintana, Henrik Heidenkamp and Michael Codner, during operation Unified Protector in Libya, the US contributed 80 percent of the ISR and AAR missions and supplied 50 percent of the AAR aircraft.[79] Since Europe lacks a sustainable capacity in AT, ISR and AAR they will certainly need the support of the US or at least of one of the more powerful European air forces, like the RAF or French Air Force, in order to conduct a large-scale, high-intensity air operation.[80] Some interviewees, however, claimed that even the more capable European air forces would not be able to provide

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[76] Air commodore in the RAF, interview conducted by the Author on 05/04/2017.
[77] Anthony King, "The Paradox of Multinationality." In *Cultural Challenges in Military Operations.* ed. by Cees M. Coops and Tibor Szvircsev Tresch, 235–253, Rome: NATO Defence College, 2007, p. 251; Robert K. Łukawski, „Wielonarodowe jednostki lotnicze." *Przegląd Sił Zbrojnych*, 2 (2015), 63-73, p. 64.
[78] Elisabeth Quintana, Henrik Heidenkamp and Michael Codner, *Europe's Air Transport and Air-to-Air Refuelling Capability: Examining the Collaborative Imperative.* RUSI Occasional Paper (August 2014). Available at: <https://rusi.org/publication/occasional-papers/europes-air-transport-and-air-air-refuelling-capability-examining> [accessed 27/03/2017], p. 6; Joseph L. Soeters, Delphine Resteigne, Rene Moelker and Philippe Manigart, "Smooth and Strained International Military Cooperation: Three Cases in Kabul." In *Military Cooperation in Multinational Peace Operations. Managing Cultural Diversity and Crisis Response*, ed. by Joseph Soeters and Philippe Manigart, 198-219. London: Routledge, 2008, p. 329; Preben Bonnén, *Towards a Common European Security and Defence Policy. The Ways and Means of Making It a Reality.* COMPAS Group on Security and Defence Studies Vol. 1, Münster: LIT Verlag, 2003, pp. 30–31.
[79] Quintana, Heidenkamp and Codner, *Europe's Air Transport.*, p. 6.
[80] Fredrik Lindvall at the Swedish Defence Research Agency FOI, interview conducted by the Author on 13/06/2016.

substantial support to an independent European air operation, as they have serious capacity limitations of their own.[81] Collectively European air forces would probably be able to provide for the full spectrum of air power capabilities but they do not possess enough resources for a sustained operation.[82] For example, operation Unified Protector revealed after two weeks that European air forces do not possess enough air tankers, ISR assets or precision guided munitions – all of which were needed to minimise the collateral damage.[83] This reiterates the fact that Europe remains heavily reliant on the USAF and that any large-scale and sustained European air operation would not be possible without their input.

The section above indicates there is not so much a capability, but a capacity gap between the US and European air forces. This gap exists especially in the area of AT, AAR and ISR, making it impossible to conduct any major military operation without the American support. To quote Christian F. Anrig: 'for most Europeans, multinational essentially means "American-led."'[84] The three figures below illustrate this phenomenon. Figure 1. is a comparison of the aircraft inventory among individual NATO and EU countries.[85] It is apparent that the US possesses dominant air power when compared with individual fleets of other NATO members.

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[81] Lieutenant Colonel Anders Nygren, a scholar at the Swedish Defence University, interview conducted by the Author on 14/06/2016; scholar at the RAF College Cranwell, interview conducted by the Author on 21/09/2016.

[82] Air Vice Marshall (ret.) Michael Harwood, interview conducted by the Author on 14/09/2016; Colonel in the Polish Air Force and a scholar at the War Studies University in Warsaw, interview conducted by the Author on 22/06/2016; Peter Gray, a scholar at the University of Birmingham, interview conducted by Author on 20/09/2016 and Peter Lee, a scholar at the Royal Air Force College Cranwell, interview conducted by the Author on 21/09/2016.

[83] Colonel in the Polish Air Force and a scholar at the War Studies University in Warsaw, interview conducted by the Author on 30/06/2016.

[84] Christian F. Anrig, "Air Power in Multinational Operations." In *Routledge Handbook of Air Power*, ed. by John Andreas Olsen, 262–273. Routledge, 2018, p. 267.

[85] For the purposes of the summary, fixed-wing and rotary-wing aircraft of the named air forces are taken into account including training aircraft, transport aircraft, Unmanned Aircraft Systems, etc. however not including inventories of reserve organisations or non-operational aircraft. The figure for Iceland shows the inventory of the Iceland Coast Guard.

Figure 1 NATO and EU Air Forces' Aircraft Inventory Strength by Country in 2017
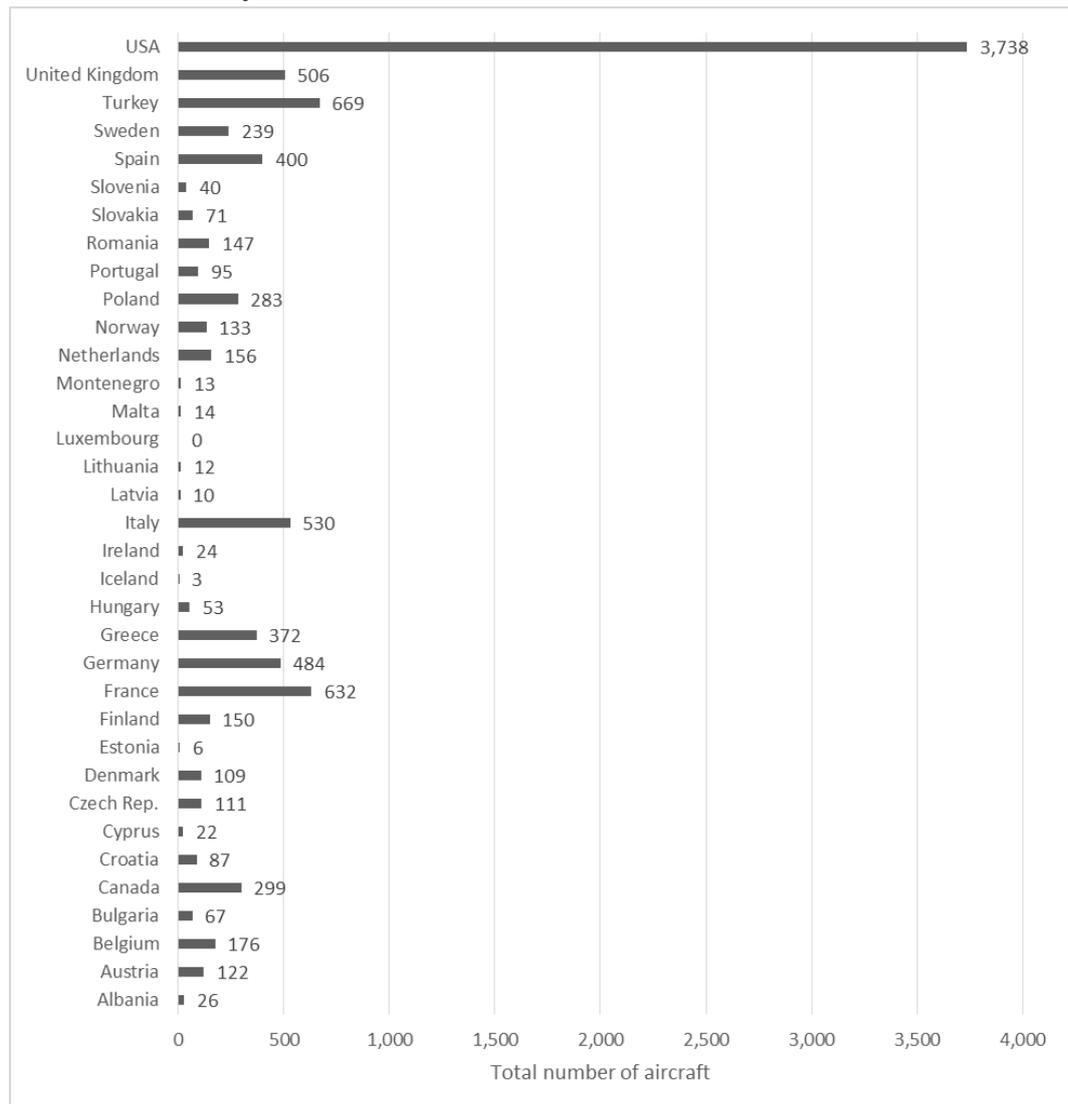
Source: "Europe" The Military Balance, 118.1 (2018), 82–164; "North America" The Military Balance, 118.1 (2018), 43–57.

Figure 2. illustrates the difference in inventories of NATO members showing the capacity of the USAF versus the collective capacity of the remaining 28 members. Finally, figure 3. illustrates the size of the USAF inventory versus the collective capacity of the EU members' air forces.

Looking at these figures, it is clear that the US does not actually have a larger aircraft inventory compared to the collective capacity of the EU states or remaining NATO members. In NATO, the USAF has 3,738 (41 per cent) aircraft while the remaining members together possess 5,490 (59 per cent) aircraft. The USAF aircraft inventory is also smaller than the collective capacity of the EU countries' air forces which equals 4,918 aircraft. However, it is not all about pure

numbers. The quality and varieties of aircraft available are more important than quantity and, as noted above, in spite of the large number of aircraft available to European air forces in combination, serious shortcomings exist in crucial areas, such as AT, AAR and ISR. Moreover, the total of all European air forces does not automatically combine to one powerful air force. Differences in doctrine, equipment, training and procedures will inevitably limit their combined effectiveness, or even usefulness, as a collective force. Therefore, European air forces in combination may possess significant hardware and capacity, but cannot cover the full spectrum of capabilities and are also not easily interoperable. Chapter 4. discusses European multinational initiatives aimed at dealing with the challenges of both the capability gap in AT, AAR and ISR and interoperability. It will show that these challenges can be minimised to an extent by following certain standards, for example imposed by NATO, and continuously improving interoperability. However, the scale of any operation will always be an issue. Improved interoperability and proficiency in procedures will not mitigate shortcomings in capacity.[86]

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[86] Lieutenant Colonel in the Polish Air Force, email conversation with the Author dated 28/09/2016.

Figure 2 Comparison of aircraft inventory in NATO
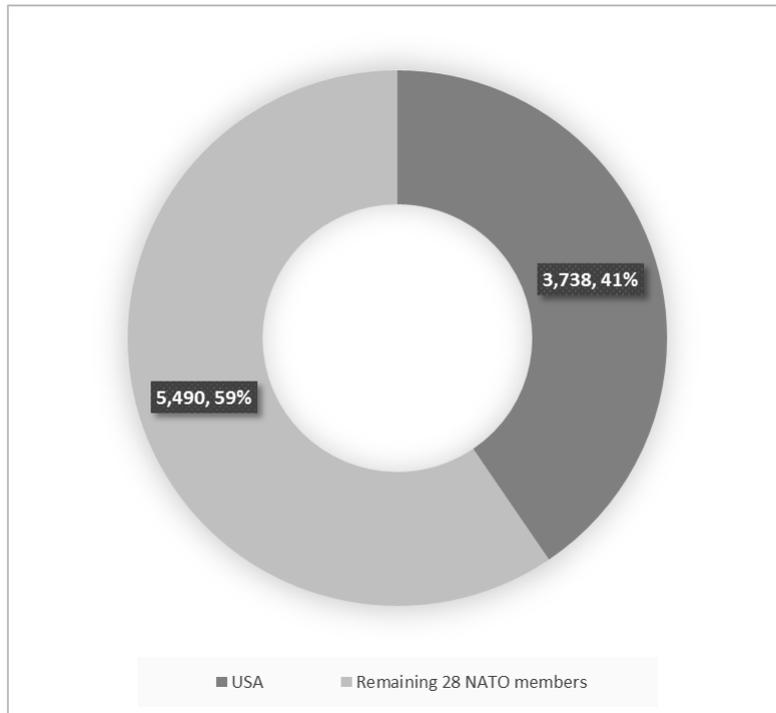
Source: "Europe" The Military Balance, 118.1 (2018), 82–164; "North America" The Military Balance, 118.1 (2018), 43–57.

Figure 3 Comparison of the USAF and EU aircraft inventory
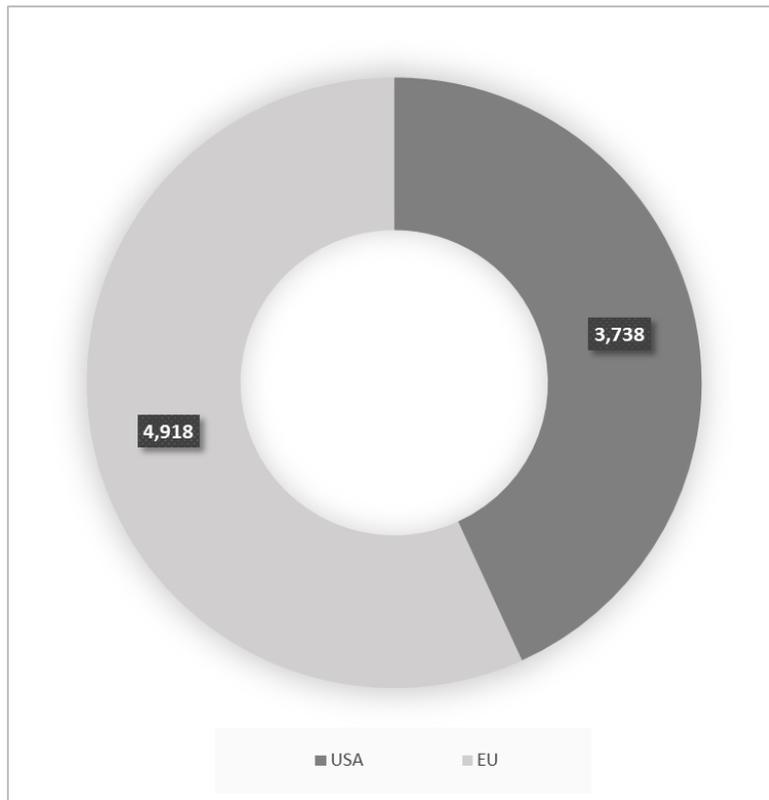
Source: "Europe" The Military Balance, 118.1 (2018), 82–164; "North America" The Military Balance, 118.1 (2018), 43–57.

Although the capability gap is often quoted as the main reason for European air powers' ongoing reliance on the USAF, some observers in fact believe that lacking willingness and effort by European states to cooperate is a more significant constraint. Reaching agreement on strategic objectives, how to achieve them, questions of command and the allocation of resources have been seen as particularly problematic in this respect.[87] Another explanation for the gap between US and European air power is the fact that air power never played such a major role in Europe as it has done in the US, a tendency that has its origins in the Cold War and has evolved into a bigger problem with changes in the security environment since the early 1990s. As suggested by Anrig, during the Cold War there was no need for Western European militaries to develop advanced strategic airlift capabilities because they were not expected to conduct any expeditionary operations.[88] The same was applicable for the members of the former Warsaw Pact who were also preparing for operating within the European theatre. With the end of the Cold War and the increasing number of expeditionary operations, those airlift limitations have become obvious. As this thesis will show, European air forces have developed mechanisms for multinational cooperation in order to build collective capabilities and, ultimately, to fill the capability gap and reduce their reliance on the US.

Decreasing defence budgets.

Chapter 1. already indicated that shrinking defence budgets have been another reason for the growing tendency to conduct military operations as multinational ventures. Less money available for defence has meant that European states have not been able to overcome the capacity gap with the US simply by purchasing more and new advanced equipment. This has been particularly significant for the air forces, as a service that is heavily dependent on technology. According to the definition given in the current British air doctrine, air power is 'the ability to use air capabilities in and from the air, to

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[87] Lieutenant Colonel Mattias Hansson, Head of the Air Force Development at Swedish Armed Forces HQ, email conversation with the Author dated 27/10/2016; a scholar at the RAF College Cranwell, interview dated 21/09/2016 and a scholar at the War Studies University in Warsaw, interview conducted by the Author on 22/06/2016.
[88] Anrig, *The Quest for Relevant Air Power.*, pp. 15–16.

influence the behaviour of actors and the course of events.'[89] Therefore, to operate in and from the air, one needs specific equipment to do this. Air power and air forces cannot exist without aircraft and the associated systems. Since these platforms are necessary for an air force to exist in the first place, they also define its capabilities as well as its limitations, since a specific type of an aircraft enables an air force to perform particular task.[90] Air forces are generally technologically similar across nations, especially those allied within one organisation.[91] For example, aircraft built (or bought) by countries allied in NATO, are designed according to certain standards in order to ensure their interoperability.[92] This has further enabled and enhanced European air forces' motivation for engaging in multinational operations, especially in the air power realm, in order to make up for gaps in capabilities.

If air power prowess heavily depends on expensive specialist equipment, keeping up with the latest developments is crucial. However, after the end of the Cold War, as a result of decreasing military expenditure, the size of European military forces, including air forces, has been cut, a process that is often described as 'concentration'.[93] As discussed in more detail in the next section, concentration of the armed forces, including the air forces, is often presented as favourable development, because smaller, professional military forces are more effective than mass militaries. At the same time, the procurement of high-tech equipment required to make up for shortages in manpower is extremely costly. For example, the cost of the first four multirole fighter jets F-35B ordered by the UK, which arrived at the RAF Marham base in June 2018 is 92 million pounds each.[94] That number, however, only shows the cost of the single aircraft but does not reflect the full scale of the investment. Keeping up with the latest technological developments requires the air forces not only to modernise their

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[89] Joint Doctrine Publication (JDP) 0-30, 2nd Edition. *UK Air and Space Power*. Development, Concepts and Doctrine Centre, 2017, p. 7.
[90] Thomas-Durell Young, "The Revolution in Military Affairs and Coalition Operations: Problem Areas and Solutions." *Defense & Security Analysis*, 19.2 (2003), 111–130. Available at: <http://dx.doi.org/10.1080/1475179032000083343> [accessed 01/03/2017], p. 114.
[91] Soeters *et al.*, "Smooth and Strained International Military Cooperation.", p. 203.
[92] Joseph Soeters and Peter Boer, "Culture and Flight Safety in Military Aviation" *The International Journal of Aviation Psychology*, 10.2 (2000), 111–133. Available at: <http://dx.doi.org/10.1207/S15327108IJAP1002_1> [accessed 28/03/2017], p. 113.
[93] See section 2.2.1., pp. 44–46.
[94] BBC News, "Four RAF F-35 fighter jets land in the UK." (06/06/2018) Available at: <https://www.bbc.co.uk/news/uk-44392148> [accessed: 13/08/2018].

fleets but also the infrastructure on the ground. For example, in order to prepare for receiving the F-35s, the British Defence Infrastructure Organisation invested 250 million pounds in the programme of upgrading the infrastructure at RAF Marham base which involved resurfacing the runways, construction of three vertical landing pads for the F-35s, construction of new headquarters for the 617 Squadron as well as refurbishment of the existing facilities, such as aircraft shelters and hangar, offices or gym and canteen.[95] The given example shows the scale of expenditure that an air force would face in an attempt to keep up with the latest developments and maintain a modern and capable fleet.

The above processes – rising technology costs and shrinking defence budgets result in increased concentration of the air forces - will be discussed in more detail in section 2.2. below. These processes may mean that it will be getting increasingly difficult to balance the budgets and at the same time to maintain air forces with a wide spectrum of military capabilities.[96] Therefore multinational cooperation between European countries has been seen as important to ease some of the financial constraints and help with overcoming military shortcomings.[97]

Improving interoperability and integration at personnel level.

Finally, improving interoperability and integration at the personnel level has been another factor in the growing popularity of multinational cooperation among European air forces. Combining forces in multinational efforts is imperative for European states for the reasons outlined above. However, international cooperation is also difficult and brings many potential challenges, as discussed in detail in Chapter 5. Pursuing different collaborative initiatives at a multinational level may help with overcoming the problem of cultural diversity and improve interoperability and integration. Joint operations and training in foreign units have been identified by Elron, Shamir and Ben-Ari as one of the

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[95] Defence Infrastructure Organisation, "Ready for F-35s: runway resurfaced at RAF Marham." (04/06/2018) Available at: <https://www.gov.uk/government/news/ready-for-f-35s-runway-resurfaced-at-raf-marham> [accessed 13/08/2018].

[96] Anthony King, „Towards a Transnational Europe: The Case of the Armed Forces." *European Journal of Social Theory*, 8.3 (2005), 321–340, p. 328.

[97] Pascal Gremez, "Doing the Same with Less – Potential Synergies for NATO Air Power." *Transforming Joint Air Power. The Journal of the JAPCC*, Edition 20 (Spring/Summer 2015), pp. 52–56, p. 56.

integrating mechanisms improving cooperation between military forces.[98] Multinational projects and missions give staff the opportunity to learn to work together, to share values, experiences and practices and as a result integrate the military personnel coming from different cultural backgrounds.

As the above section suggested, creating the collective resources for European states to pool and share is crucial for building or strengthening the full spectrum of their air power capabilities as well as maintaining military capacity. This would enable the involved air forces to perform their roles, however, still in a significantly smaller capacity (whether individual or joint) than the US.[99]

2.2 European air power – towards concentration and transnationalisation

The increasing tendency of European air forces to perform in the framework of multinational military operations since the end of the Cold War is linked to two further transformation trends identified by Anthony King: the concentration and transnationalisation of European militaries.[100] The change in the security environment as well as gradually reduced military expenditure, led to moving away from the idea of mass, often conscript, armed forces in favour of smaller, volunteer and professional ones. King describes this process as 'concentration'.[101] Moreover, the significant reduction in numbers of active military personnel as well as the available equipment, resulted in an increased need for developing efficient cooperation mechanisms between European militaries. In effect they became interdependent and interconnected in a process of 'transnationalisation'. An example of this process has been the creation of collective military resources for European states to pool and share. Some of these initiatives will be discussed in more detail in Chapter 4. as examples of the process of transnationalisation of the European air forces. The next two sections

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[98] See Efrat Elron, Boas Shamir, and Eyal Ben-Ari, "Why Don't They Fight Each Other? Cultural Diversity and Operational Unity in Multinational Forces." *Armed Forces and Society,* 26.1 (1999), 73-98, pp. 87-88.

[99] Paul Rogers, "Limitations on Joint Warfare: the Impact of the Proliferation of Conventional Weapons Technology." In *The Changing Face of Military Power: Joint Warfare in an Expeditionary Era.* ed. by Andrew Dorman, Mike Smith and Matthew Uttley, 45-71. New York: Palgrave Macmillan, 2004, p. 53.

[100] King, *The Transformation of Europe's Armed Forces.*, pp. 32–44.

[101] Ibid., p. 33.

will introduce the concepts of concentration and transnationalisation of European militaries in the post-Cold War period. Using available literature focusing on European armed forces in general, they aim to set up a conceptual framework which will be used in Chapters 3. and 4. to explore the development of these two processes among European air forces.

2.2.1   Concentration

Concentration of European militaries in the post-Cold War period involved their reduction and re-organisation often leading to creating specialised and compact professional military forces.[102] The process is discussed in the wider literature under various names. For example, Philippe Manigart investigates restructuring of the armed forces after 1990 which involved their downsizing and professionalisation.[103] This is similar to the concept of the conversion of the armed forces taking place in the post-Cold War period. As argued by Ljubica Jelušič, the term itself is used with reference to re-allocating the production and use of resources from military to civilian uses, involving such phenomena as demobilisation, disarmament or defence restructuring.[104] All of these are elements in the concentration of post-Cold War militaries as understood by King.

The process of changes taking place within the military sector did not happen in vacuum, but went hand in hand with the transformation of the civilian sector. For example, King pointed out that the trend of concentration of military forces observed after 1990 is a continuation of the process which started in the 1970s and was running parallel to the transformation of the industry visible in moving away from the mass workforce to increasing professionalisation.[105] Manigart mentioned here technological evolution such as, for example, automation which, just as in the industrial sector and apart from the reduced

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[102] See ibid., pp. 32–40.

[103] Philippe Manigart, "Restructuring of the Armed Forces." In *Handbook of the Sociology of the Military.* ed. by Giuseppe Caforio, 323–343, Springer, 2006, pp. 331–335.

[104] Ljubica Jelušič, "Conversion of the Military. Resource-Reuse Perspective after the End of the Cold War." In *Handbook of the Sociology of the Military.* ed. by Giuseppe Caforio, 345–359, Springer, 2006, pp. 347–350.

[105] King, *The Transformation of Europe's Armed Forces.*, pp. 39–40.

expenditure, resulted in reduction of the size of the armed forces.[106] However, technological developments or budgetary cuts were not the only reasons for initiating the process of concentration of European militaries. Another reason was the changing security environment. With the end of East-West tensions and the diminishing threat of a large-scale state-on-state aggression, in many European states the military was no longer perceived as a priority and started to be reduced and restructured.[107]

Considering the shrinking budgets and downsizing of European armed forces one might conclude that these militaries came out of this situation weaker than they used to be – with less money and less personnel. However, as King suggested, in many ways the opposite is true, because the armed forces today are 'qualitatively different' from the Cold War.[108] Because of their specialisation they often benefitted from increased investment in priority areas, resulting in advanced capabilities and increased effectiveness. However, such improvements were limited to capabilities that were prioritised at the time and without a doubt came at the expense of maintaining military forces with the full spectrum of capabilities (and capabilities for fighting high-intensity warfare in particular).[109] Abolishing conscription and creating specialised military units organised into joint rapid reaction forces in place of massive, national service armies led to the concentration of the European armed forces and, as will be discussed in Chapter 3. European air forces were no exception and also underwent a process of concentration.

Rejecting mass militaries and introducing professionalisation led to cultural changes within the armed forces and their approach to the service. By abandoning the idea of compulsory military service, European armed forces had to become competitive on the job market in order to attract potential recruits by, for example, investing in their continuous training or offering clear career perspectives.[110] As a result, the militaries, and air forces as will be discussed in

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[106] Manigart, "Restructuring of the Armed Forces.", pp. 331–332.
[107] Gerhard Kümmel, "A Soldier Is a Soldier Is a Soldier?! The Military and Its Soldiers in an Era of Globalisation." In *Handbook of the Sociology of the Military*. ed. by Giuseppe Caforio, 417–433, Springer, 2006, p. 426.
[108] King, *The Transformation of Europe's Armed Forces.*, p. 33.
[109] Gian Gentile, *Wrong Turn: America's Deadly Embrace of Counter-Insurgency*, New York: The New Press, 2013.
[110] Manigart, "Restructuring of the Armed Forces.", p. 335.

Chapter 3., became smaller, but also more cost-effective as, with fewer but professional and voluntary personnel willing to raise their qualifications, they are more focused on developing a wide range of capabilities within specialised units.[111] Explaining that phenomenon, Jelušič suggested reductions of specific types of equipment and weapons, especially outdated ones, may allow for increased development and investing in advanced solutions.[112] That combined with structural changes would result in increased capability as well as specialisation and professionalisation within a particular area.

The process of specialisation and professionalisation of the post-Cold War European armed forces is also linked to the changing character of contemporary conflict and increasing number of operations other than war, such as, for example, peacekeeping, peace support or humanitarian interventions requiring deeper cooperation between military and civilian sectors than the traditionally perceived military functions.[113] In effect, the armed forces, including air forces, are being reduced in size but also restructured in the process of adaptation to the requirements of the changing political situation and security environment. In sum, the concentration of European armed forces should not be viewed exclusively as a decline, but rather as an evolution – a change in quality. The concept of concentration will be used for a systematic study of the changes taking place in the post-Cold War RAF, Polish and Swedish Air Forces in Chapter 3.

2.2.2 Transnationalisation

Another characteristic of the post-Cold War transformation of European militaries identified by King is transnationalisation. This is understood as the process of European armed forces becoming more and more interdependent and interoperable.[114] As such, transnationalisation is not new: states have been cooperating before the 1990s, whether it was done within NATO structures, Warsaw Pact, or ad hoc coalitions. However, after the Cold War, this

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[111] King, „Towards a Transnational Europe.", p. 327.
[112] Jelušič, "Conversion of the Military.", p. 349.
[113] Kümmel, "A Soldier Is a Soldier Is a Soldier?!", p. 427.
[114] King, „Towards a Transnational Europe.", p. 328.

collaboration has become much deeper and happens also at lower levels of the military structure and is therefore of significance for this thesis.

Just as the process of concentration happened along the industrial recession in Europe, transnationalisation of the armed forces went hand in hand with changes taking place in the business sector. The emergence of the European market resulted in increasing numbers of international mergers between companies specialising in insurance, accounting, banking, travel as well as industrial organisations.[115] The process of transnationalisation also affected European police forces. For example, Joseph Soeters, Geert Hofstede and Mireille van Twuyver explored the developing trend of cross border cooperation among German, Dutch and Belgian police forces in the Euregion Maas-Rhine[116] after signing the Schengen Convention in 1990 and abolishing the internal borders between the signatories.[117] The authors came up with several recommendations for improving that cooperation such as, organising intercultural training, performing joint tasks, job rotation or establishing liaison officers and institutions.[118] All of these would increase both interoperability and interdependence between the involved forces, making them transnational.

Similar interdependencies arose as the armed forces became increasingly transnational. Such a process was essential considering the increased number of multinational operations and the necessity to streamline cooperation as well as to deal with potential difficulties. This phenomenon was called by Klein and Kümmel the 'internationalisation of military life'.[119] Increased multinational military cooperation following the end of the Cold War was not only essential, but also inevitable. King stated two basic reasons for this – first, it gave states an opportunity to maintain their military capability while the process of concentration was simultaneously taking place and, secondly, it helped to uphold

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[115] Joseph L. Soeters, "Value Orientations in Military Academies: A Thirteen Country Study." *Armed Forces & Society*, 24.1 (1997), 7–32, p. 8.

[116] Euregion Maas-Rhine incorporates Dutch, Belgian and German provinces: Limburg in Denmark, Dutch-speaking Limburg, French-speaking Liege and German-speaking community in Belgium and region Aachen in Germany. See Joseph Soeters, Geert Hofstede and Mireille van Twuyver, "Culture's Consequences and the Police: Cross-border Cooperation between Police Forces in Germany, Belgium and the Netherlands." *Policing and Society: An International Journal of Research and Policy*, 5.1 (1995), 1–14, p. 2.

[117] See Soeters, Hofstede and van Twuyver, "Culture's Consequences and the Police."

[118] Ibid., p. 13.

[119] Paul Klein and Gerhard Kümmel, cited in Kümmel, "A Soldier Is a Soldier Is a Soldier?!", p. 430.

the idea of existing alliances, particularly NATO, as still useful.[120] Although beneficial for sustaining a state's military power, increased participation in multinational ventures of different kinds also required that the armed forces demonstrated a certain level of flexibility to adapt to the environment and circumstances they were supposed to operate in.

Christopher Dandeker listed several traits characteristic of flexible armed forces, such as having adequate equipment, organisational structure as well as regulations and policies making it possible to create coalitions and quickly react to any potential crises that may arise.[121] The concept of flexible forces is related to both the idea of concentration and transnationalisation. It involves increased cooperation between different militaries working together in alliances or coalitions, but it also indicates the necessity of re-organisation of the existing structures as well as prioritisation and specialisation within certain capabilities. Such a situation is dictated by the fact that most of the European states would not be able to achieve flexibility (as described above) and demonstrate full and varied capability and capacity to quickly respond to any kind of a potential crisis. As pointed out by Dandeker, most of them would need to carefully calculate what they can afford to specialise in and which capabilities need to be left underdeveloped and, in case of such need, could be filled in with the collective help of allies.[122]

The increased cooperation between European air forces and reliance on pooled and shared resources has led to more interdependence and interoperability. This does not mean, however, that it will ultimately lead to the creation of a supranational European military or air force. In fact, a certain paradox exists in the process of building a transnational network of European militaries and air forces. Increasing cooperation since the end of the Cold War has led to a much higher degree of interaction, not only at the level of multinational command, but also at tactical and operational levels – something unlikely to be observed pre-1990.[123] This was triggered by the changes in the emerging post-Cold War security environment, which forced all European

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[120] King, *The Transformation of Europe's Armed Forces.*, p. 42.
[121] Dandeker, "Building Flexible Forces for the 21st Century.", p. 405.
[122] Ibid., pp. 413–414.
[123] King, *The Transformation of Europe's Armed Forces.*, p. 45.

countries to restructure and reduce their armed forces. There has been a widespread expectation that concentrated militaries will still be able to deal effectively with the newly emerging threats.[124] Increased multinational cooperation was one way chosen by European countries to achieve this. The concept of post-Cold War transnationalisation of the armed forces in Europe will be used in Chapter 4. as a framework to investigate the process of increasing interoperability and interdependence in the RAF, Polish, and Swedish Air Force.

2.3 The complexity of multinational operations – challenges and difficulties

As discussed in section 2.1., owing to the use of similar technology and comparable standards and procedures, air forces might be less affected than ground forces by the difficulties of operating in a multinational environment. However, as this thesis will show the potential challenge air forces might encounter when deployed in multinational operations are still significant.

The uniqueness of air power derives from its attributes which allow for dominating the third dimension of the battlefield, such as speed, reach and height together with ubiquity, agility and concentration.[125] These are the characteristics which distinguish air power from other services and enable it to conduct a wide range of operations at any point of the operational area. As a result, military force is no longer bound to geographical location but can quickly respond to a crisis wherever and whenever needed. There are certain limitations which can slow down or disrupt an air power deployment, for example impermanence, limited payload or vulnerability (to hostile fire or weather).[126] Despite this, air power still offers more versatile opportunities than any other type of military force. What an air force is capable of depends first of all on the available equipment, diminishing the centrality of the human factor.[127] As a result of relatively uniform rules, the influence of human behaviour and cultural diversity in multinational operations should be less pronounced for air forces than other arms

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[124] Jelušič, "Conversion of the Military.", pp. 349–350.
[125] Concentration is understood here as the ability to quickly deliver military power when and where it is needed. See Allied Joint Publication (AJP) 3.3(B) *Allied Joint Doctrine for Air and Space Operations*, NATO Standardisation Office, April 2016, pp. 1-3—1-4.
[126] See more ibid., pp. 1-4—1-5.
[127] Young, "The Revolution in Military Affairs.", p. 114.

of military service.[128] NATO's AJP 3.3(B) *Allied Joint Doctrine for Air and Space Operations* is a good illustration of this point.[129] As will be discussed in Chapter 3., this doctrine is referred to as a template for national doctrinal documents by both the RAF, Polish Air Force and, interestingly, even the Swedish Air Force, which is not part of the NATO alliance. Such similarities in doctrine, procedures and technology, enhanced by regular operations as a part of an alliance or coalition, indicate the increasing interdependence and internationalisation of European air forces.

Although, as discussed, air forces are less susceptible to some of the challenges encountered in multinational operations, this does not mean that there is such a thing as a supranational air force culture where cultural differences are no longer important. For example, as Soeters and Boer suggested that the cultural background of personnel influences their ability to work with advanced technology in an interdependent system, such as aviation.[130] Therefore, the issue of cultural diversity is still applicable when speaking of smooth cooperation between different air forces in a multinational operation, as this thesis will show. The following sections look specifically at the potential challenges that may arise in a multinational air operation. There are no doctrinal publications addressing specifically the involvement of air power in such operations, either at the national or NATO level. This means that according to the doctrinal guidance available, the principles for multinational operations generally do not change depending on whether these involve land forces, navy or air power. Because of this limitation in the available literature, section 2.3.1. therefore focuses mostly on official publications and secondary sources treating the subject of potential problems in multinational operations on a general level. It discusses the influence of national culture on the behaviour of military personnel using the model proposed by Geert Hofstede allocating different nationalities with index values in five cultural dimensions, namely power distance, individualism-collectivism, uncertainty avoidance, masculinity-femininity and long-short term orientation.[131] Doing so, the model illustrates the cultural differences among

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[128] Soeters et al., "Smooth and Strained International Military Cooperation.", pp. 203–204.
[129] AJP-3.3(B) *Allied Joint Doctrine for Air and Space Operations*, April 2016.
[130] Soeters and Boer, "Culture and Flight Safety.", pp. 127–129.
[131] See Hofstede, *Culture's Consequences.*

nations and helps to identify the potential problems which may arise from these differences. The identification of challenges in multinational military operations combined with Hofstede's model of cultural dimensions to military studies, will be used as a framework for studying the subject of multinational cooperation in relation to the RAF, Polish and Swedish Air Forces in Chapters 3. and 5. of the thesis.

2.3.1 Potential challenges in multinational operations

There are a number of potential challenges an air force may encounter in a multinational operation. These usually involve issues related to the different cultural backgrounds of the participating nations, including different languages being spoken. Culture is a complex term and, due to the scope of the thesis, cannot be addressed comprehensively.[132] However, for the purpose of this research, culture is understood accordingly to Hofstede's definition – 'the collective programming of the mind that distinguishes the members of one group or category of people from others.'[133] This understanding encapsulates two common definitions of culture. One which says that culture consists of 'the beliefs, way of life, art, and customs shared and accepted by people in a particular society', and another defining it as 'the attitudes and beliefs about something that are shared by a particular group of people or in a particular

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[132] For further discussion on national and organisational culture refer, for example, to Adam B. Cohen, "Many forms of culture." *American Psychologist*, 64.3 (2009), 194–204; Charles C. Moskos, John Allen Williams and David R. Segal, eds., *The Postmodern Military: Armed Forces after the Cold War.* Oxford University Press, 2000; Doris Bachmann-Medick, Horst Carl and Wolfgang Hallet, eds. *The Trans/National Study of Culture: A Translational Perspective.* De Gruyte, 2014; Elaine Bell, "Organisational culture and learning: A case study." *Nurse Education Today*, 33.11 (2013), 1337–1341; Hazel R. Atuel and Carl A. Castro, "Military Cultural Competence." *Clinical Social Work Journal*, 46.2 (2018), 74–82; Jacques Frank Yates and Stephanie di Oliveira, "Culture and Decision Making." *Organizational Behavior and Human Decision Processes*, 136 (2016), 106–118; Jeffrey C. Alexander, Ronald N. Jacobs, and Philip Smith, eds. *The Oxford Handbook of Cultural Sociology*. Oxford University Press, 2012; Mark C. Noort, Tom W. Reader, Steven Shorrock and Barry Kirwan, "The relationship between national culture and safety culture: Implications for international safety culture assessments." *Journal of Occupational and Organizational Psychology*, 89.3 (2016), 515–538; Peter B. Smith, "Communication Styles as Dimensions of National Culture." *Journal of Cross-Cultural Psychology*, 42.2 (2011), 216–233.
[133] Geert Hofstede, Gert Jan Hofstede and Michael Minkov, *Cultures and Organizations: Software of the Mind.* 3rd Edition. McGraw-Hill Professional Publishing, 2010. ProQuest Ebook Central, <http://ebookcentral.proquest.com/lib/nottingham/detail.action?docID=4658311> [accessed 19/01/2019].

organisation.'[134] In the context of this thesis it is vital to emphasise this last distinction and to note that culture distinguishes not only nations and societies, but also organisations and professional groups – in this particular case these are military organisations and members of the British, Polish and Swedish Air Forces.

Considerations of national sovereignty and domestic political priorities and sensitivities can also present difficulties, as can conflicting national rules of engagement (ROE). Finally, a lack of standardisation and interoperability regarding equipment, procedures and training can make cooperation difficult. Even though the above factors are often discussed individually, they do not exist separately and can occur in different combinations once the operation has started.

A comprehensive approach to the complexity of multinational military operations is presented in the US Joint Publication (JP) 3-16 *Multinational Operations* which covers a broad spectrum of issues that should be addressed in order to build efficient cooperation with other nations and achieve the desired objective.[135] These considerations are divided into three main groups: general, operational and other, and as such they also help to identify potential challenges that a country may encounter when involved in a multinational operation. The table below summarises what, according to this US doctrine, a commander and military staff should consider while planning and executing a multinational operation.

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[134] See *culture in a society* and *culture in a group*, *Longman. Dictionary of Contemporary English.* 4th Edition. Harlow: Pearson Education Limited, 2003, p. 382.
[135] See Joint Publication (JP) 3-16 Multinational Operations, 16 July 2013. Available at: <http://www.dtic.mil/doctrine/new_pubs/jointpub_operations.htm> [accessed 10/02/2017], pp. III-1–III-54.

Table 2 Considerations for Planning and Executing Multinational Operations

General considerations	Operational considerations	Other considerations
Diplomatic and military considerations: • national objectives, • military capabilities, • integration of assets, • preparation, and • range of individual forces' employment.	Sharing and receiving intelligence from other coalition or alliance members and their military forces.	Host-Nation Support including available infrastructure.
Building and maintaining a multinational force including addressing any command issues.	Sharing classified information with other nations involved in an operation.	Health services.
Mission analysis and assignment of tasks.	Integrating communications between alliance or coalition members: • frequency management, • equipment and procedural compatibility, • information security, • friend-foe identification, • data-link protocols.	Preparation for non-combatant evacuation operations.
Language, culture and sovereignty issues between nations involved in an operation.	Operational environment: • land • sea • air • space • cyberspace • information operations.	Personnel support.
Legal considerations involving international agreements, treatment of detainees and military justice.	Special operations.	Understanding of meteorology and oceanography.
Doctrine and training.	Civil affairs support, within NATO structures referred as Civil-Military Cooperation.	Environmental considerations.
Funding and resources.	Joint fires which is integration of both, lethal and non-lethal capabilities of involved operation members.	Transitions: • from a plan to execution, • between operation phases, • transition of authority.

Protection of personnel, information and critical assets.	Integration of partner nations' systems using electromagnetic spectrum for communications, command and control, electronic warfare, etc.	Considerations for foreign humanitarian assistance operations.
Concurrent rules of engagement although a complete agreement on that may not be achievable in every case.	Multinational communications integration among participating nations and public affairs: using information to create favourable conditions, anticipating media coverage, minimising misinformation, etc.	
Combat identification and friendly fire prevention.	Multinational logistics.	
	Personnel recovery.	
	Considerations specific for stability, counterdrug or chemical, biological, radiological and nuclear operations.	

Source: JP 3-16 *Multinational Operations*, July 2013, pp. III-1–III-54.

JP 3-16 was written specifically for the US Armed Forces. However, the issues it focuses on are quite general and can be applied to any multinational grouping. Similar principles and considerations for multinational operations have been mirrored in a series of allied joint doctrine publications issued by NATO. These include, for example, mutual confidence, respect and knowledge of the partners, effective communication, civil-military cooperation, concurrent ROE or unity of effort.[136]

A very similar list of potential challenges in multinational arrangements can be found in NATO's Joint Air Power Competence Centre (JAPCC) publication on the concept of Regional Fighter Partnership.[137] The document discusses the idea for a NATO-led pooling and sharing programme focusing on building a sustainable fighter capability among its members aimed especially at strengthening that capability in Central and Eastern European states. The paper,

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[136] See Allied Joint Publication (AJP)-01(E) *Allied Joint Doctrine*, NATO Standardisation Office, February 2017, pp. 4-2–4-4 and AJP-3(B), pp. 1-6–1-8.
[137] Joint Air Power Competence Centre, "Regional Fighter Partnership – Options for Cooperation and Cost Sharing." March 2012. Available at: <www.japcc.org/wp-content/uploads/RFP_2012_web.pdf> [accessed 17/11/2017].

alongside a list of potential benefits, also enumerates potential challenges which may occur among the participating air forces. These include difficulties in establishing mutual trust and cooperation; loss of autonomy over national assets, dependence on other nations and national caveats; incompatibility of individual nations' standards, certifications or divergence in national interests; potential liability and legal issues; difficulties in the process of decision making; language related issues; as well as requirements for deployable personnel.[138] These challenges do not differ from those listed in the above joint doctrinal publications, so there seems to be an assumption that the challenges of multinational operations are the same for air forces, ground forces and the navy.

Scholarly studies of multinational operations have come to conclusions similar to those flagged up in official documents discussed above. For example, Soeters *et al*. identified seven conditions for smooth cooperation within a multinational, or cross-cultural, military organisation.[139] These include such issues as cultural diversity, national heterogeneity and technological interoperability. Furthermore, equally important as national or cultural heterogeneity is also internal cohesion and status of units. For example, according to Soeters *et al.* specialised, high status units, such as air manoeuvre or airborne troops have usually a very strong sense of identity and belonging but also a tendency to disregard anyone coming from the outside of their own circle – and this, in a multinational operational environment, may prove counter-productive.[140]

Effective cooperation within a multinational environment can also be helped by a well-considered organisation of tasks. For example, if nations are willing to assimilate or to subordinate to another nation's leadership, a multinational unit can be organised in a reciprocal structure where all participants collectively contribute to various tasks.[141] In fact, working together towards one common goal is a powerful integrative factor, especially if that goal

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[138] Ibid., pp. 30–31.
[139] See Soeters *et al.*, "Smooth and Strained International Military Cooperation.", pp. 200–206.
[140] Ibid., p. 203.
[141] Angela R. Febbraro, "Leadership and Management Teams in Multinational Military Cooperation." In *Military Cooperation in Multinational Peace Operations. Managing Cultural Diversity and Crisis Response*, ed. by Joseph Soeters and Philippe Manigart, 49-69. London: Routledge, 2008, p. 65 and Soeters *et al*., "Smooth and Strained International Military Cooperation.", p. 204.

is a supranational objective, such as, for example, peace or international justice.[142] However, if countries are resistant to assimilation and perceive their own culture and identity as superior, a more effective way forward is a separation strategy and a parallel organisation, where nations operate within their own separate roles or even in separate geographical areas.[143]

It is also vital that cooperation is not disturbed by a shift in bargaining power between involved nations, for example when a national contingent tries to become more independent or if the contribution by a specific country is getting more important for the overall outcome.[144] Finally, according to Soeters *et al*., multinational cooperation will be less strained if conducted under non-life-threatening conditions and executed by personnel well-prepared for any given situation.[145] This confirms the idea of national caveats as a serious challenge to the successful conduct of multinational operations, when such caveats are imposed by a government to minimise the risk exposure of its own personnel. At the same time, Elron, Shamir and Ben-Ari pointed out that being together in a situation of danger can also act as an integrating and bonding factor in multinational military organisation.[146]

The above section identified several potential difficulties which may occur in a multinational operation. These can be grouped in three categories: challenges arising from cultural background, those related to the issues of national sovereignty and domestic politics, and various interoperability issues. Chapter 5. will use this categorisation to discuss the challenges disrupting multinational cooperation involving European armed forces, and the RAF, Polish and Swedish Air Forces in particular.

2.3.2   Cultural implications for effective multinational cooperation

The previous section suggested that many potential challenges that an air force may encounter in a multinational operation stem from differences in cultural background. In fact, any multinational team or operation can be

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[142] Elron, Shamir, and Ben-Ari, "Why Don't They Fight Each Other?", p. 86.

[143] Febbraro, "Leadership and Management Teams.", p. 65 and Soeters *et al*., "Smooth and Strained International Military Cooperation.", p. 204.

[144] Soeters *et al*., "Smooth and Strained International Military Cooperation.", p. 205.

[145] Ibid., pp. 205–206.

[146] Elron, Shamir, and Ben-Ari, "Why Don't They Fight Each Other?", p. 86.

described as cross-cultural since it involves participants adhering to different values or traditions, using different languages or accustomed to different work styles. Such differences do not only relate to very distant cultures but can also exist within long standing alliances, such as NATO.

Despite the differences originating from national backgrounds, all personnel participating in a multinational operation also share a common military background or culture. Several authors have identified characteristics like bureaucracy, hierarchy, similar structures, discipline, ethos and a 'communal' character as features specific to military organisations.[147] These characteristics, to a greater or lesser degree, are part of the military culture of all states and therefore are shared by all military personnel involved in a multinational operation, no matter what their national background is. Military culture is also generally perceived as 'masculine' since, as pointed out by Karen Dunivin, it was created by men within a paradigm of 'a combat masculine-warrior'.[148] Therefore, a shared professional culture that is universal to all armed forces to an extent, forms an important basis for ensuring the smooth cooperation of military personnel from different backgrounds in a multinational setting. Nevertheless, challenges posed by participants' various national characteristics when they are working in multinational military operations cannot be completely ruled out. Chapter 5. of the thesis will study the importance of national characteristics for the success of multinational engagements by European air forces, and of the RAF, the Swedish and Polish air forces in particular. It will do so by drawing on an adapted version of Geert Hofstede's concept of cultural dimensions, which will be explained in detail below.

In the 1970s, Geert Hofstede, in order to analyse the cross-cultural differences in a multinational business organisation, conducted an extensive survey of IBM employees from over 50 different countries. He identified five cultural dimensions: power distance, individualism-collectivism, uncertainty

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[147] See Elron, Shamir and Ben-Ari, "Why Don't They Fight Each Other?", pp. 84–86 and Joseph L. Soeters, Donna J. Winslow and Alise Weibull, "Military Culture." In *Handbook of the Sociology of the Military* ed. by Giuseppe Caforio, 237–254, Springer, 2006, pp. 240–243.
[148] Karen Dunivin, "Military Culture: Change and Continuity." *Armed Forces and Society*, 20.4 (1994), 531–547, pp. 533–534.

avoidance, masculinity-femininity and long-short term orientation.[149] Hofstede allocated every country with an index value corresponding to each of these five areas. The study was later replicated by different researchers, including Hofstede himself. Significantly, it was also used in the field of military studies, which is why it was identified as a relevant conceptual aid for the analysis of the implications of cultural differences in multinational air operations in this thesis. For example, in 1997 Soeters followed Hofstede's approach to investigate cultural differences in military academies in 13 different countries.[150] In 2010, Janja Vuga referred to Slovenia and Italy's index values proposed by Hofstede, in her study of cultural differences during these countries' involvement in the UN Interim Force in Lebanon (UNIFIL II) peacekeeping mission.[151] Also, most vital for this thesis, in 1998, Wojciech Nasierowski and Bogusz Mikuła replicated Hofstede's study to investigate the cultural characteristics of Polish managers.[152] Another study was conducted by Ludek Kolman, Niels G. Noorderhaven, Geert Hofstede and Elisabeth Dienes, which focused on four Central European countries – the Czech Republic, Hungary, Poland and Slovakia.[153] The inclusion of Poland in these samples is especially important for this thesis, since Polish nationals, unlike British and Swedish nationals, were not surveyed by Hofstede either in 1970s or 1982. Furthermore, in spite of the fact that initially it may seem contradictory, research conducted in a business environment, like Hofstede's model, can be successfully used to investigating contemporary military organisations because of the changes they underwent in last 30 years. Following the transformation into specialised, professional, all-volunteer forces, Western militaries today resemble much more a business organisation where career prospects are equally important as in any other profession.

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[149] The long-short term orientation dimension was added in 1980s illustrating a society's adaptability and acceptance of its future changes and will not be looked at in this thesis. See Hofstede, *Culture's Consequences.*, pp. 351–370.

[150] See Soeters, "Value Orientations in Military Academies.", 7–32.

[151] See Janja Vuga, "Cultural Differences in Multinational Peace Operations: A Slovenian Perspective." *International Peacekeeping*, 17.4 (2010), 554-565. Available at: <http://dx.doi.org/10.1080/13533312.2010.516668> [accessed 02/11/2016].

[152] See Wojciech Nasierowski and Bogusz Mikuła, „Culture Dimensions of Polish Managers: Hofstede's Indices." *Organization Studies*, 19.3 (1998), 495–509.

[153] See Ludek Kolman, *et al.*, "Cross-cultural differences in Central Europe." *Journal of Managerial Psychology*, 18.1 (2003), 76–88, pp. 78–80.

Nevertheless, when applying Hofstede's model to analyse the implications of cultural differences in multinational air operations one should be aware of some limitations. Two potential shortcomings must be considered here. The first limitation is the small number of studies applying Hofstede's model to military organisations and, what follows, unavailability of index scores for a sample of countries comparable with Hofstede's research at IBM. Moreover, if the model of cultural dimensions is being used in military studies, it is applied to the armed forces in general without distinguishing between the army, navy or air force where service-specific cultural characteristics may also exist. As such, although insightful, the conclusions reached in this thesis based on that framework will not be absolute and more future research in this area will be required. A second potential limitation of applying Hofstede's model is the fact that his research is 40-50 years old and the data, as well as some concepts he is referring to like, for example, 'masculinity' and 'femininity', may seem outdated. However, in the absence of other, more suitable or up-to-date frameworks, Hofstede's study provides a strong point of reference to show how influential and how important is the national culture in spite of its potential limitations. As Hofstede stressed, the data he gathered at IBM represents values which were emerging through centuries and therefore will always provide an insight into understanding national cultures.[154] As such, his model also proves useful for investigating in this thesis the influence of national culture on military culture.

The two tables below illustrate the scores allocated to British, Polish and Swedish nationals using the model created by Hofstede. Table 3. presents national index values representative for British, Polish and Swedish societies according to the studies conducted by Hofstede and Kolman *et al.* Table 4. refers to the aforementioned study conducted by Soeters on cultural differences in military academies and illustrates the discrepancies between the scores applicable to British society and those allocated to the British military. The next sections will briefly describe what is understood under each of the four dimensions and how they may be applicable to the study of European air forces'

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[154] Hofstede, *Culture's Consequences*., p. 73.

involvement in multinational operations, particularly focusing on the UK, Poland and Sweden.

Table 3 National index values for the UK, Poland and Sweden according to Geert Hofstede's four cultural dimensions

	United Kingdom	Poland	Sweden
Power distance	35	62	31
Individualism-collectivism	89	55	71
Uncertainty avoidance	35	85	29
Masculinity-femininity	66	87	5

Sources: Hofstede, *Culture's Consequences.*, p. 500; Kolman, *et al.*, "Cross-cultural differences in Central Europe." p. 80.

Table 4 Comparison of cultural dimensions values for British society according to Hofstede, and officers at the Royal Military Academy Sandhurst according to Soeters

	Hofstede	Soeters
Power distance	35	131
Individualism-collectivism	89	44
Uncertainty avoidance	35	49
Masculinity-femininity	66	3

Sources: Hofstede, *Culture's Consequences.*, p. 500; Soeters, "Value Orientations in Military Academies.", pp. 15–18.

Power Distance

The cultural dimension of power distance is defined by Hofstede as 'the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally.'[155] Poland, among the three case studies, was allocated the highest national score of 62 meaning that there is a majority acceptance for a rigid hierarchy among Polish nationals. Since acceptance of an authoritarian hierarchy and discipline is characteristic for military organisations, one can expect high, or even higher values for the Polish Air Force as well. The values for this dimension for the UK and Sweden are much lower, respectively, 35 and 31. However, the result from questionnaires distributed among the officers at the Royal Military Academy in

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[155] Hofstede, *Culture's Consequences.*, p. 98.

Sandhurst showed an index value of 131 in the power distance dimension. This implies that British military culture, compared to British society at large, highly values hierarchy, authority and discipline. The Swedish National Defence University (SWENDU) was included in a study conducted by Soeters and Recht in 1998, where the students were allocated a 'minus' value for the importance of military discipline, which aligns with Swedish society's low score for power distance.[156] This seems to contradict the character of military culture and high power distance scores usually associated with it. However, a study conducted by Robert L. Helmreich and Ashleigh C. Merritt showed that civilian pilots, including Swedish pilots, tended to display higher power distance scores than those allocated by Hofstede to their societies of origin.[157] It is therefore not unlikely that a study of Swedish Air Force personnel would also reveal a power index score higher than that of Swedish society at large. In the absence of definite data on this matter, however, this conclusion is only speculative.

Uncertainty Avoidance

Uncertainty avoidance, according to Hofstede, relates to the extent to which a society is able to accept ambiguous situations.[158] Groups or individuals with high uncertainty avoidance index are often willing to undertake risky actions if these will lessen ambiguities and allow them to re-gain control of the situation.[159] Uncertainty avoidance, therefore, is not the same as risk avoidance. Among the three case studies used in this thesis, Poland, scores the highest value in this dimension of 85. This means that Polish society demonstrates a high need for set regulations, which will grant some level of control in the case of an ambiguous situation. The UK and Sweden's uncertainty avoidance values are, respectively, 35 and 29. Similarly to the case of power distance, there is a dichotomy between the score allocated by Hofstede to British society and the

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[156] The article did not list index values for the Swedish military in the same way as it was done for the UK. See Joseph L. Soeters and Ricardo Recht, "Culture and Discipline in Military Academies: An International Comparison." *Journal of Political and Military Sociology*, 24.2 (1998), 169–189.

[157] Helmreich and Merritt conducted research on national, organisational and professional influences in (civilian) aviation and medicine which involved 22 case study countries. See Robert L. Helmreich and Ashleigh C. Merritt, *Culture at Work in Aviation and Medicine. National, Organizational and Professional Influences.* Ashgate Publishing Ltd, 1998, p. 93.

[158] Hofstede, *Culture's Consequences.*, p. 148.

[159] Ibid., p. 148.

score of 49 allocated by Soeters to the surveyed group of British officer cadets at Sandhurst, although the difference is not as significant in this case. This suggests that the British military has a slightly higher esteem for set regulations than society at large. The low national value allocated to Swedish society, especially when combined with the 'minus' value allocated by Soeters and Recht to the importance of military discipline among the students at SWENDU[160], indicates low uncertainty avoidance and less need for set rules and regulations. Also, the aforementioned study by Helmreich and Merritt revealed a correlation between Hofstede's score and the one allocated to civilian pilots, including Swedish pilots.[161] The low power distance scores discussed above, stand in opposition to what one would expect from members of a military organisation. Such a situation is interesting though, especially in case of air power where, as Soeters and Boer said, 'the precise following of rules is a matter of life and death' and strict adherence to set procedures is a large part of the personnel's training.[162] It is interesting not only because such behaviour contradicts what one would expect from members of a military organisation. It would also present Swedish military culture as a very distinct one when compared with the British or Polish one, however further studies on that matter would be needed to confirm that claim.

Collectivism versus Individualism

Hofstede's third cultural dimension – collectivism versus individualism, may be referred to as independence versus interdependence.[163] It illustrates the extent to which members of a society are dependent (or not) on a group.[164] On the one hand, the implication is that military personnel from countries with a low collectivism versus individualism score, which places high importance on building strong relations within a group and working in a team, might be more likely to integrate into a multinational military unit or effort.[165] On the other

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[160] See Soeters and Recht, "Culture and Discipline in Military Academies.", pp. 180–181.
[161] Helmreich and Merritt, *Culture at Work in Aviation and Medicine.*, pp. 94–95.
[162] Soeters and Boer. "Culture and Flight Safety.", p. 119.
[163] Helen Altman Klein, "Cultural Differences in Cognition: Barriers in Multinational Collaborations." In *How Professionals make Decisions* ed. by Henry Montgomery, Raanan Lipshitz and Berndt Brehmer, 243–253, CRC Press, 2008, pp. 246–247.
[164] Hofstede, *Culture's Consequences.*, p. 225.
[165] Soeters and Boer. "Culture and Flight Safety.", p. 117.

hand, Anne Lise Bjørnstad and Pål Ulleberg argued that it may actually be easier for armed forces personnel from countries with a higher score for individualism to cooperate in multinational operations, because they attach less importance to group relations and therefore cultural differences will not matter as much.[166]

Among the three, the UK holds the highest index score in the individualism versus collectivism dimension (89). The value for Sweden is not that much lower, at 71. Poland was allocated the lowest score among the three cases (55) which demonstrates a tendency to build strong relations within a group and high reliance on support from this group. Collectivism also means a greater desire to work within a team and as such would be more characteristic for military culture, suggesting that a similar result would be likely for the Polish Armed Forces, including the Air Force. The existence of a link between a low score in the individualism versus collectivism dimension and military culture was verified by Soeters. His study showed that the score for individualism was 50 percent lower among military officers at Sandhurst than among British society at large. This indicates that British military culture and personnel is much more collectivist than society. In the case of Sweden, the aforementioned study by Helmreich and Merritt showed a certain convergence between Hofstede's national scores and values allocated for pilots of civilian airlines, including in Sweden.[167] This hints at the likelihood that Swedish Air Force personnel also represents higher levels of individualism than their Polish and British counterparts.

Masculinity versus Femininity

Finally, the masculinity versus femininity dimension relates to the extent to which a society demonstrates what Hofstede calls 'masculine' values.[168]

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[166] Anne Lise Bjørnstad and Pål Ulleberg, "Is Established Knowledge About Cross-Cultural Differences in Individualism-Collectivism Not Applicable to the Military? A Multi-Method Study of Cross-Cultural Differences in Behavior." *Military Psychology*, 29.6 (2017), 477–490, p. 485

[167] Helmreich and Merritt, *Culture at Work in Aviation and Medicine.*, p. 94.

[168] One should acknowledge however that the terms 'masculinity' and 'femininity', as understood by Hofstede, are firstly, contested in wider literature and, secondly, too complex to be addressed comprehensively within the scope of this thesis. For further discussion on gender roles in military studies see, for example, Deborah Jordan Brooks and Benjamin A. Valentino, "A War of One's Own: Understanding the Gender Gap in Support for War." *Public Opinion Quarterly*, 75.2 (2011), 270–286; Nancy M. Wingfield and Maria Bucur, *Gender and War in Twentieth-Century Eastern Europe.* Bloomington: Indiana University Press, 2006; Orna Sasson-

These values, according to Hofstede, are assertiveness, toughness or giving priority to career and material values for an individual.[169] Groups with low masculinity scores are described by Hofstede to represent a 'feminine' approach, which is characterised by tenderness, building interpersonal relations and concern for improving the common quality of life.[170]

Considering air forces, some studies suggest that 'masculine' values prevail among pilots although team working skills are equally vital since they help to ensure flight safety. That proves true for both commercial airlines and air forces since the pilot profession is a well-paid one, as well as values such as decisiveness, assertiveness, directness, and dependence on other team members, for example air traffic controllers, are characteristic for pilots across various countries.[171] Therefore, one could conclude that military culture combines both of Hofstede's 'masculine' and 'feminine' traits. For example, one would expect from officers that they are assertive, tough and decisive in what they do but also cooperative and good in team working. That would help to explain the dichotomy between national scores allocated for the UK, Poland and Sweden if they were applied to military organisations.

The lowest national score within this dimension among the three case study states was allocated to Sweden, which achieved a 5. In comparison, both Poland (87) and the UK (66) achieved much higher scores indicating that these societies are much more focused on individual, rather than communal goals. At the international level, the difference between the British and Swedish case can be easily captured when it comes to solving international disputes. Hofstede

Levy, "The Military in a Globalized Environment: Perpetuating an 'Extremely Gendered' Organization." In *Handbook of Gender, Work and Organization*, ed. by Emma L. Jeanes, David Knights and Patricia Yancey Martin, 391–410, John Wiley & Sons Ltd, 2011; Richard C. Eichenberg, "Gender Difference in American Public Opinion on the Use of Military Force, 1982–2013." *International Studies Quarterly*, 60.1 (2016), 138–148; Simona Sharoni, Julia Welland, Linda Steiner and Jennifer Pedersen, eds. *Handbook on Gender and War*. Cheltenham: Edward Elgar Publishing Ltd, 2016; Yasuko Morinaga, Yuiri Sakumoto and Ken'ichiro Nakashima, "Gender, Attitudes toward War, and Masculinities in Japan." *Psychological Reports*, 120.3 (June 2017), 374–382.

[169] Hofstede, *Culture's Consequences.*, p. 297.

[170] As such the masculinity-femininity dimension may be easily confused with the one regarding individualism-collectivism. Hofstede suggests one way to differentiate between them by pointing out that individualism-collectivism can be translated as 'I' vs. 'we', while masculinity-femininity, as 'ego enhancement' vs. relationship enhancement.'
See ibid., p. 293.

[171] Helmreich and Merritt, *Culture at Work in Aviation and Medicine.*, p. 96; Soeters and Boer. "Culture and Flight Safety.", pp. 121–122.

gives an example of two conflicts – one between Sweden and Finland about the Åland Islands, and the other between the UK and Argentina about the Falkland Islands.[172] Both were territorial disputes, however, they were dealt with in a very different manner. The Swedish-Finnish conflict ended in 1921 through negotiations with the participation of the League of Nations, showing the tendency to search for a solution involving compromise and not requiring the use of force. The other one resulted in British military intervention in 1982 what demonstrated traits characteristic for Hofstede's 'masculine' culture, such as assertiveness or toughness. Considering that example, the significant difference between British society (66) and the cadets at the Sandhurst Academy (3) in the so called masculinity-femininity dimension is very much surprising. That is because, following on the example of the conflict over Falkland Islands, one could conclude that traits characteristic for Hofstede's 'masculine' culture are concurrent with those characteristic for a military culture.

The low score allocated to Sweden reflects society's dominant concern about common wellbeing. Before the 1990s Sweden kept to its strategy of neutrality, and as the above example indicates, preferred the diplomatic way of resolving conflicts rather than engaging in military actions. For example, during the Cold War, in 1960s and 1970s, Sweden started to actively participate in mediations and negotiations in order to help solve international disputes.[173] Such way of maintaining national security aligns with, suggested by Hofstede, concern for common wellbeing. Moving from national to multinational perspective, one could observe a relation between that value and the change of Sweden's political course from national security to multinational involvement and peacekeeping during the post-Cold War period. Even though Hofstede's study dates back to 1970s and 1980s and it was 1995 when Swedish Parliament declared in a defence bill that the main purpose of Swedish military forces was extended beyond territorial defence to promoting international peace and security through participation in peacekeeping operations.[174] That shift could also be perceived as an illustration of the concern for common wellbeing characteristic for Hofstede's 'feminine' approach and, in this case taking form

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[172] Hofstede, *Culture's Consequences.*, p. 320.
[173] Czarny, *Sweden.*, pp. 285–287.
[174] Ibid., pp. 139–142.

of international peace and justice. Therefore, there could be seen a continuity in the Swedish representation in the so called masculinity-femininity dimension however demonstrated in two different ways – neutrality pre-1990s and international peacekeeping after the end of the Cold War.

The above sections explained Hofstede's model of cultural dimensions as a useful conceptual aid for studying the significance of cultural differences for European, and specifically British, Swedish and Polish Air Forces' contributions to multinational operations. In spite of the shortcomings of the available data as indicated above, the model provides insightful background and context for a systematic study of this important subject. Although there are some universal traits and values shared by the military personnel of all countries, as discussed above, the thesis will show in Chapters 3. and 5. with reference to Hofstede's model that the military culture of a country is also shaped by society's individual national characteristics. In order to avoid these differences from interfering with the smooth running of multinational military operations, their implications and how to deal with them need to be understood.

2.4   Conclusion

This chapter provided the conceptual background for the analysis of the potential and limitations of European air power in contemporary multinational operations, focusing on the United Kingdom, Sweden and Poland as case studies. Because there is no single theoretical framework that could capture the complexity of the various issues addressed in this thesis, all of which are required for a nuanced understanding of the subject, the chapter reviewed the available secondary literature and official documents discussing relevant issues and concepts in contemporary air power, post-Cold War military transformation in Europe and multinational operations. As noted throughout the chapter, these concepts and issues will be referred to as a framework for analysis in the following empirical chapters.

The chapter identified three major trends characteristic for the post-Cold War European armed forces which are concentration, transnationalisation and an increase in multinational military operations. Because of declining defence budgets the armed forces are getting smaller, but also more specialised.

Furthermore, thanks to deepening multinational cooperation, their interoperability is increasing and therefore common defence capability and capacity is being built. This collective effort and pooling and sharing resources allows for developing and maintaining those capabilities which, for some countries, would not be available because of high costs. These collaborative initiatives and projects require strong political will from all the participating countries in order to be successful. They could also incur similar difficulties as any other form of multinational cooperation which have to be anticipated and addressed however, looking at the whole picture, these still seem to be the best way forward for European air power. The identified concepts of concentration and transnationalisation will be used to investigate the post-Cold War transformation of the European air forces, looking especially at the RAF, Polish and Swedish Air Force, in empirical Chapters 3. and 4.

In the final section, the chapter suggested that the smooth running of multinational operations is challenged by various potential difficulties. Air power, as any other military service, is susceptible to factors related to cultural diversity, for example language barriers or adherence to different norms and values; national interests and domestic politics, for example differences in ROE; as well as standardisation and interoperability issues. These challenges exist in spite of the fact that equipment, regulations and procedures are more uniform for air forces than for any other service. The thesis argues that anticipating and addressing these challenges before they occur can help to minimise the risk of potential failure and increase the chances to achieve the desired, common objective. The chapter concluded with a suggestion of Hofstede's model of cultural dimensions as a useful tool for studying the reasons for and implications of cultural differences in multinational operations in subsequent chapters.

In addition to identifying a conceptual framework for the rest of the thesis, the chapter also argued that the end of the Cold War and subsequent changes taking place in the security environment stimulated development of certain transformation processes among European militaries addressing an increase in the number of multinational operations. Next chapter will discuss these processes identified as concentration and transnationalisation of the European air forces. Focusing in particular on the RAF, Polish and Swedish Air Force it will address both their professionalisation as well as development of relevant

national air doctrines indicating increasing multinational interconnectedness and interoperability.

Chapter 3: European air forces in the post-Cold War era – towards concentration and transnationalisation

In order to discuss the involvement of European air power in contemporary operations, the situation that European armed forces found themselves after the Cold War needs to be taken into account. Before the 1990s the political situation in Europe was very clear – there were easily defined opponent blocs (NATO and Warsaw Pact) preparing for a large-scale, symmetric conflict. With the end of the bi-polar order came a shift in defence policies and transformation of European militaries. They were focusing more on asymmetric threats such as, for example, terrorism, ethnic conflicts or proliferation of WMD which often required them to prepare their forces for expeditionary warfare.[175] European countries also started a process of concentration and transnationalisation of their military forces. As was discussed in the previous chapter, these terms are understood as downsizing and professionalisation of European armed forces as well as their increased interconnectedness and interdependence.[176] This chapter will explore both concepts, concentration and transnationalisation, with specific focus given to the UK, Poland and Sweden. The latter term – transnationalisation, will also be given more attention in Chapter 4. discussing the different forms of multinational initiatives involving the air forces of named countries.

The objective of this chapter is to introduce the European perspective on the security and defence in the post-Cold War period. It strives to answer the second sub-question: why have the UK, Polish and Swedish Air Forces specifically been used predominantly in multinational operations since the end of the Cold War? In that attempt it argues that all three, British, Polish and Swedish Air Forces are undergoing the process of concentration and

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[175] See, for example, Adams and Ben-Ari, *Transforming European Militaries.*; David A. Deptula, "Effect-Based Operations: Change in the Nature of Warfare." *Defence and Airpower Series.* Aerospace Education Foundation, 2001; Theo Farrell and Sten Rynning, "NATO's Transformation Gaps: Transatlantic Differences and the War in Afghanistan." *Journal of Strategic Studies* 33.5 (2010), 673-699; Edward A. Smith, *Effects Based Operations: Applying Network Centric Warfare in Peace, Crisis, and War.* Washington, DC: CCRP Publication Series, 2002. Available at: <www.dodccrp.org/files/Smith_EBO.pdf> [accessed 05/07/2018]; Terry Terrif, Frans Osinga and Theo Farrell, eds. *A Transformation Gap? American Innovation and European Military Change*, Stanford, California: Stanford Security Studies, 2010.

[176] See King, *The Transformation of Europe's Armed Forces.*, pp. 32–44.

transnationalisation evident in the reduction of manpower, modernisation of their fleets, re-organisation of their structure as well as the development of the air doctrines they use aimed at the idea of jointness. All of these are elements of military transformation resulting from the post-Cold War changes in security environment and indicating the increased adaptation of the named air forces to participation in multinational operations. Therefore, the chapter focuses in particular on the use of European militaries, especially air power, in an allied context.

The structure of the chapter is two-fold. Firstly, it explores the aforementioned concept of concentration and transnationalisation of military forces in European countries after 1990. In doing so, it focuses on the situation the British, Polish and Swedish Air Forces found themselves in after the end of the Cold War. Secondly, the chapter investigates the presence of the process of concentration and transnationalisation in the post-Cold War air doctrines looking specifically at the development of allied context in strategic thinking in Europe at that time. At that point, it focuses on the British, Polish and Swedish air doctrine and explores how these documents reflect the allied context present in the strategic thinking in Europe after 1990.

3.1   Post-Cold War transformation of European air forces

The end of the Cold War, collapse of the Soviet Union and dissolution of Warsaw Pact created a new security situation in Europe. Countries previously grouped in two opposing blocs had to re-define their approach to security and defence. The UK, Poland and Sweden found themselves in very different circumstances at that time and adapted different ways of managing that situation. The UK focused on strengthening its cooperation with NATO and EU, while for Poland becoming a member of these organisations became the main strategic goal.[177] The former Warsaw Pact member country decided to completely re-orientate its political focus from Eastern to Western Europe and build its position as an independent nation.[178] Sweden also changed the course of its politics –

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[177] See, for example, Łastawski, „Sytuacja geopolityczna Polski." pp. 32–35 and *The Strategic Defence Review,* paragraphs 37–39.
[178] See Łastawski, „Sytuacja geopolityczna Polski.", pp. 20–22.

from threat- to capability-driven defence and increased involvement in multinational operations rather than focusing predominantly on defending own territory.[179] However, although, the individual situation of those countries in 1990 was quite different, as this chapter will show, there were also certain similarities in the way they have approached the changing security environment. This sub-chapter will discuss the changes taking place in the European air forces in a two-fold way. Firstly, it will look at the decrease in size of the RAF, Polish and Swedish Air Force. Secondly, it will discuss the organisational and structural changes happening in these forces after 1990.

3.1.1   Changes in the size of European air forces

Changes in strategic thinking had a direct effect on European air forces and armed forces in general. After 1991 they underwent transformation and British, Polish and Swedish militaries were no exception. One of the two major outcomes of that process identified by King, was discussed in Chapter 2., concentration of European armed forces. Table 1. in Chapter 1. illustrated the decrease in defence budgets across the last 25 years in the UK, Poland and Sweden. As a result their armed forces were downsized too: they became more concentrated. According to the *Strategic Defence Review*, British armed forces were cut by one third in the period 1990–1998.[180] However, according to Alexander and Garden, this process begun in the UK well before 1990, as the numbers for British military personnel started dropping from 346,000 in 1975[181] to 306,000 in 1990 and 150,250 in 2017. Polish Armed Forces were cut from 312,800 in 1990 to 105,000 in 2017. Similar decrease was also noted in Sweden. The number of armed forces personnel was significantly reduced from 64,800 in 1990 to 15,300 in 2015 with a slight increase to 29,750 two years later what could be associated with the security concerns in the region as well as a preliminary to the re-introduction of conscription in January 2018. Table 5.

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[179] See, for example, Archer, "The Nordic States and Security." and Andersson, "A New Swedish Defence.", p. 135.

[180] *The Strategic Defence Review*, paragraph 11.

[181] Michael Alexander and Timothy Garden, "The Arithmentic of Defence Policy." *International Affairs*, 77.3 (2001), 509–529, p. 515.

illustrates that process including the most recent data available at the time of writing.

Table 5 Total armed forces personnel in the UK, Poland and Sweden, 1990-2017

	1990	1995	2000	2005	2010	2015	2017
Manpower							
United Kingdom	306,000	236,900	212,450	205,890	175,690	159,150	150,250
Poland	312,800	278,600	217,290	141,500	100,000	99,300	105,000
Sweden	64,800	64,000	52,700	27,600	13,050	15,300	29,750

Sources: "The Alliances and Europe" *The Military Balance*, 90.1 (1990), 44-96; "NATO" *The Military Balance*, 95.1 (1995), 33-67; "Non-NATO Europe" *The Military Balance*, 95.1 (1995), 68-101; "NATO and Non-NATO Europe" *The Military Balance*, 100.1 (2000), 35-108; "Europe" *The Military Balance*, 105.1 (2005), 45-106; "Europe: non-NATO" *The Military Balance*, 105.1 (2005), 107-150; "Europe" *The Military Balance*, 110.1 (2010), 103-210; "Europe" *The Military Balance*, 115.1 (2015), 57-158; "Europe" *The Military Balance*, 118.1 (2018), 65-168.

The general trend of shrinking of military forces illustrated in Table 5. is also clearly mirrored in the transformation of European air forces. The table below shows the trend in decreasing manpower in the RAF, Polish Air Force or the Swedish Air Force. It illustrates a dramatic cut in the case of Poland where number of active personnel in the Air Force dropped from 86,200 in 1990 to 16,600 in 2015 with a slight rise to 18,700 in 2017. During that period Swedish Air Force noted a decrease by 5,300 officers, while in the UK the number went down from 89,600 in 1990 to 32,900 in 2017.

Table 6 Total air forces personnel in the UK, Poland and Sweden, 1990-2017

	1990	1995	2000	2005	2010	2015	2017
Manpower							
United Kingdom	89,600	70,400	54,730	48,140	39,750	34,650	32,900
Poland	86,200	72,600	46,200	30,000	17,500	16,600	18,700
Sweden	8,000	11,500	8,400	5,900	3,800	3,300	2,700

Sources: "The Alliances and Europe" The Military Balance, 90.1 (1990), 44-96; "NATO" The Military Balance, 95.1 (1995), 33-67; "Non-NATO Europe" The Military Balance, 95.1 (1995), 68-101; "NATO and Non-NATO Europe" The Military Balance, 100.1 (2000), 35-108; "Europe" The Military Balance, 105.1 (2005), 45-106; "Europe: non-NATO" The Military Balance, 105.1 (2005), 107-150; "Europe" The Military Balance, 110.1 (2010), 103-210; "Europe" The Military Balance, 115.1 (2015), 57-158; "Europe" The Military Balance, 118.1 (2018), 65-168.

In line with that drop in numbers, came professionalisation of the European militaries and creating voluntary forces. An interesting hypothesis was formulated by Haltiner saying that 'the more a European nation is involved in supra- and international ties, the greater probability of an abolition of conscription with a simultaneous reduction of its own defensive power.'[182] Haltiner calls it an 'alliance effect' – the more a country participates in NATO, EU, PfP the more it relies on their collective defence capabilities and therefore reduces their military expenditure, as discussed in Chapter 1., as well as their armed forces numbers, as shown in the above tables.

Haltiner also gives another reason for creating all-voluntary forces that is especially applicable for air power arguing that increased professionalisation of armed forces and higher technical complexity of the military equipment accompanies a move away from conscription.[183] Air forces, as completely reliant on equipment and introducing more advanced solutions and systems, require voluntary personnel, serving on a long-term basis and ready to take up a permanent training to increase their qualifications. Conscripts with only basic training cannot fulfil these requirements. The decreasing numbers shown in Table 6. confirm the process of concentration taking place in the RAF, Polish and Swedish Air Force.

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[182] Karl W. Haltiner, "The Decline of the European Mass Armies." In *Handbook of the Sociology of the Military.* ed. by Giuseppe Caforio, 361–384, Springer, 2006, pp. 363–364.
[183] Ibid., p. 373.

Following the widespread trend of concentration happening after 1990, all three, the UK, Poland and Sweden decided on professional, all-voluntary Armed Forces although the UK abolished conscription well before the end of the Cold War, in 1963.[184] Poland followed in 2009 and Sweden in 2010.[185] There are two reasons why Poland did not abolish conscription until 2009. Firstly, during the Cold War, most European militaries, including those of the Warsaw Pact, prepared for large-scale theatre warfare in Europe. The massive manpower required for such an undertaking could only be achieved and afforded with a conscription-based military.[186] Secondly, following the end of the Cold War, many Central and East European countries, including Poland, perceived Russia as a potential threat to their newly gained independence from the Warsaw Pact. They continued to rely on mass conscription militaries before alleviating their feeling of insecurity vis-à-vis Russia by becoming members of NATO.[187] Close proximity to Russia, in fact, has been continuously perceived as a major point in Polish security and defence strategy until today.[188] For example, in a declaration made in 2001 the then defence minister, Jerzy Szmajdziński, stressed the importance of professionalisation of the Polish military but, at the same time, still emphasised the crucial role of conscription in recruiting the military personnel pointing, again, to the country's geopolitical location as one of the reasons.[189] Such approach stood in contradiction to creating voluntary military forces confirming the aforementioned general trend observed among former Warsaw Pact members. But also after the abolishing of conscription, Russia's presence in the region was recognised as a vital reason for increased participation of the Central and Eastern European countries in frameworks of collective defence such as NATO or EU.[190] Examples of such initiatives will be discussed in Chapter 4.

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[184] King, *The Transformation of Europe's Armed Forces.*, p. 33.
[185] Rafał Ciastoń *et al. Siły Zbrojne RP – stan, perspektywy I wyzwania modernizacyjne.* Warszawa: Fundacja im. Kazimierza Pułaskiego, 2014, p. 11.
[186] Manigart, "Restructuring of the Armed Forces.", p. 334.
[187] Dandeker, "Building Flexible Forces.", p. 410.
[188] See, for example, *National Security Strategy of the Republic of Poland*, Warsaw, 2014, p. 21.
[189] Jerzy Szmajdziński, cited in M. Zaborowski and K. Longhurst, "America's protégé in the east? The emergence of Poland as a regional leader." *International Affairs*, 79.5 (2003), 1009–1028, p. 1026.
[190] Dandeker, "Building Flexible Forces.", p. 410.

Sweden abolished conscription in 2010.[191] However, interestingly, they decided to re-activate it from 1st of January 2018 since the voluntary recruitment system did not provide enough military personnel.[192] That decision also had a strong and increasingly growing public support, from 40 per cent in 2013 to 62 in 2016.[193] According to Philippe Manigart, the problem of all-volunteer forces not providing enough personnel proved to be very common among the Western militaries introducing the voluntary recruitment.[194] The other reason for re-activating conscription in Sweden was the increased Russian military activity in the Baltic region.[195] That together with growing tensions in Eastern Europe, with annexation in Crimea being only one example, resulted in a widespread feeling that Russia had again emerged as a serious threat to the neighbouring states. In effect, the somewhat diminished in last 25 years perception of traditional threats, i.e. conventional state-on-state conflict, again gained importance.

The above section provided a brief overview over the downsizing of the RAF, Polish and Swedish Air Forces. That process was a direct result from the changes taking place in these states' Armed Forces. These were not only reduced in size but also transformed from conscript to voluntary forces resulting in their professionalisation. The next section will look into how the process of concentration affected the organisation and internal structure of the RAF as well as Polish and Swedish Air Forces.

3.1.2   Changes in air forces' structure and organisation

Cutting numbers was not the sole outcome of the changes taking place in European air forces. Toward the end of the 1990s, efforts were made to maximise the flexibility and capabilities of the now much smaller militaries in order to allow them to swiftly and effectively respond to various challenges presented by

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[191] Archer, "The Nordic States.", p. 100.
[192] Government Offices of Sweden, "Sweden re-activates conscription." (updated 02/03/2017) Available at: <http://www.government.se/articles/2017/03/re-activation-of-enrolment-and-the-conscription/> [accessed 10/07/2017].
[193] Berndtsson, Bjereld, and Ydén, "Starkt stöd för försvaret."
[194] Manigart, "Restructuring of the Armed Forces.", p. 335.
[195] Philip Oltermann, "Sweden to reintroduce conscription amid rising Baltic tensions." *The Guardian* (02/03/2017) Available at: <https://www.theguardian.com/world/2017/mar/02/sweden-reintroduce-conscription-amid-rising-baltic-tensions> [accessed 07/11/2017].

the complex contemporary security environment.[196] These changes affected the armed forces as a whole and therefore obviously had direct impact on transformation of the individual services including the air forces. The concentrated, professional armed forces underwent re-organisation in all of the three cases – British, Polish and Swedish. The clear tri-service divide has been gradually replaced with the concept of jointness and all three countries introduced joint commands for their armed forces. Also, joint doctrine and concept centres were established as institutions responsible for providing guidance on how the armed forces should operate in contemporary security environment by, for example, preparing standardised doctrines, analysis lessons learnt from past operations and developing new concepts for improving military capability, integrating new technologies and organising necessary personnel training. Stemming from the changes taking place in armed forces, elements characteristic for military concentration and transnationalisation are also found in the process of internal re-organisation of the European air forces, modernisation of their equipment and standardisation of regulations and procedures.

The first element of the military concentration discussed in this section is the introduction of the idea of jointness and moving away from the tri-service divide. In the UK, following the defence review *Options for Change* from 1990, the Joint Rapid Deployment Force – JRDF, was established in 1996.[197] The same year the operational Permanent Joint Headquarters (PJHQ) were officially opened. SDR from 1998 reinforced the idea of jointness pointing out that the nature of potential new challenges and future operations will require the use of deployable joint military forces rather than individual services.[198] The Review converted JRDF into JRRF – Joint Rapid Reaction Force as well as created Joint Helicopter Command and stressed the importance of conducting joint training for the personnel.[199] Also a Development, Concepts and Doctrine Centre (DCDC) was established in Shrivenham as a result of the SDR taking on the role

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[196] Dandeker, "Building Flexible Forces.", p. 412.
[197] Ibid., p. 34.
[198] *The Strategic Defence Review*, paragraph 91.
[199] Ibid., paragraphs 91–92, 97 and 103.

of providing all three services with a joint doctrine and concepts for their employment in different kinds of operations.[200]

In Sweden there was Försvarsmaktens Enhet för Konceptutveckling – FMKE (the Swedish Armed Forces Centre for Conceptual Thinking and Experimentation) based in Enköping; however this one was closed down because of its low efficiency.[201] The gap was filled in 2013, when the Swedish Concepts and Doctrine Centre was formed within British DCDC.[202] The Centre is an interesting example of multinational cooperation as well as transnationalisation. It employs four Swedish officers who primarily report to their British superiors at the DCDC and work (alongside the British personnel) within the area of doctrine, concepts as well as future and strategic analysis but can also receive tasks from the Policy and Plans Department at the Swedish Armed Forces HQ.[203] Similarly as the Swedish officers, the DCDC as an institution can also receive direct tasks at the strategic level from the Swedish Armed Forces HQ and therefore whatever work is conducted in DCDC (unless classified) it is shared with Sweden. Johnny Resman, in an email conversation to the Author, noted: 'we are both the UK and Swedish DCDC – a unique relationship.'[204] However despite the joint nature between the Swedish Centre and DCDC, the former is not responsible for preparing Swedish doctrines. That task remains within the remit of the Swedish Armed Forces HQ, however, the Swedish officer working in the DCDC's doctrine writing team supports that process to certain extent.[205]

In the case of Poland, a similar institution to the DCDC, FMKE or the Swedish Concepts and Doctrine Centre, was created. Centrum Doktryn i Szkolenia Sił Zbrojnych (Doctrine and Training Centre for Polish Armed Forces – DTC PAF) was officially opened in Bydgoszcz in 2011 and is responsible for managing such processes as: operational standardisation of doctrines and

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[200] Ministry of Defence. *Development, Concepts and Doctrine Centre: the MOD's independent think tank*. Shrivenham: Ministry of Defence, 2016, p. 3.
[201] Lieutenant Colonel Johnny Resman, Swedish Concepts and Doctrine Centre, DCDC, email conversation with the Author dated 16/10/2017.
[202] Ministry of Defence. *Development, Concepts and Doctrine Centre*, p. 3.
[203] Lt Col Johnny Resman, email conversation dated 16/10/2017.
[204] Ibid.
[205] Ibid.

doctrinal documents, lessons learnt as well as concept development and experimentation.[206]

Poland and Sweden also established joint commands for their military forces. In Poland it was regarded as the final stage of the long-term military transformation initiated shortly after the end of the Cold War. On the 1st of January 2014 two new joint commands: Armed Forces General Command (Dowództwo Generalne Rodzajów Sił Zbrojnych) and Armed Forces Operational Command (Dowództwo Operacyjne Rodzajów Sił Zbrojnych) replaced the old, individual structures being in place for Polish Land Forces, Navy, Air Forces and Special Forces. There is also an operational Joint Forces Command within the structure of Swedish Armed Forces Headquarters (Högkvarteret). As one could expect, it is organised according to NATO standards what increases interoperability when Sweden is involved in any operations led by the Alliance.[207] All these structural changes, creating joint commands and establishing joint doctrine centres, can be regarded as elements of the military concentration since they are improving the effectiveness and flexibility of the reduced military forces. They also implied significant changes within the air forces.

The aforementioned British defence review *Options for Change* included very clear recommendations for the transformation of the RAF, for example, it suggested a decrease in manpower from 89,000 to 75,000.[208] However, it also made recommendations for organisational changes stemming from the reduction in numbers. For example, in response to the prospective withdrawal of the Soviet air forces from the Central and Eastern Europe, the RAF forces stationed in Germany were to be reduced by two Phantom air defence squadrons, four Tornado Interdiction Strike squadrons and two air bases – RAF Bruggen and RAF Laarbruch.[209] That, in turn, led to a complete disbandment of the RAF Germany command and their withdrawal in 1996.[210] Also the defence review

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[206] DTC PAF. "Mission and Tasks." Available at: <http://cdis.wp.mil.pl/en/40.html> [accessed 20/07/2017].

[207] Andersson, "A New Swedish Defence.", p. 139.

[208] House of Commons, *Options for Change: Royal Air Force,* Defence Committee Fifth Report, Session 1990-91, paragraphs 1 and 15.

[209] Ibid., paragraphs 18–26.

[210] RAF. "No 2 Group." Available at: <https://www.raf.mod.uk/our-organisation/groups/no-2-group/> [accessed 16/08/2018].

called for changes within the RAF in the UK, such as reducing Tornado squadrons from three to two, reducing the numbers of Nimrod Maritime Patrol Aircraft by 15 per cent, withdrawing the remaining two Phantom air defence squadrons as well as replacing Buccaneers in two existing maritime attack squadrons with the Tornados re-deployed from Germany.[211]

Despite all these changes the character of future uses of the RAF remained unclear. The Defence Committee's Report on the RAF *Options for Change* expressed anxiety about making these changes without knowing what NATO may need them for and what will be the broader context of their use.[212] Later on the focus shifted to maintaining highly-deployable expeditionary forces. Although the SDR from 1998, recognised the major role that air power plays in operations regardless of their character, the priority was given to such capabilities as air superiority and air defence in expeditionary warfare, over national air defence.[213] Finding out the context in which the RAF was supposed to operate was only one challenge. Another challenge was the available equipment, which was not suited to the new security environment. During the Cold War, the RAF got over-adapted to NATO Cold War requirements to such an extent that a lot of equipment worked very well in Germany but not in the desert during the Gulf War.[214]

Changes taking place within the Polish Air Force were a direct result of the dissolution of the Warsaw Pact and the country's aspirations to join NATO. After 1999, when the country became a NATO member, crucial for the Polish Air Force was to adapt to the Alliance's standards as well as the regulations of the International Civil Aviation Organisation – ICAO.[215] Similarly as the whole Armed Forces, the Polish Air Force underwent organisational changes. These started as early as 1990, when the Air Force (Wojska Lotnicze) and the Country Air Defence Force (Wojska Obrony Powietrznej Kraju) were joined into one formation – the Air Force and the Counter-Air Defence Forces (Wojska Lotnicze i Obrony Powietrznej). The latter was then finally transformed into the Polish Air Force (Siły Powietrzne) in 2004. Similarly, the structure within the Air Force

[211] House of Commons, *Options for Change.*, paragraphs 1, 27,39, 40.
[212] Ibid., paragraph 44.
[213] *The Strategic Defence Review*, paragraph 87.
[214] Air Vice Marshal Edward Stringer, interview conducted by the Author on 27/09/2016.
[215] Ciastoń *et al. Siły Zbrojne RP.*, p. 53.

started to change in 1999 with disassembling two regiments and formation of two squadrons.[216] The early 1990s also presented challenges on the personnel level. Before that time the majority of the high rank command positions were taken by Soviet officers so Polish personnel were often unprepared to take their place after the withdrawal of USSR forces.[217]

The Service's downsizing that took place after the end of the Cold War was reflected not only in decreasing numbers of the personnel but also the numbers of aircraft. In 1990 the Polish Air Force consisted of approximately 800 aircraft which were reduced to 300 in 1998 with a target of 100 in 2002.[218] As a former Soviet bloc country, Poland had in its inventory mostly aircraft built either in the Soviet Union or under their licence so, for example, the fighter fleet consisted of MiG-21, MiG-23, MiG-29 and Su-22 where only the latter two types had any modern combat capability.[219] As a result of modernisation conducted in the Polish Armed Forces, the former two types (MiG-21 and MiG-23) were withdrawn from service by 2004 and the fleet was boosted with additional 22 MiG-29 bought from Germany in 2003 and 48 F-16 Block 52+ delivered in years 2006–2008.[220] With the acquisition of a new type of a fighter aircraft came a change in the mindset of the personnel. According to an account given by Polish F-16 pilots the training they underwent to learn how to operate the new aircraft was comparable to starting their career from scratch.[221] It entailed not only improving the knowledge of English, learning Western tactics and procedures or NATO terminology but also, and above all, learning how to think in a completely new way about their role as pilots. American-led training was found to be very different from the one in the former Soviet bloc which the

[216] Ibid., p. 54.
[217] Scholar at the WSU, interview dated 22/06/2016.
[218] Barre R. Seguin, *Why did Poland choose the F-16?* The Marshall Center Occasional Paper Series, Garmisch-Partenkirchen: The George C. Marshall European Center for Security Studies, 2007, p. 6.
[219] Lukáš Dyčka and Miroslav Mareš, "The Development and Future of Fighter Planes Acquisitions in Countries of the Visegrad Group." *The Journal of Slavic Military Studies*, 25.4, 533–557, pp. 535 and 538; Seguin, *Why did Poland choose the F-16?*, p. 6.
[220] Zbigniew Średnicki, „Modernizacja techniczna sił powietrznych." *Przegląd Sił Zbrojnych*, 3 (2015), 8–15, p. 11.
[221] Agata Król, „12 lat F-16 w Polsce. Samolot, który uczy pokory." Polskie Radio 24 (09/11/2018) Available at: <https://polskieradio24.pl/5/3/Artykul/2212916,12-lat-F16-w-Polsce-Samolot-ktory-uczy-pokory> [accessed 10/11/2018].

Polish crews were used to and required a change of mindset of a whole generation of already trained and experienced pilots.[222]

But not only the fighter fleet was modernised at that time. New equipment was acquired for every capability within the Polish Air Force. For example, Poland bought transport aircraft like CASA C-295M – 17 of these were delivered in years 2003–2013. The country also made plans for establishing a UAS (Unmanned Aircraft System) fleet.[223] The 12th Unmanned Aerial Vehicle Base was officially opened on 1st January 2016 and currently operates mini-UASs BSP Orbiter. In the future it will be equipped with short-range, medium-range and MALE (Medium Altitude Long Endurance) aircraft.[224] Needless to say that modernisation on this scale is extremely costly, especially because most of the Polish inventory by the 1990s, compared to that of the UK or Sweden, was almost entirely outdated.

Following reductions in personnel, the structure of the Swedish Air Force underwent changes as well. For example, out of twelve Wings (and also main air bases) into which the Swedish Air Force was organised in 1990,[225] only four remained in 2017 – F7 Skaraborgs (Såtenäs), F17 Blekinge (Ronneby), F21 Norrbottens (Luleå) and a Helicopter Wing.[226] The discussion on which bases should be closed was not focused on their strategic importance for national defence, but rather driven by the issue, as a scholar at the Swedish Defence University put it, about 'how many jobs will be lost if that particular air base closes'.[227] This tendency was confirmed by a study conducted by Boëne *et al.* The authors found that in the 1990s in Sweden the expenses for military defence

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[222] See ibid.

[223] For more examples see Średnicki, „Modernizacja techniczna sił powietrznych.", pp. 11–15.

[224] 12. Baza Bezzałogowych Statków Powietrznych, "Rozpoczęcie funkcjonowania 12. BBSP." (22/12/2015) Available at: < http://12bbsp.wp.mil.pl/pl/1_67.html> [accessed 20/07/2017]; Marcin Górka, "Działa już pierwsza baza bezzałogowców." *Polska Zbrojna* (08/01/2016) Available at: <http://www.polska-zbrojna.pl/home/articleshow/18154?t=Dziala-juz-pierwsza-baza-bezzalogowcow> [accessed 20/07/2017].

[225] These were: F21 Air Wing Luleå, F4 Air Wing Ostersund, F13 Air Wing Norrköping, F13M Air Wing Malmslätt, F16 Air Wing Uppsala, F10 Air Wing Angelholm, F17 Air Wing Ronneby, F6 Air Wing Karlsborg, F7 Air Wing Såtenäs, F15 Air Wing Söderhamn, F5 Air Wing Combat Flying School Ljungbyhed, F14 Air Wing Halmstad and F20 Air Wing Uppsala – Air Force Academy.
Source: Richard A. Bitzinger, *Facing the Future. The Swedish Air Force, 1990-2005.* Santa Monica: RAND, 1991, pp. 11–14.

[226] Försvarsmakten, "Flygvapnet" Available at: <http://www.forsvarsmakten.se/sv/var-verksamhet/verksamhetsomraden/flygvapnet/> [accessed 20/07/2017].

[227] Scholar at the Swedish Defence University, interview conducted by the Author on 14/06/2016.

were regarded of lesser importance when compared to those made towards improving the education and national health care system, creating job opportunities or looking after the environment.[228]

Similarly to Poland, there were also modernisation plans for the Swedish Air Force which involved replacing Viggen aircraft with JAS-39 Gripen, introducing more advanced types of munitions as well as upgrading command, control, communications and intelligence system.[229] This process also led to gradual increase of interoperability with NATO countries and their transnationalisation. Sweden realised that efficient cooperation with those countries in various operations or exercises required adjusting their systems, equipment and the way they work. It was a very challenging goal to achieve.

First point was to switch from speaking Swedish to English and that task (as any other) was taken very seriously. For example, in 1999 all personnel in air bases in Ronneby and Kallinge started taking English courses and that did not involve the aircrews only but literally everybody down to the cleaning staff.[230] These adaptations went so far that even a Swedish word for air power – 'luftmakt', which did not exist until this point, was created at that time.[231] Learning English was not the only challenge that Swedish Air Force had to face. Another was to switch from the metric to the imperial system. This not only involved upgrading or re-scaling the equipment, but similarly as in case of Poland, the process required creating a whole new mindset so the personnel did not need to constantly make calculations in order to operate in the air.[232] These adjustments were not always straightforward. For example, a lot of criticism was raised by switching to NATO LINK16 from the Swedish communication system – Erieye which was in fact more advanced.[233] It took about 10 to 15 years for the Swedish Air Force to become interoperable with NATO standards.[234]

Adjustments took place also at the political level. For example, another thing that Swedish Air Force had to learn was air-to-air refuelling. The reason

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[228] B. Boëne *et al.*, cited in L. Jelušič, "Conversion of the Military.", p. 349.
[229] Bitzinger, *Facing the Future.*, pp. 37–45.
[230] Fredrik Lindvall, interview dated 13/06/2017.
[231] Ibid.
[232] Lieutenant Colonel Stefan Wilson, a scholar at the Swedish Defence University, interview conducted by the Author on 17/06/2016.
[233] Fredrik Lindvall, interview dated 13/06/2017.
[234] Lt Col Stefan Wilson, interview dated 17/06/2016.

why the Viggen or the early version of Gripen fighters did not have such capability, and consequently why the crews did not possess such skill, was a political one. As Wilson, a Swedish Air Force officer, noted:

> *It was not allowed by the Swedish Government because if we had air-to-air refuelling one could easily imagine that we have an offensive capability to fly to Moscow. And that fact could trigger Moscow to attack Sweden.*[235]

Similarly, the fact that Sweden decided to introduce Gripen into the fleet and not some other fighter like for example, F-16 (which was also considered) was also a political decision. Just as in case of Poland where choosing F-16 over Jas-39 Gripen or Dassault Mirage 2000-5 Mk II demonstrated the country's close relations with the US.[236] For Sweden, reliance on national production was not only a matter of technological development but also national prestige.[237] It allowed for undisrupted continuation of providing the Air Force with highly sophisticated aircraft made by the home industry. What is more such decision also helped to uphold Sweden's self-sufficiency and credibility as a neutral country at the same time as strengthening interoperability with NATO as a non-member.[238]

In order to meet the requirements of post-Cold War security environment the RAF, Polish and Swedish Air Forces underwent the process of concentration and transnationalisation. This involved downsizing the existing force and reorganising its structure and resulted in creating professional and specialised air forces. The transformation was a result of concentration of the armed forces in general and also mirrored changes taking place in strategic thinking at that time. For example, one could notice the shift from focusing predominantly on national defence to increased involvement in expeditionary warfare in creating smaller, more deployable units as well as modernisation and standardisation of the existing fleets. The latter process was, however, initiated not only at the level of equipment but also took place at the level of writing air doctrines and developing concepts on how to use air power, as discussed in more detail below.

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[235] Ibid.
[236] Zaborowski and Longhurst, "America's protégé in the east?", p. 1011.
[237] Scholar at the SWENDU, interview dated 14/06/2016.
[238] Bitzinger, *Facing the Future.*, p. 47.

Recognising the increased number of multinational operations, these documents were also standardised in order to increase the interoperability among involved air forces. The issue of allied context in strategic thinking reflected in these documents will be discussed in the next section of this chapter providing more proof that European air forces have been undergoing the process of concentration and introducing the idea of their transnationalisation.

3.2 Towards concentration and transnationalisation – development of the British, Polish and Swedish air doctrines

The post-Cold War transformation took form of not only modernising and reorganising the air forces but was also reflected in air doctrines. This part of the chapter investigates the development of air doctrines in the three countries and, their adherence to NATO documents. Firstly, referring to the idea of concentration, it discusses the development of post-Cold War British, Polish and Swedish doctrines focusing on the introduction of the concept of 'jointness'. Secondly, using the framework provided by Hofstede, the following section looks at how the cultural background could influence character of these documents. Finally, it discusses how, if at all, the British, Polish and Swedish air doctrines address the subject of multinational cooperation identifying that as an evidence of the process of transnationalisation.

3.2.1 Military concentration in development of post-Cold War British, Polish and Swedish air doctrines

British air power doctrine for the post-Cold War period dates back to 1991, when the first edition of AP 3000 – *Royal Air Force Air Power Doctrine* was issued. It followed a period of over 20 years when NATO doctrine had completely supplanted national documents. As suggested by an interviewee who wishes to stay anonymous, resignation from a national air doctrine in favour of a NATO one could have its origins in the expectation that during the Cold War, it was very unlikely for the UK to get involved in a military conflict other than in response to Article V.[239] However, with the Cold War coming to an end and

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[239] Scholar at the RAF College Cranwell, interview dated 21/09/2016.

growing possibility of military involvement on a global scale and not necessary under auspices of NATO there was a recognised need for a national document.[240] A document that would provide airmen with an understanding of air capabilities in the context of modern warfare and the contemporary security environment, but also (or before all) of the fundamental principles and philosophy underpinning air power thinking.[241] As a result AP 3000 was published in 1991 on a trial basis.[242] Its next version was issued in 1993, in light of the disintegration of the USSR and to reflect lessons learnt from the RAF involvement in the First Gulf War. Then, the doctrine was revised several times, in 1999 – AP 3000 *British Air Power Doctrine*, 2009 – AP 3000 *British Air and Space Power Doctrine*, and 2013 – Joint Doctrine Publication (JDP) 0-30 – *UK Air and Space Doctrine* with its latest edition published in December 2017.

The evolution and development of Polish air power doctrine bears marks of the legacy of several decades of Poland's membership in Warsaw Pact. As was already mentioned in Chapter 1., all Polish documents relating to security and defence strategy which were in use before 1990 were in fact executive documents for the Pact's doctrinal publications.[243] Similarly, air force-specific publications were adapted from Soviet regulations.[244] The first truly national document of such kind issued after the disintegration of the Warsaw Pact was *Regulamin działań taktycznych Sił Powietrznych* (*Regulations for Tactical Air Forces Operations*), published in 1996. This was a purely tactical publication describing detailed rules for performing air force's tasks and it took eight years to revise it, as the next doctrinal publication for Polish Air Forces – *Regulamin działań Sił Powietrznych* (*Regulations for Air Force Engagement*) DD/3.3 was published in 2004. The doctrine was revised in 2014 and published as *Połączone operacje powietrzne* DD-3.3(B) (*Joint Air Operations* DD-3.3(B)).[245]

Similarly to the case of the UK and Poland, the development of Swedish air power doctrine for the post-Cold War period also reflects the process of

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[240] Ibid.
[241] Christopher Finn, "British Thinking on Air Power - The Evolution of AP3000." *Air Power Review*, 12.1 (2009), 56-67, p. 58.
[242] Ibid., pp. 58–59.
[243] Koziej, „Obronność Polski.", p. 20; Kulisz, „Analiza procesu planowania.", p. 99.
[244] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 22/06/2016.
[245] This was done in light of organisational changes within Polish Armed Forces and creation of the Armed Forces General Command.

concentration taking place among European air forces. Before 1990 there was no need for a formal air doctrine other than a tactical document as during the Cold War the security situation was very clear and so were the tasks of Swedish Armed Forces.[246] After the political situation changed and the military went through the process of transformation there were first, unsuccessful, attempts to write a draft of first post-Cold War Swedish air doctrine.[247] The first draft official publication – *Doktrin för luftoperationer* (*Doctrine for Air Operations*) was issued in 2004 and revised a year later, in 2005. The new document, also titled *Doktrin för luftoperationer* (*Doctrine for Air Operations*), was replaced again in 2014 with the current publication, *Operativ Doktrin 2014* (OPD) (*Operational Doctrine 2014*) published by Swedish Försvarsmakten (Armed Forces).

All of the current British, Polish and Swedish air doctrines reflect the process of concentration observed in European air forces after the end of the Cold War, since all of them are joint publications. In case of the UK, it was the first edition of JDP 0-30 from 2013 that was the first air power related doctrine issued by the aforementioned DCDC. Its publication marked the shift from single service to a joint publication which can be perceived as another move towards the cross-domain integration of warfare and implementation of the idea of jointness in the British Air Forces. The second edition of JDP 0-30, *UK Air and Space Power* from 2017, acknowledged the complexity and uncertainty of the environment where air power is supposed to operate pointing to interconnectedness of both, domestic and international threats, presence of various, state and non-state actors, decreasing distinction between war and peace and emergence of cyber threats.[248]

Year 2014 with publication of DD-3.3(B) marked a similar shift from single-service to joint authored doctrine in Poland. The process of military

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[246] Lars Ericson Wolke, a scholar at the Swedish Defence University, email conversation with the Author dated 15/08/2017.

[247] In early 1990s, two drafts of Swedish air doctrine were written independently. One was authored by a student at the Swedish Defence University, Anders Silwer and, although did not result in official publication, it gave basis for issuing the doctrines later in 2004 and 2005. The other project was started by a group of people at the Swedish Defence Research Agency (FOI) led by Anders Borgvall, at that time Swedish Air Force officer. It was abandoned due to time constraint since the group of officers working on that was organised on voluntary basis. Therefore they were still performing their regular duties and hence could work on the doctrine project only part-time. According to: Anrig, *The Quest for Relevant Air Power.*, p. 307 and Lt Col Stefan Wilson, interview dated 17/06/2016.

[248] JDP 0-30, 2nd Edition., p. 5.

transformation, and concentration, when applied to the area of publishing and revising air doctrines was in the case of Poland rather slow. For example, joining NATO in 1999, which had been defined as a strategic goal for the country, did not have an immediate influence on formulating new air power doctrine. As Kulisz pointed out, Poland entered the Alliance's structures with strategic documents from early 1990s still being in force.[249] One possible reason for this is the language barrier. Because of the country's former membership in the Warsaw Pact, the foreign language dominating among Polish officers was Russian while knowledge of any Western languages was unpopular.[250] For example, according to the order of the Commander for the Anti-Aircraft Forces dated 1977, officers who did not speak Russian on a satisfactory level or who were showing a 'disrespectful attitude' towards learning that language, were refused certain privileges or even removed from their posts.[251] It required time to adjust, especially for the older generation of the military personnel. Another reason was that, although there was a special committee responsible for adapting the NATO regulations into national documents, there were no specifically designated units responsible for writing those national doctrines.[252] Finally, delays were linked to the overall situation in the country and in the Polish Armed Forces. Transformation of the Polish military initiated in early 1990s involved a quite chaotic process of reducing personnel, organisational and structural changes, withdrawing outdated equipment and as such did not create a favourable environment for systematic thinking about security and defence strategy or writing doctrines.[253]

Similarly, the Swedish OPD 2014 is, like most recent Polish and British publications, a joint doctrine. However, unlike its British and Polish equivalents, it is rather general in its character and contains only one, very brief sub-chapter dedicated to Flygvapenforband (Air Force Units).[254] It presents Swedish Air

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[249] Kulisz, „Analiza procesu planowania.", p. 109.
[250] Scholar at the Polish Air Force Academy, interview conducted by the Author on 28/06/2016.
[251] Country's Anti-Aircraft Forces Command (1977) *Rozkaz Dowódcy Wojsk Obrony Powietrznej Kraju nr PF102/OPK z dnia 27.06.1977 r. w sprawie nauczania i doskonalenia znajomości języków obcych kadry zawodowej Wojsk OPK*. Polish Air Force Archives, Rozkazy Dowódcy Wojsk OPK, teczka nr 9, sygn. 7684/84/80, 03/01/1977-29/12/1977.
[252] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 22/06/2016.
[253] Major General (ret.) Krzysztof Załęski, a scholar at the Polish Air Force Academy, email conversation with the Author dated 16/11/2016.
[254] See *Operativ doktrin* (OPD) 2014, Stockholm, pp. 46–54.

Force capabilities in a broad context ranging from guerrilla warfare, insurgencies and terrorism to conventional conflict stressing that the latter one still remains its main focus.[255] There are some similarities between Sweden and Poland inasmuch as in both countries the process of writing an air-specific doctrine took quite a long time. In both cases a certain unpreparedness of the air force personnel to tackle such task was to account to this. In Poland the military transformation involved reorientation from Soviet standards and influences to building a dialog with NATO, also in area of strategic thinking and operational planning, as opposed to the rigid dependence on the Warsaw Pact. In Sweden the early projects of air doctrine were never finalised, because few officers were familiar with the field of air power theory and doctrine at the time.[256] The Swedish air doctrines from 2004 and 2005 may be perceived as evidence of the process of concentration taking place in Swedish Air Force since, as was already suggested, they were revised with the concept of jointness in mind. Therefore, similarly to JDP 0-30 and DD-3.3(B), the current OPD 2014 is a joint doctrine reflecting the idea of concentration.

Development of the post-Cold War air doctrines in all three case studies, the UK, Poland and Sweden, is convergent with other elements of military transformation their Air Forces have been undergoing. The successful attempts to issue a joint doctrine reflect the trend of concentration present among European armed forces. However, although following the same process, the three documents differ from each other in terms of contents, structure and overall character. That, as the next section will show, is an evidence of, partially the capabilities of particular air force, but also the cultural background.

3.2.2 Similar process, different outcomes – cultural influences on the character of British, Polish and Swedish air doctrine

Previous section demonstrated that all three, British, Polish and Swedish air doctrines reflect the process of concentration taking place in European air forces in the post-Cold War period. However, due to various reasons – political

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[255] Ibid., p. 47.
[256] Anrig, *The Quest for Relevant Air Power.*, p. 307.

situation, military capabilities or cultural implications, these documents differ in character and form.

The character of the British air doctrine, when compared with similar documents issued by Polish and Swedish Air Forces, and presents much more of a strategic approach than an operational one.[257] This confirms that British military culture is indeed different from the values represented by society as a whole. Referring back to Chapter 2., Hofstede's model of cultural dimensions found a disparity between values allocated to the British society and British military. The relatively low national score in uncertainty avoidance represented by British nationals can explain the fact that the UK, unlike many countries, does not have a written constitution to codify values, laws and freedoms as well as the system of governance. Therefore having an air doctrine issued at strategic level explaining the very concept of using air power, its role and historical references highlights the difference between the society and military and higher values in power distance and uncertainty avoidance allocated to the British military personnel indicating the need for such documents.[258] For example, according to Harwood, having a strategic air doctrine in place improves the personnel's understanding of the reason and purpose of certain actions being done in a certain way.[259] Therefore, having established a strategic document which is not reserved for the highest ranks only but available for everyone in the Air Force to study certainly provides common ground and strengthens the sense of unity among the officers.

Poland has no general air power doctrine issued at strategic level which, like the British JDP 0-30 would contain general views on the use of air power as well as set national objectives. Current Polish doctrinal publication DD-3.3(B) is in fact a second-rate document in the national structure directly subordinate to *Doktryna prowadzenia operacji połączonych* (*Doctrine for Conducting Joint*

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[257] At this point it is important to define strategic, operational and tactical level as they will be referred to in the next paragraphs discussing the differences between the British, Polish and Swedish air doctrines. According to the *NATO Glossary*, at strategic level 'a nation or group of nations determines national or multinational security objectives and deploys national, including military, resources to achieve them.' Subsequently, operational level is the one where 'campaigns and major operations are planned, conducted and sustained to accomplish strategic objectives within theatres or areas of operations.' Finally, to achieve the objectives assigned to particular units and formations, individual activities and engagements are planned and then conducted at tactical level. See *NATO Glossary of Terms and Definitions*, pp. 83, 107 and 111.
[258] Soeters, "Value Orientations in Military Academies.", pp. 15–16.
[259] AVM (ret.) Michael Harwood, interview dated 14/09/2016.

Operations) D-3(B) and issued as an operational manual.[260] An obvious indication of that character is the form the Polish air doctrine takes. As its predecessor, the DD-3.3(B) is a very detailed publication which specifies use of air power on both the national and alliance level. Contents and structure of NATO's AJP 3.3(A) – *Allied Joint Doctrine for Air and Space Operations* almost literally translate into Polish document and as such do not contain any references to, for example, past experiences or lessons learnt as it is done in the British JDP 0-30.[261] A likely reason for the 'manual-like' character of the Polish air doctrine containing very tactical, detailed instructions and leaving no space for including any air force philosophy, references to wider concepts, ideas or past experiences, could be related to the cultural background.[262] Referring back to Hofstede's model of cultural dimensions, one could suggest that non-existence of a Polish air power doctrine written at a strategic level indicates high acceptance and expectations of a rigid hierarchical structure characteristic for both Polish society and Polish Air Force.[263] It appears that this kind of doctrine is widely accepted or even expected by the Polish Air Force staff. For example, a colonel at one of the Polish Air Force bases stressed that at the operational and tactical level where all the missions, orders and commands are being performed, such 'dry', technical documents work best. That is because, firstly, they give clear instructions to the officers what needs to be done and how and, secondly, they do not allow for any hesitation when executing given orders.[264] Such approach can also be easily related to Poland's high score for uncertainty avoidance. According to Hofstede, the higher this value, the more members of

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[260] Character of these documents is the reason for restricted access to these publications. For example, D-3(B), although it is not classified, cannot be freely accessed as it contains sensitive information linked to classified documents on the command and control system for Polish Armed Forces as well as the rules for planning and conducting national and joint NATO operations. Doctrine and Training Centre of the Polish Armed Forces, DTC PAF, email conversation with the Author dated 15/12/2015.

[261] See *Połączone operacje powietrzne* DD-3.3(B), Bydgoszcz: Centrum Doktryn i Szkolenia Sił Zbrojnych, 2014.

[262] Another reason for lack of references to former experience would be the fact that Poland was not involved in any war-fighting in the years 1945–1991. Besides, as mentioned during one of the interviews, the Polish are still rather ashamed of their history since the end of the WWII until Iraq 2003 and their relations with the former Soviet Union; therefore, most probably references to such examples would not be made even if they existed.
Scholar at the WSU, interview dated 22/06/2016.

[263] See Chapter 2.

[264] Colonel in the Polish Air Force, interview dated 30/06/2016.

such groups need a clear set of rules.[265] Having necessary regulations in place guiding what to do and how to behave helps such societies to reduce the levels of uncertainty in any type of situation. Nevertheless, the specific character of Polish air doctrine still reflects the changes taking place in European air forces after 1990, namely concentration discussed in previous section – by being issued as a joint publication, as well as transnationalisation discussed in next section – by standardising national document with NATO one.

Similarly as in case of the UK and Poland, also for Sweden one could use the Hofstede's model to try explaining the character of the existing doctrine. The very general and brief way in which the OPD 2014 addresses the subject of air power and the fact that there is no air-specific Swedish doctrine issued at operational level is convergent with the low values representative for Swedes in such cultural dimensions as power distance and uncertainty avoidance as well as the high score in individualism. Obviously, there are classified, tactical documents issued specifically for Swedish Air Force. However, the lack of similar strategic and operational air doctrines confirms very low demand for such originating from Sweden's cultural background. OPD 2014 is very much different in its structure. The previous publications, especially the one from 2004, were more similar to British air doctrines since they contained numerous references to past experiences and air power theory of interwar, post-war and modern period developed in Italy, France, Germany and the US.[266] These references were to large extent condensed or completely cut out in the process of the revisions aimed at making the document aligned with the joint military doctrine, which was being prepared at the time.[267] The current publication from 2014 followed the issuing of a new *Militärstrategisk Doktrin* (*Military-Strategic Doctrine*) in 2011. As a result, Sweden, just like Poland, currently does not have a publication dedicated specifically for air power that would be similar in its shape to the RAF doctrine.

Development of national air doctrines in the UK, Poland and Sweden, although following similar process, was to a large extent influenced by the

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[265] Hofstede, *Culture's Consequences.*, p. 147.
[266] See, for example, *Doktrin för luftoperationer*, Stockholm: Swedish Armed Forces, 2004, p. 51–68.
[267] Anrig, *The Quest for Relevant Air Power.*, p. 309; *Doktrin för luftoperationer*, Stockholm: Swedish Armed Forces, 2005, pp. 4–6.

cultural background of these states. As a result, these publications differ in character, structure and content reflecting the capabilities, needs and preferences of individual air forces. However they also demonstrate a similarity, in referring to different extents to NATO publications – whether pointing to individual documents or literally adopting their structure and content as in the case of Poland. That, in turn, leads to standardisation of the national procedures and regulations being an element of another trend characteristic for European militaries after 1990, namely transnationalisation. The presence of allied context in the British, Polish and Swedish air doctrines will be addressed in next section.

3.2.3   European air power in allied context – doctrinal perspective

The current doctrines of all three countries, the UK, Poland and Sweden, show that they are prepared to get involved in multinational operations. They are all members of the United Nations and European Union, guaranteeing involvement in international arena. Furthermore, the UK and Poland, are also allied in NATO and therefore obliged to collective defence.[268] Sweden, actively participated in a number of NATO-led operations during the post-Cold War period, for example Implementation Force – IFOR (1995-1996) and Stabilisation Force – SFOR (1996-2004) in Bosnia and Herzegovina, Kosovo Force – KFOR (since 1999), International Security Assistance Force – ISAF (2001-2014) in Afghanistan or Unified Protector (2011) in Libya. Considering the issue from the point of air power doctrine, the three countries – the UK, Poland and Sweden, address it in a slightly different capacity.

The broadest and most complex approach to the involvement in multinational operations is presented in the second edition of British JDP 0-30. This document names supporting national security objectives by protecting the UK and its dependent territories, projecting the UK's influence and promoting its security and prosperity as the main purpose of British air power.[269] These roles involve the use of air power either from the country's territory or as a part of expeditionary missions within or beyond UK's involvement in NATO. A similar sentiment can be found in the Swedish OPD 2014 where air power is

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[268] *The North Atlantic Treaty*, Washington D.C., April 1949, article 5.
[269] JDP 0-30, 2nd edition, pp. 14–15.

expected, together with the Army and the Navy, to protect the integrity of Sweden's territory, its population, infrastructure and state's functions.[270] There is no such reference in Polish air doctrine which would explicitly place the air power capabilities in a context of national objectives. The reason for such approach most probably originates from the character of the document being a purely operational manual.

The British doctrine also draws attention to limitations of some other countries' air forces which may not be able to perform certain activities independently and therefore stresses the importance of inter-state collaboration. However, the 2017 edition of JDP 0-30 did this in more general terms, listing potential benefits a nation could gain, such as increasing capability and capacity of one's air force or increasing international recognition and influence of their actions.[271] In contrast, the 2013 version pointed more explicitly to the general decrease in Western defence budgets and growing dependence on multinational partnerships. It presented multinational collaboration as an insurance against any shortfalls in the physical component of British fighting power (such as equipment, manpower, training, capability development) as well as an enhancer of the capabilities of UK's less equipped, less advanced partners.[272] It recognised NATO specifically as the 'cornerstone of UK defence on a global scale' and 'principal framework for UK operations'.[273] Another aspect mentioned by the 2017 edition of JDP 0-30 in the context of multinational operations was integration and interoperability for increasing the effectiveness of different alliances or coalitions. At the same time, the doctrine also recognised that with multinational cooperation come certain challenges, for example, establishing common objectives and priorities among all participating nations.[274] The potential difficulties encountered by the RAF, as well as Polish and Swedish Air Forces, are discussed in greater detail in Chapter 5.

In comparison, Polish and Swedish air doctrines only touch on the issue of the air force's engagement in multinational operations. Polish air power doctrines do not elaborate much on the context of air power involvement in such

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[270] OPD 2014, p. 47.
[271] See JDP 0-30, 2nd edition, p. 14.
[272] JDP 0-30, pp. 2-5–2.6.
[273] JDP 0-30, 2nd edition, p. 14.
[274] Ibid., p. 14.

operations. However, the fact that the document itself contains analogous content to NATO doctrine indicates that NATO is the primary framework for engagement of the Polish Air Force in international efforts. The importance of the Alliance is also stressed in its definition of joint operations. They are described as military or non-military operations planned and conducted to achieve set strategic goals with the use of two or more kinds of military forces and within the framework of the country's defence, collective defence of one of NATO members (or whole Alliance) as well as crisis response.[275] The importance of developing multinational political and military cooperation within the structures of NATO and EU as well as bi-lateral cooperation with the US is more explicitly stressed in *Strategia Bezpieczeństwa Narodowego Rzeczypospolitej Polskiej* (*National Security Strategy of the Republic of Poland*)) from 2014, which is Poland's main strategic document.[276] According to this publication, such cooperation is an important stabilising factor for the country's security as well as security within the region.

Swedish OPD 2014 briefly, however much more explicitly, acknowledges the readiness of relevant air forces to get involved in international arena. It states that although the main principle of Swedish Air Forces is to operate within Sweden and its neighbourhood, they should also be able to cooperate with other states' air components, take part in international operations and get involved in exercises at international level within organisations such as NATO, EU or UN.[277] There is a clear linkage between Swedish doctrine and NATO publications. Despite the fact that Sweden is not allied to NATO, the air power chapter in OPD 2014 draws on AJP-3.3(A) as well as to the Alliance's glossary, AAP-06. For example, the terminology used is synonymous with the one used also by NATO – Swedish doctrine refers to three levels of air space control: favourable air situation, air superiority and air supremacy.[278] Once again, it only confirms the scale of the country's efforts towards increasing interoperability between Swedish Air Force and NATO initiated in 1990s.

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[275] *Połączone operacje powietrzne* DD-3.3(B), p. 10.
[276] *National Security Strategy of the Republic of Poland*, 2014, pp. 20–21.
[277] See OPD 2014, pp. 23, 47, 71.
[278] Ibid., pp. 49–50.

The alignment of national doctrines with the NATO documents is not exclusive for the Swedish Air Force. It was already mentioned Poland also meticulously followed the form, structure and glossary used for the doctrines written for the Alliance. Increasing interoperability is one reason for this. Another likely reason is the fact that such publications were relatively new for the Swedish Air Force and therefore individuals responsible for writing them were looking for an example they could use.[279] A similar statement could be applied to the Polish Air Force as well considering the country's political reorientation from East to the West. Since both countries were focusing on cooperation with Western militaries and the US in particular, NATO publications were a perfect model. Interestingly, the UK might have also been looking up towards the allies' doctrines while writing their own. As suggested by Harwood, the way of thinking about air power within the RAF is very much aligned with the approach represented by the US since they set the course and lead when it comes to developing the aviation technology which, in fact, shapes the world's air forces.[280] Therefore, US air doctrines are often looked at when British versions are written. Of course, they are being adapted and modified to the RAF's philosophy, requirements and capabilities but, nevertheless, they are often the starting point in the writing process.[281]

Finally, in Polish and Swedish publications, there is not much reference made to the need of international collaboration due to limited capabilities of European air power. In fact Polish doctrine DD-3.3(B) does not mention this aspect or in fact any constraints at all. In fact if something does not lie in within the capabilities of Polish Air Force it is simply not mentioned. For example, although Poland's DD-3.3(B) echoes NATO's AJP-3.3(A) in almost every detail, it does not refer to military space operations, because Polish Air Force does not possess this capability. There are no references to constraints or lacking capabilities in Swedish OPD 2014, either. Having said this, the previous editions of Swedish air doctrine acknowledged the limitations of Swedish Air Force. The air publications from 2004 and 2005, very explicitly evaluated Sweden's capability of conducting strategic attacks. For example, they acknowledged that

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[279] Scholar at the SWENDU, interview dated 14/06/2016.
[280] AVM (ret.) Michael Harwood, interview dated 14/09/2016.
[281] Ibid.

the Swedish Air Force on its own can conduct a single venture with a strategic effect but it is not capable of an independent, major strategic air operation.[282] This is in fact a very interesting approach to be adapted in a publicly accessible document. Polish or British doctrines and doctrinal publications rather focus on their national forces' capabilities and stress their strengths. Early Swedish doctrines in a very open manner discussed what their forces were and were not capable of.[283]

The way in which British, Polish and Swedish air doctrines address the issue of multinational operations bears evidence of both concentration and transnationalisation. The former is especially visible in Polish and Swedish publications, which either omit capabilities the Air Force does not possess or explicitly admit their shortcomings. These limitations are linked to the process of downsizing the Armed Forces and decreasing defence budgets – elements of the concentration of the European military after 1990. Transnationalisation, then, is evident in the many references made throughout the British, Polish and Swedish air doctrines to NATO documents or use of standardised terminology as well as the fact that these allied publications were often used as a starting point to writing national doctrines. All of that is leading to increased interoperability between the named Air Forces.

3.3   Conclusion

Facing the new, post-Cold War security environment the UK, Poland and Sweden found themselves in a very different situation. The UK was looking into strengthening their cooperation with NATO and the EU, Poland was re-directing its political course and making efforts to integrate with Western Europe and Sweden changed its politics from national to multinational focus. Nevertheless, there were certain similarities in their actions. For example, the Air Forces of all three underwent a process of transformation which involved reduction in size (among other factors, following abolition of the conscription), re-organisation and modernisation. All these processes are elements of King's idea of

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[282] *Doktrin för luftoperationer* 2004, p. 170; *Doktrin för luftoperationer* 2005, p. 60.
[283] For another example see section on air-to-air refuelling capabilities in *Doktrin för luftoperationer* from 2004, p. 176 and *Doktrin för luftoperationer* from 2005, p. 64.

concentration leaving the involved militaries not necessarily less capable but actually more professional and more effective forces.[284]

Another common trend observed among European air forces is developing a strong allied discourse in national strategic thinking after 1990 reflecting their increased transnationalisation. For the UK, Poland and Sweden, NATO and EU are guarantors of security in the region, as well as security of the individual countries. The importance of effective cooperation with NATO is being stressed, for example by the countries efforts to improve interoperability between their air forces and NATO and upgrading national solutions to the Alliance's standards. That process is also evident in the development of the British, Polish and Swedish air doctrines. There are some differences specific to the country nevertheless these publications very easily can be linked with NATO ones.

The fact that the process of post-Cold War transformation of the RAF, Polish and Swedish Air Force involves traits characteristic for both, concentration and transnationalisation proves that these two processes are mutually dependent. For example, Dandeker when referring to his idea of 'flexible forces', or as understood by King – concentrated but more professionalised, identifies two implications such situation brings. One being the states willingness to build a full spectrum of military capabilities in order to respond to any kind of threat that may potentially emerge, and the other being their incapability to do so because of the shrinking defence budgets.[285] As a result their defence capabilities are being significantly reduced. However, at the same time, Haltiner points out that the increased development of various institutionalised security initiatives pursued at international level such as, for example NATO, the European Defence Initiative or the PfP, could be one of the reasons accelerating the reduction of European military forces in 1990s.[286] In other words, downsizing armed forces leads to their increased participation in multinational alliances or coalitions in order to build collective defence capabilities and vice versa – involvement in such initiatives reduces the need for maintaining mass armed forces at the national level.

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[284] King, *The Transformation of Europe's Armed Forces.*, p. 33.
[285] Dandeker, "Building Flexible Forces.", p. 413.
[286] Haltiner, "The Decline of the European Mass Armies.", p. 363.

Considering the above, the chapter argues that the processes of concentration and transnationalisation of the RAF, Polish and Swedish Air Forces are both the reason as well as a way to adapt to their increased participation in multinational operations since the end of the Cold War. The concentrated air forces, although professional, do not possess enough capability and capacity to conduct large-scale, independent operations. Hence the need to improve interoperability with other nations and build strong collective defence structure. The next chapter will take further insight into the latter issue investigating the concept of transnationalisation in more detail. It will particularly focus on the British, Polish and Swedish Air Forces and explore their involvement in various forms of multinational cooperation as a crucial tool to create a capable air power in the region.

Chapter 4: Transnationalisation of European air power – different forms of multinational cooperation

The previous chapter used Anthony King's concept of concentration to illustrate some major developments European military forces, and air forces in particular, underwent after the Cold War. It also referred to his other concept, transnationalisation, when discussing the growing presence of allied discourse in strategic thinking in the UK, Poland and Sweden. This chapter will explore the concept of transnationalisation in more detail. It will aim to answer two sub-questions to the thesis – how have European countries sought to create the conditions required for the effective cooperation of their air forces in multinational operations; and, what role have collaborative initiatives played in creation of these conditions?

As was already explained in Chapter 2., post-Cold War transnationalisation of European armed forces is understood as cooperation leading to their increasing interdependence and interconnectedness. After 1990 that cooperation between European militaries became increasingly institutionalised, which was reflected, for example, in the establishment of regional commands during NATO interventions such as SFOR, KFOR or later ISAF.[287] Transnationalisation, however, takes place also outside of theatres of operation in the form of various collaborative initiatives aiming at building collective capabilities within the frameworks of NATO or EU as well as in the form of other multilateral groupings. As possible reasons for this process, Chapter 2. listed, firstly, limitations, in this case of European air power especially in the area of AT, AAR or ISR; secondly, shrinking defence budgets and rising costs for maintaining fully capable, national militaries. It also highlighted the issue of cultural diversity in multinational cooperation and the potential challenges this may bring. These challenges resulting from cultural diversity will be looked at in detail in Chapter 5., which also analyses how multinational cooperation can improve the effectiveness of the involvement of British, Polish and Swedish Air Forces in various operations at international level.

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[287] King, *The Transformation of Europe's Armed Forces.*, pp. 42–43.

The chapter begins by discussing the idea of pooling and sharing resources among European militaries. Then it will introduce initiatives pursued within NATO, EU as well as outside of these structures where British, Polish or Swedish Air Forces are involved. The last two main sections of the chapter are structured around two main points: cost or burden sharing and building capabilities, however one should bear in mind that such division is made only for organisational purposes. In fact, all of the discussed initiatives fall in both categories.

Overall, the chapter shows that the multinational initiatives European air forces participate in are an opportunity to build and strengthen their capabilities in terms of both, access to necessary equipment as well as experience and training. Furthermore, increasing involvement of European air forces in such forms of multinational cooperation reflects the process of their transnationalisation and results in improved interoperability and building collective capabilities.

4.1 Multinational cooperation – parallel concepts of pooling and sharing capabilities in NATO and EU

The initiatives of multinational collaboration among European air forces have been developed predominantly within the structures of NATO and the EU, which are the two main institutions facilitating cooperation in the field of security and defence in Europe.[288] However, as the chapter will show, various arrangements are also pursued independently of these organisations, in multilateral formats. Within NATO framework there is the **Smart Defence** initiative. Triggered by the conduct of operation Unified Protector in Libya, the very idea was introduced at NATO Chicago summit in 2012. The operation in Libya was the most recent military involvement of European air forces to reveal their limitations and over-reliance on US resources, especially in terms of ISR, AT and AAR.[289] There is no doctrinal document for Smart Defence, but it can be described as each countries' commitment to contribute to common military

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[288] There is an extensive literature on NATO – EU cooperation however, due to the fact it is not the topic of this thesis that subject will be only very briefly discussed in the final part of this section.

[289] See Chapter 2.

capacity. The idea is built on three pillars, namely prioritisation, specialisation and cooperation.[290] Prioritisation is understood as identifying the key capabilities that NATO should possess. Specialisation means that every state is supposed to develop and invest in an area it has the best experience at. Finally, the participating nations are supposed to cooperate with each other, sharing their strengths in order to make up for others' shortcomings and limitations and, as a result, build shared capabilities and military capacity. That should also lead in effect to meeting the target set of prioritised capabilities for the whole Alliance.

Parallel to Smart Defence in NATO, the European Defence Agency (EDA) started, in 2010, its own initiative – **Pooling & Sharing (P&S)**. The idea is very similar to NATO's concept of Smart Defence. P&S focuses on addressing shortcomings in European defence capabilities and improving them through collective effort.[291] It involves a wide variety of projects, such as, for example, Helicopter Training Programme, Maritime Surveillance, European Satellite Communications Procurement Cell, Multinational Modular Medical Units (Medical Field Hospitals), AAR or Pilot Training.[292] As concepts creating opportunities for closer cooperation between NATO or EU nations, both Smart Defence and P&S, can be regarded as examples of the process of transnationalisation. Promoting collective effort in order to address certain limitations in European militaries, or as discussed in this thesis – air forces, leads towards their increased interdependence and interconnectedness.

The very idea underlying the concepts of Smart Defence or EDA's P&S is not a new one. Some of the programmes, which could be recognised today as a form of Smart Defence, have been initiated before the concept was even introduced. For example, one of the oldest, NATO Airborne Early Warning (NAEW) system, started already in 1982.[293] There were also other initiatives similar to Smart Defence and P&S in the past, for example the Defence Capabilities Initiative (DCI) introduced after NATO Washington Summit in

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[290] See Tadeusz Zieliński, "Overview of Allied Defence Capabilities in the Area of Aviation within the Context of the Smart Defence Initiative." *NDU Scientific Quarterly,* 90.1 (2013), 93-106, p. 96.
[291] European Defence Agency, "Factsheet: EDA's Pooling & Sharing." (updated 06/02/2013) Available at: <https://www.eda.europa.eu/info-hub/publications/publication-details/pub/factsheet-eda's-pooling-sharing> [accessed 03/03/2017].
[292] See ibid.
[293] See sub-chapter 4.3.3.

1999.[294] DCI was initiated in 1998 for the very same reason as the initiatives superseding it. It was aimed at bridging the technological gap between NATO members, namely the US and the rest, which had resulted from decreasing defence budgets and shrinking military forces as well as the change of the strategic position of both, the US and Europe.[295] However, because of its focus on the concept of the Revolution in Military Affairs and advanced technology, the initiative was by many perceived as created predominantly for the more powerful countries such as the UK, France or Germany which could afford these solutions.[296] For financial reasons, smaller nations did not see many options to get involved.

Although presenting viable benefits, like making up for capability and capacity shortcomings, sharing experiences as well as cost and burden sharing, developing parallel initiatives by both NATO and EU may be perceived as unnecessary duplication of resources and effort or evidence of a competition between the two organisations. However, some scholars have noted that the EU is developing different initiatives not only in response to the obvious capability and capacity gaps, but also in an attempt to become independent from NATO's resources.[297] Besides, as suggested by Andrew Cottey, after the collapse of the Soviet Union and the shift from bi- to multi-polar security environment, NATO lost its character as the main security guarantor for the Western European states.[298] Instead it became one of many international organisations, such as EU, UN, which may be used to deal with arising security challenges.[299] Therefore, it should not be surprising that all of these institutions may develop their own structures to address various military needs.

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[294] Paul Johnson, Tim LaBenz, and Durrell Driver, "Smart Defence: Brave New Approach or Déjà vu?" Naval War College Review, 66.3 (Summer 2013), 39-51, p. 42.
[295] Hagman, *European Crisis Management and Defence.* p. 15.
[296] See ibid. pp. 16–18.
[297] See, for example, Andrew Cottey, *Security in the New Europe.* Palgrave Macmillan, 2007, pp. 95–96; Claudia Major and Christian Mölling, *EU Battlegroups: What Contribution to European Defence? Progress and Prospects of European Rapid Response Forces.* SWP Research Paper, Berlin: Stiftung Wissenschaft und Politik, 2011, p. 7 or Thierry Tardy, "The European Union, a regional security actor with global aspirations." In *European Security in a Global Context. Internal and External Dynamics.* ed. by Thierry Tardy, 17–36, Routledge, 2009, p. 23.
[298] Cottey, *Security in the New Europe.*, p. 222.
[299] Ibid., pp. 16–17 and 222.

Another point about developing parallel initiatives in NATO and EU is the character of operations they get involved in. As some scholars noted, the fundamental difference between military interventions conducted by both organisations is that the EU is focusing primarily on small-scale crisis management and peacekeeping or post-conflict stabilisation operations taking place predominantly in regions in direct neighbourhood to the EU.[300] In contrast, building and maintaining collective defence capabilities as well as getting involved in large military interventions on global scale remains the focal point of NATO.[301] It was only in the early 2000s when the shift towards high-intensity military operations started in the EU together with the development of initiatives aimed at military capabilities. However, as Tom Dyson argued, these should not be perceived as a challenge or rivalry towards NATO.[302] As was pointed out in Chapter 2., the limitations of European collective military capabilities remain a substantial obstacle in conducting large-scale operations independently from NATO or the US. Therefore the initiatives pursued in the EU should be seen as quite different from or complementary to those organised by NATO.

4.2   Multinational cooperation – cost- and burden-sharing initiatives in European air forces

Initiatives of multinational cooperation are an important tool in reducing the financial burden related to maintaining a comprehensive and fully operational air force, especially for smaller states. They also present an opportunity for gaining access to resources that would not be available otherwise and to fill at least some of the existent capability gaps. This section explores Baltic Air Policing (BAP) as well as Cross Border Training (CBT) and the Arctic Challenge Exercise (ACE) pursued within the framework of NORDEFCO[303] as examples for initiatives aimed at cost and burden sharing.

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[300] See, for example, Cottey, *Security in the New Europe.*, p. 142; Bonnén, *Towards a Common European Security.*, p. 16 and Tom Dyson, *Neoclassical Realism and Defence Reform in Post-Cold War Europe.* Palgrave Macmillan, 2010, p. 66.

[301] See ibid.

[302] Dyson, *Neoclassical Realism and Defence Reform.*, pp. 64–66.

[303] NORDEFCO (Nordic Defence Cooperation) is one of the most important initiatives pursued in the Scandinavian region. It was established on 04/11/2009 from merging NORDCAPS (Nordic Coordinated Arrangement for Peace Support), NORDAC (Nordic Armaments Cooperation) and NORDSUP (Nordic Defence Support). The initiative gathers Denmark, Finland, Iceland, Norway and Sweden and its main objective is to strengthen their national

Baltic Air Policing

The Baltic Air Policing mission is a flagship project for the Smart Defence initiative. The mission started in 2004 after the Baltic States – Latvia, Lithuania and Estonia, joined NATO.[304] It provides an example of strong solidarity within NATO as its members contribute with their resources and defence capabilities to support nations which lack them. In case of BAP these are Baltic States, but there are also other air policing missions over Albania, Luxembourg, Iceland, Slovenia and, more recently, Bulgaria and Romania.[305] Those missions allow for maintaining the integrity of NATO's airspace. Furthermore, they obviously lessen the financial burden on those states which do not possess a (sufficient) air force. That is crucial for small countries, such as the Baltic States. For example, there are six transport aircraft and helicopters in total in the inventory of the Estonian Air Force.[306] Latvia has four transport aircraft and six helicopters, while the Lithuanian Air Force possesses one training aircraft, five transport ones and six helicopters.[307] Such small numbers, even when combined, represent very little defence capability. However, as members of NATO these states are entitled to certain benefits and one of these is collective defence. In this case it takes form of being the subject of NATO's air policing missions. As a result the Baltic States do not have to spend on

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defence and enhance interoperability. Nordin noted that there are several projects being realised within NORDEFCO with relation to air power and these are: Nordic Enhanced Cooperation Air Surveillance (NORECAS), Long Range Air Surveillance Sensors (LRASS), Alternative Landing Bases (ALB) and the Cross Border Training.
See: Ann-Sofie Dahl, "NORDEFCO and NATO: "Smart Defence" in the North?" *NATO Research Paper*, no. 101, (May 2014), pp. 3–5; Lieutenant Colonel Jan-Olov Nordin, Swedish Armed Forces HQ, email conversation with the Author dated 29/06/2016; NORDEFCO, „The basics about NORDEFCO." Available at: <http://www.nordefco.org/the-basics-about-nordefco> [accessed 10/09/2017].

[304] Ministry of National Defence Republic of Lithuania, "NATO Air - policing mission." (updated 01/03/2017) Available at: https://kariuomene.kam.lt/en/structure_1469/air_force/nato_air_-_policing_mission.html [accessed 12/03/2017].

[305] See: AIRCOM – Allied Air Command, "Belgium, Netherlands to take turns in policing BENELUX airspace." (21/12/2016) Available at: <http://www.ac.nato.int/archive/2016/belgium--netherlands-to-take-turns-in-policing-benelux-airspace> [accessed 12/03/2017]; AIRCOM – Allied Air Command, "NATO Air Policing." Available at: <https://www.ac.nato.int/page5931922/-nato-air-policing> [accessed 12/03/2017]; SHAPE - Supreme Headquarters Allied Powers Europe, "Iceland's "Peacetime Preparedness Needs"." (02/07/2013) Available at: <https://www.shape.nato.int/icelands-peacetime-preparedness-needs> [accessed 12/03/2017].

[306] "Europe" *The Military Balance,* p. 99.

[307] Ibid., pp. 123–125.

building new defence capabilities that they cannot afford but, instead, they are using what already exists within the Alliance. They still need to cover part of the mission costs, but they also get measurable benefits. For example, the air bases in Šiauliai and Ämari were modernised via NATO Security Investment Programme (NSIP).[308] Moreover, via collective defence, the integrity of the involved countries' own airspace is being ensured and their national security increases.

BAP mission is being performed on a rotational basis and (at the time of writing) there had been altogether 46 rotations. Both the Royal Air Force and Polish Air Force are participating in the BAP mission. The RAF has been involved in four rotations – in 2004, 2014, 2015 and 2016. The Polish Air Force has been involved in Lithuania since 2005. During that time they participated in the mission in seven rotations – in 2006, 2008, 2010, 2012, 2014, 2015 and 2017. The latest rotation finished at the end of August 2017 and for two reasons was special for Poland – firstly, the country was acting as a lead nation, and secondly, the deployment involved for the first time Polish F-16s instead of MiG-29s.[309] The main role of RAF's Typhoons, when deployed to BAP, is primarily quick reaction force responsible for patrolling the Baltic States' air space against any sort of aggression from Russia.[310] However, there are also other duties performed by the deployed air force, such as helping other aircraft in emergency situation (for example, loss of radio communication), dealing with a RENEGADE category aircraft[311] or conducting training missions with Lithuanian pilots as well as other participating nations.[312]

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[308] Robert Ciechanowski, "Dziesięć lat Baltic Air Policing" Dziennik Zbrojny (21/12/2014) Available at: <http://dziennikzbrojny.pl/artykuly/art,9,40,8363,inne,wydarzenia,dziesiec-lat-baltic-air-policing> [accessed 29/08/2017].

[309] AIRCOM – Allied Air Command, "Baltic Air Policing mission changes lead nation at Šiauliai Air Base." (02/05/2017) Available at: <https://ac.nato.int/archive/2017/baltic-air-policing-mission-changes-lead-nation-at-Siauliai-air-base> [accessed 29/08/2017].

[310] RAF, "RAF Jets Fly On Baltic Policing Mission." (29/04/2016) Available at: <https://www.raf.mod.uk/news/archive/raf-jets-fly-on-baltic-policing-mission-29042016> [accessed 20/09/2017].

[311] The term RENEGADE is used for an aircraft which may be used as a weapon in a terrorist attack from the air. See Waldemar Zubrzycki, "NATO-Russian RENEGADE Aircraft Joint Initiative." In *NATO: Towards the Challenges of Contemporary World 2013*, ed. by Robert Czulda and Robert Łoś, 129–140, Warsaw: International Relations Research Institute, 2013, p. 131.

[312] Lieutenant Colonel in the Polish Air Force, email conversation dated 28/09/2016.

Cross Border Training and Arctic Challenge Exercise

Sweden is not involved in BAP, but the country very actively participates in regional forms of multinational cooperation involving its closest neighbours. These also take form of cost- and burden-sharing initiatives and play an important role for the Nordic states and militaries. For example, the number of personnel in Swedish Air Force was significantly reduced from 8,000 in 1990 to 2,700 in 2017.[313] Also the structure of the Service changed when eight out of twelve main air bases were closed. This heavily influenced capability and capacity of the Swedish Air Force and hence, cost- and burden-sharing initiatives presented new possibilities for the Service. One of the examples here is the Cross Border Training which, similarly to BAP, allows for collective effort and achieving a goal which would not be reached otherwise, or at least would incur much higher costs. For example, as Wilson explained:

> *(...) if you need two teams with, let's say, eight aircraft each to conduct an exercise or training, then you need to launch 16 Gripens. It's really expensive and we seldom have 16 operational Gripens that we could actually spare. But, if you launch, six Gripens from Sweden, six F-16s from Norway and six F-18Cs from Finland then you got 18 aircraft and voila – you are able to conduct quite big and complicated exercises in a way that we could never afford or handle, either in Norway, Sweden or Finland.[314]*

Lindvall also referred to the above point as well as pointing out the streamlined process in organising the weekly exercises – thanks to the relevant agreements establishing a single, common exercise area, such training can be easily conducted according to the needs and without asking every time for a special decision or permission from Stockholm (Oslo or Helsinki).[315]

Cross Border Training is a short notice agreement where fighter aircraft from Finland, Norway and Sweden can use each other's air space to train together. On a weekly basis they conduct air combat training missions flown from their home bases in Bodø (Norway), Luleå (Sweden) and Rovaniemi

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[313] See Chapter 3.
[314] Lt Col Stefan Wilson, interview dated 17/06/2016.
[315] Fredrik Lindvall, interview dated 13/06/2016.

(Finland).[316] On the basis of CBT in 2013 there was launched Arctic Challenge Exercise – a bi-annual large exercise involving countries from outside NORDEFCO.[317] It rotates between the three CBT air bases in Bodø, Luleå and Rovaniemi. The 2017 edition of ACE was one of Europe's largest air exercises gathering over one hundred aircraft, from multirole fighters, transport aircraft, tankers, airborne warning and control system aircraft to transport and search and rescue helicopters.[318] The exercise brought together air forces from Finland, Norway, Sweden, Belgium, Canada, France, Germany, Great Britain, the Netherlands, Switzerland and the United States.[319] Due to its scale and with the support of the US, ACE is going to be developed into a Northern Flag Exercise.[320] Also, the relations established within CBT serve as a starting point for enhancing the bi-lateral cooperation between Sweden and Finland. In the *Action Plan for Deepened Defence Cooperation between Sweden and Finland* signed by both countries in 2014, they agreed on developing the collaboration between their Air Forces in such areas as joint exercises, education, ISR and Command and Control capabilities, mutual use of the infrastructure, etc.[321]

All of the above are examples of burden-sharing initiatives, focusing especially on their advantages in terms of sharing costs. First of all, BAP, CBT and ACE allow participating states to use each other's' resources to make up for their own limitations. Secondly, by giving the states and air forces access to capabilities they lack, the mentioned initiatives ease the defence costs they would need to bear in order to fill the gaps on their own. Building collective military capability and reliance on the allies in order to maintain one's national defence increases interconnectedness and interdependence between involved air

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[316] Dahl, "NORDEFCO and NATO." p. 8.
[317] Pauli Järvenpää, *NORDEFCO: „Love in a Cold Climate"?* Tallin: International Centre for Defence and Security, April 2017, p. 8.
[318] Ilmavoimat, "Flight Detachments and Air Bases in Arctic Challenge Exercise 17" (05/04/2017) Available at: <http://ilmavoimat.fi/en/article/-/asset_publisher/arctic-challenge-exercise-17-lentotoimintaharjoituksen-lentavat-joukot-ja-tukikohdat> [accessed 20/09/2017].
[319] Abby L. Finkel, "Increasing interoperability at Arctic Challenge 2017." Royal Air Force Lakenheath (19/05/2017) Available at: <http://www.lakenheath.af.mil/News/Article-Display/Article/1187723/increasing-interoperability-at-arctic-challenge-2017> [accessed 20/09/2017].
[320] Letter of Intent regarding further cooperation to develop ACE was signed by the US and NORDEFCO states in October 2017.
NORDEFCO Annual Report 2017, Ministry of Defence of Finland, p. 6.
[321] See *Action Plan for Deepened Defence Cooperation between Sweden and Finland.* Helsinki: Ministry of Defence of Finland, 2014.

forces. By developing relations at international level they become transnational in the sense understood by King. The next sub-chapter will focus on other aspects of the collective efforts in making up for the shortcoming of European air power. Doing so it will show how multinational cooperative initiatives contribute to capacity-building.

4.3 Multinational cooperation – capability building initiatives in European air forces

An important reason for developing cooperation between European militaries, or transnationalisation, has been the need to fill certain capability gaps. These gaps were created by several factors but, above all, by shrinking defence budgets. For example, after the collapse of the USSR and withdrawal of the Soviet forces, the Polish Air Force was left with a limited capability.[322] The process of rebuilding it and re-gaining operational capability took time: for example, the first deployment of Polish F-16s happened in 2016 – ten years after they were bought by Polish Air Force. Four of the fighters joined Operation Inherent Resolve in Kuwait, where for two years they performed reconnaissance missions.[323]

The capability gaps within European air forces are also linked to the technological gap between American and European militaries. In relation to command, control, communications, computers, intelligence, surveillance and reconnaissance capabilities (C4ISR) of several European countries, Adams and Ben-Ari, have argued that the falling behind in technological development is a result of declining defence budgets.[324] Anrig has suggested, a likely reason for this technological gap is the fact that, especially since the end of the Cold War, air power was usually given much more attention, and consequently money, in the US than in Europe.[325] The reasons, include financial constraints, national

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[322] Scholar at the WSU, interview dated 22/06/2016.

[323] Magdalena Kowalska-Sendek, "Polscy piloci rozpoczynają misję w Kuwejcie." *Polska Zbrojna* (04/07/2016) Available at: <http://www.polska-zbrojna.pl/home/articleshow/19903?t=Polscy-piloci-rozpoczynaja-misje-w-Kuwejcie> [accessed 14/07/2016]; Magdalena Miernicka, "Wyjątkowa misja." *Polska Zbrojna* (01/06/2018) Available at: <http://www.polska-zbrojna.pl/home/articleshow/25556?t=Wyjatkowa-misja> [accessed 02/06/2018].

[324] Adams and Ben-Ari, *Transforming European Militaries.*, p. 156.

[325] Anrig, *The Quest for Relevant Air Power.*, pp. 15–16.

policies, political will and others, but European air power certainly has shortcomings and these can be made up for through multinational cooperation. As indicated in Chapter 2., the operations in Bosnia and Kosovo in the 1990s, or more recently, in Libya revealed significant capability or capacity gaps compared to the US in the area of precision munitions and their delivery systems, strategic airlift, AAR and ISR. The following section will show how the British, Polish and Swedish Air Forces have sought to overcome these gaps through engagement in multinational initiatives.

4.3.1　Air transport

According to data compiled in *The Military Balance* for 2018, the RAF possesses a total of 58 different transport aircraft with an additional twelve Airbus A400M Atlases on order.[326] In contrast, the Polish Air Force has 45 active transport aircraft of various types, while in Sweden that number drops to eight only.[327] All of these numbers are negligible when compared with the USAF's airlift capacity of 728 aircraft in total.[328] Within the constraints of defence budgets significantly smaller than that of the US, European air forces therefore had no choice but to work together on strengthening their collective AT capability, further strengthening the process of transnationalisation.

This section starts with exploring the SAC and SALIS programmes, which should be regarded as model examples of successful pooling and sharing of resources enabling European nations to access capabilities they could not afford otherwise. As such, these programmes are examples of the transnationalisation process taking place within the European air forces, and armed forces in general. Furthermore, they prove the value of multinational initiatives as cost-sharing opportunities.

There is also another value that initiatives such as SAC and SALIS, or the EDA's training programmes EATT and EAATTC discussed at the end of the section, present for participating states. As was already pointed out in the introduction to this chapter, these initiatives provide the crews with an experience they would not have a chance to acquire on their own, or at least it

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[326] "Europe" *The Military Balance,* 118.1, p. 164.
[327] Ibid., pp. 137 and 153.
[328] "North America" *The Military Balance*, 118.1, pp. 54–58.

would take much more time and resources. For example, during the 2017 edition of EATT, the participating crews were training in missions as diverse as air transport, airlift, air logistic support, airborne operations, airdrops, aeromedical operations, non-combatant evacuation as well as support of special operations forces.[329] This shows the scope of these training events as well as their invaluable role in strengthening these air forces, which would not be able to train such missions on the basis of their own, national capabilities alone.

Strategic Airlift Interim Solution and Strategic Airlift Capability

Similar to BAP, Strategic Airlift Interim Solution (SALIS) and Strategic Airlift Capability (SAC) initiatives are examples of well-established and well-functioning cooperation between NATO members. Having started respectively in 2005 and 2008, these two programmes were introduced in response to the existing gap in strategic airlift capability.[330] Poland and Sweden participate in both, SAC and SALIS projects (Sweden as a PfP nation) while the UK is involved in the latter only.[331] The ventures complement each other, but are organised and operate separately.

SALIS, as the name suggests, was initially established as an interim solution for three years, until the Airbus A400M Atlas fleets were introduced. However, the contract has been gradually extended with the possibility to stretch it until 2019.[332] The initiative is coordinated by the SALIS Coordination Cell working together with the Movement Coordination Centre Europe (MCCE)[333]. It is not, however, an integral part of MCCE.[334] Fourteen participating states contract six Antonov An-124-100 aircraft from Russian Volga-Dnepr Airlines and Ukrainian Antonov Airlines. Two of these are available immediately at

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[329] European Defence Agency, "EATT17. European Air Transport Training – Together We Are Stronger." Factsheet, Retrieved from: <https://eda.europa.eu/info-hub/press-centre/latest-news/2017/06/19/european-air-transport-training-2017-takes-off> [accessed 11/09/2017], p. 3.
[330] Zieliński, "Overview of Allied Defence Capabilities.", p. 100.
[331] In total there is 14 SALIS members – Belgium, the Czech Republic, Finland (PfP state), France, Germany, Greece, Hungary, Luxembourg, Norway, Poland, Slovakia, Slovenia, Sweden (PfP state) and the UK; and 12 SAC members – Bulgaria, Estonia, Finland (PfP state), Hungary, Lithuania, the Netherlands, Norway, Poland, Romania, Slovenia, Sweden (PfP state) and the US.
[332] Juliusz Sabak, "Rosyjskie An-124 nadal wożą sprzęt NATO." Defence 24 (13/01/2017) Available at: <http://www.defence24.pl/525862,rosyjskie-an-124-nadal-woza-sprzet-nato> [accessed 31/08/2017].
[333] See section 4.3.2. on AAR initiatives.
[334] NATO, "Strategic Airlift Interim Solution (SALIS)." (updated 07/09/2015) Available at: <http://www.nato.int/cps/en/natohq/topics_50106.htm> [accessed 10/03/2017].

Leipzig-Halle Airport (Germany) and the other four are available respectively on six and nine days' notice.[335]

SALIS is a good example of the process of transnationalisation taking place among European air forces. Firstly, it proves the need for developing cooperation between states in order to build collective resources, in this case airlift, as a way of making up for capability and capacity shortcomings at national level. Secondly, it shows the increasing interdependence between involved air forces which is inseparable element of the aforementioned process of military transnationalisation. That also brings the risk of losing access to once available resources in case one of the members decides to withdraw their participation. That would suggest, as already mentioned in Chapter 2., that developing national capabilities is equally important. The example of SALIS illustrates that interdependence very well. The Antonov fleet chartered by the initiative's members was initially owned by one company – Ruslan International Ltd formed by the above mentioned Volga-Dnepr and Antonov Airlines. However, the two companies ended their cooperation at the end of 2016 following the deterioration of relations between Russia and Ukraine after the annexation of Crimea.[336] With this situation in mind and the continued need for strategic transport capabilities, a debate ensued on how to provide for the future of SALIS. In the end, two separate contracts were signed with Antonov and Volga-Dnepr to provide respectively 40 per cent and 60 per cent of flying hours.[337] In April 2018, however, Russian Volga-Dnepr announced their decision to withdraw from the initiative with the end of their contract in December 2018, leaving the participating states with less than half of the now available airlift.[338] This decision, as much as the earlier one to end the Russian-Ukrainian joint venture and to draw up separate contracts, was very much

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[335] Quintana, Heidenkamp and Codner, *Europe's Air Transport.*, p. 14.
[336] RUSLAN International, "News Announcement." Available at: <http://www.ruslanint.com> [accessed 07/09/2017].
[337] Sabak, "Rosyjskie An-124." [accessed 31/08/2017].
[338] Air Cargo News, "NATO confirms Volga-Dnepr notice to quit SALIS." (18/04/2018) Available at: <https://www.aircargonews.net/news/airline/freighter-operator/single-view/news/nato-confirms-volga-dnepr-notice-to-quit-salis.html> [accessed 08/08/2018].

influenced by the Russian-Ukrainian conflict and increasing tension between Russia and NATO.[339]

Under SAC, a multinational military structure was established – Heavy Airlift Wing (HAW) based at the Pápa Air Base (Hungary) which operates the three Boeing C-17 Globemaster aircraft acquired by SAC members.[340] The participating nations delegate the crews, share the maintenance and operational costs for the aircraft as well as the needed infrastructure and, according to their input into the venture, are entitled to use these for a certain number of flying hours.[341] Interestingly, Sweden's share, as a non-NATO nation, is the second-largest after the US's 32 per cent, which also means the country is the second-largest contributor to the initiative.[342] Therefore, while the annual total for SAC is 3,165 flying hours, Sweden and Poland have shares of, respectively, 17.4 per cent and 4.7 per cent of that number that equals 550.7 and 148.8 hours per year.[343]

Both SALIS and SAC were established in order to fill the strategic airlift capability gap in Europe. The SALIS initiative was created to transport heavy cargo and, as such, was used by NATO Support Agency during the ISAF mission performing weekly flights between Europe and Afghanistan as well as played important role during the withdrawal from that part of the world.[344] For example, Poland used SALIS for transporting their helicopters and armored vehicles to and from Afghanistan.[345] The initiative (as well as SAC) has been also widely used by NATO countries to deliver humanitarian aid. For example following the

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[339] CH-Aviation, "Russia's Volga-Dnepr to end NATO military cooperation." (18/04/2018) Available at: <https://www.ch-aviation.com/portal/news/66302-russias-volga-dnepr-to-end-nato-military-cooperation> [accessed 08/08/2018].

[340] Strategic Airlift Capability, "Boeing C-17 Globemaster III." Available at: <https://www.sacprogram.org/en/Pages/Boeing-C-17-Globemaster-III.aspx> [accessed 31/08/2017]; Strategic Airlift Capability, "Heavy Airlift Wing." Available at: <https://www.sacprogram.org/en/Pages/Heavy-Airlift-Wing.aspx> [accessed 31/08/2017].

[341] Zieliński, "Overview of Allied Defence Capabilities.", p. 101.

[342] Micael Bydén, "Swedish Air Power. Delivering Independently, Joint, and Combined." In European Air Power: Challenges and Opportunities, ed. by John Andreas Olsen, 170–184, Potomac Books, 2014, p. 172.

[343] Strategic Airlift Capability, "The Strategic Airlift Capability (SAC)." Available at: <https://www.sacprogram.org/en/Pages/The%20Strategic%20Airlift%20Capability.aspx> [accessed 31/08/2017].

[344] Brendan McNally, "Outsourcing Strategic Airlift: NATO's Two Very Different Solutions." (25/07/2013) Available at: <https://www.defensemedianetwork.com/stories/outsourcing-strategic-airlift-natos-two-very-different-solutions> [accessed 31/08/2017]; NATO, "Strategic Airlift Interim Solution (SALIS)."

[345] Sabak, "Rosyjskie An-124." [accessed 31/08/2017].

earthquake in Pakistan in 2005 and the typhoon in the Philippines in 2013, SALIS delivered aid to the affected areas. Following the earthquake in Haiti in 2010 and flood in Pakistan the same year, SAC was used.[346] SAC's C-17s fleet can also be used by participating states to support their defence or logistical needs. For example, Poland used these aircraft to transport the bodies of the victims of the Tupolev crash in Smolensk in April 2010.[347] Furthermore, SAC can be used to help the member states with their commitments towards NATO, EU or UN operations where these cannot be met using their national capacity. As such, the initiative was used in ISAF and Resolute Support Mission in Afghanistan, as well as NATO operations in Libya in 2011, EU Training Mission in Mali (since 2013) or the UN Multidimensional Integrated Stabilisation Mission (MINUSCA) in the Republic of Central Africa (since 2015).[348] In fact, HAW's first mission in support of ISAF was a Swedish initiative – the country used SAC to deliver cargo from Karlsborg Air Base (Sweden) to Mazar-e-Sharif in Afghanistan in September 2009.[349] Also the first HAW mission supporting ISAF without American involvement had a crew of seven airmen, including three Swedes and one Pole (the others were two Norwegians and one Bulgarian).[350]

The example of SAC and SALIS demonstrates that the effectiveness of shared capabilities built in this way depend on various factors. The success of the SALIS programme, was imperilled by its reliance on third parties (Ukrainian and Russian defence industry in this case). International events outside of the control of NATO suddenly left the programme with less than half of the required airlift capabilities. Therefore a better solution seems to be SAC, since the participating nations own the fleet used in that initiative excluding involvement of any third parties. Therefore the cooperation pursued within SAC is less likely to be disrupted unless one of the members decides to withdraw causing rise of costs for the remaining nations. However, even then, the capacity they are left

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[346] NATO, "NATO Strategic Airlift brings relief to Typhoon ravaged Philippines." (13/11/2013) Available at: <https://www.nato.int/cps/en/natolive/news_104943.htm> [accessed 20/10/2017]; NATO, "Strategic Airlift Interim Solution (SALIS)."; SAC, "The Strategic Airlift Capability (SAC)."
[347] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 22/06/2016.
[348] SAC, "The Strategic Airlift Capability (SAC)."
[349] Strategic Airlift Capability, "SAC Milestones 2006 -." Available at: <https://www.sacprogram.org/en/Pages/SAC-Milestones-2006-.aspx> [accessed 31/08/2017].
[350] Ibid.

with is not diminished like it happened in case of SALIS. In conclusion, most importantly, the effectiveness of multinational initiatives depends on its individual members' willingness to contribute sources, manpower and materiel to the collective effort.

European Air Transport Fleet Concept

Parallel to SAC and SALIS in NATO, EDA also developed their own collaborative initiative focused on providing air transport capability and capacity to participating nations. This is the European Air Transport Fleet Concept (EATF) established in 2009 and gathering twenty one EU countries.[351] In the long run EATF should allow for building an interoperable, robust network of European AT able to cost-effectively use its assets regardless of their origin or national affiliation.[352] Implementation and development of the project have been divided into three phases. During the first phase from 2012–2014, the foundations for multinational cooperation were established. For example, diplomatic clearances were provided, procedures agreed and several training and exercises programmes initiated.[353] During the second phase from 2015–2017, the European Tactical Airlift Centre (ETAC) was opened at the air base in Zaragoza (Spain) as a permanent training centre for participating states.[354] The third and last EATF phase will last until 2021. It focuses on deepening the cooperation between EU nations and their AT fleets while implementing innovative solutions and developing new capabilities.[355] Reliance on nationally owned assets illustrates one significant difference between the NATO and EDA's airlift initiatives. For SAC and SALIS the participating countries

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[351] These are Austria, Belgium, Bulgaria, Czech Rep., Finland, France, Germany, Greece, Hungary, Italy, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Romania, Spain and Sweden.
See European Defence Agency, "EATF Fact & Figures." (updated 01/05/2015) Available at: < https://www.eda.europa.eu/what-we-do/activities/activities-search/european-air-transport-fleet> [accessed 03/03/2017].
[352] European Defence Agency, "European Air Transport Fleet (EATF)." (05/11/2014) Available at: <https://www.eda.europa.eu/what-we-do/activities/activities-search/european-air-transport-fleet> [accessed 03/03/2017].
[353] European Defence Agency, "European Air Transport Fleet enters new phase." (19/01/2015) Available at: <https://www.eda.europa.eu/info-hub/press-centre/latest-news/2015/01/19/european-air-transport-fleet-enters-new-phase> [accessed 03/03/2017].
[354] European Defence Agency, "European Tactical Airlift Centre Opens in Zaragoza." (08/06/2017) Available at: <https://www.eda.europa.eu/info-hub/press-centre/latest-news/2017/06/08/european-tactical-airlift-centre-opens-in-zaragoza> [accessed 11/09/2017].
[355] EDA, "European Air Transport Fleet enters new phase."

acquire/charter and maintain a shared fleet of air transport aircraft while in EATF they use their own aircraft. As pointed out by Robert C. Owen when discussing the examples of HAW and European Air Transport Command (EATC)[356], this may pose challenges regarding the availability of the shared fleet for all the participating nations. In the former case they may have limited access to the collective resources despite of their assigned number of flying hours as they may be used by someone else.[357] EATC leaves the participants more flexibility in terms of making their aircraft available for the partner nations, as with putting forward their own national fleets they also retain the right to prioritise their needs.[358] The same could be said about EATF since the initiative focuses on improving interoperability between participating air forces and the airlift aircraft they possess while they retain the full ownership of these assets. Such an arrangement also eliminates the risk of replicating a situation similar to that affecting the SALIS initiative, which will be left with only 40 percent of their previously available air lift fleet in 2019 as a result of unforeseen circumstances beyond their control.

EATF is being exercised through the European Air Transport Training (EATT) and the European Advanced Airlift Tactics Training Course (EAATTC).[359] The former is an annual event that started in 2012 and focuses on enhancing interoperability between participants and their airlift assets (mostly Lockheed C-130 Hercules, Transall C-160 and CASA C-295).[360] In the 2018 edition, EATT involved air personnel from Belgium, France, Germany, Hungary, Italy, the Netherlands, Norway, Poland and the UK who performed a total of 100 sorties.[361] Also it was the first EATT exercise, now renamed as

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[356] European Air Transport Command was established in 2010 and gathers Belgium, France, Germany, Italy, Luxembourg, the Netherlands and Spain which are pooling and sharing their own air transport under single, multinational command.
See European Air Transport Command, "The member nations." Available at: <https://eatc-mil.com/en/who-we-are/the-member-nations> [accessed 07/06/2018].
[357] Robert C. Owen, "Air Mobility." In *Routledge Handbook of Air Power*, ed. by John Andreas Olsen, 118–129. Routledge, 2018, p. 121.
[358] Ibid., p. 121.
[359] The other two EATF's deliverables are the European Air Transport Symposium (EATS) and the European Advanced Tactical Instructor Course (EATIC).
[360] Zieliński, "Overview of Allied Defence Capabilities.", p. 99.
[361] European Air Transport Command, "ETAP-T 2018 another successful example recognising EATC as a centre of expertise in air transport!" (05/07/2018) Available at: <https://eatc-mil.com/post/etap-t-2018-another-successful-example-recognising-eatc-as-a-centre-of-expertise-in-air-transport-> [accessed 08/08/2018].

European Tactical Airlift Programme – Training (ETAP-T), organised by the ETAC that opened last year in Zaragoza. As such it proved to be a great success of the newly created Centre and confirmed its relevance and usefulness.

The European Advanced Airlift Tactics Training Course (EAATTC) was established in 2014 as a European alternative to the American Advanced Airlift Tactics Training Centre (AATTC). The event takes place several times a year and focuses on providing the air transport crews with academic knowledge and flying training in tactics and procedures in order to improve the interoperability between different nations and their airlift assets.[362] The EAATTC also places the participating crews in a deployment scenario where they train in realistic and tactically challenging environments.[363]

Both, Poland and Sweden took part in the EATT exercise several times since it was established – Poland in the 2016, 2017 and 2018 editions, and Sweden in 2013 and 2015 (also acting as an observer country in 2014).[364] Moreover, Poland participated, as the only of the three case study countries, in the EAATTC training in 2016 and 2017.[365] It is vital to mention here, that although these programmes have been established as part of the EATF and currently are two of the four main deliverables for ETAC, participation is not limited to EATF/ETAC members only. The UK, as an EDA state, took part in

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[362] *NATO/EU Air Transport Training Exercises and Interoperability*. Kalkar: Joint Air Power Competence Centre, November 2016, p. 5.

[363] Roberto Paviotti, "The Value of Common Air Transport Training. A Glance at the European Advanced Airlift Tactics Training Course." *Transforming Joint Air Power. The Journal of the JAPCC*, Edition 23 (Autumn/Winter 2016), pp. 85–89, p. 89.

[364] See: EATC, "ETAP-T 2018 another successful example."; European Air Transport Command, "European Air Transport Training (EATT) 2016." (21/06/2016) Available at: <http://eatc-mil.com/45/News/EATT15/366/European+Air+Transport+Training+%28EATT%29+2016> [accessed 11/09/2017]; European Defence Agency, "European Air Transport Training 2013 (EATT13)." (04/06/2013) Available at: <https://www.eda.europa.eu/docs/default-source/eda-factsheets/eatt-factsheet_10062013_cs5_bleu> [accessed 11/09/2017]; European Defence Agency, "European Air Transport Training 2014." (16/06/2014) Available at: <https://www.eda.europa.eu/docs/default-source/eda-factsheets/2014-06-16-factsheet_eatt14_high> [accessed 11/09/2017]; European Defence Agency, "EATT 15." Available at: <https://www.eda.europa.eu/docs/default-source/eda-factsheets/eatt-15-factsheet> [accessed 11/09/2017] and EDA, "EATT17 closes with advanced tactical airlift operations."

[365] European Defence Agency, "EAATTC 16-1." (15/02/2016) Available at: <https://www.eda.europa.eu/docs/default-source/eda-factsheets/eaattc-16-1_factsheet> [accessed 11/09/2017] and European Defence Agency, "EAATTC 17-3." (30/05/2017) Available at: <https://www.eda.europa.eu/docs/default-source/eda-factsheets/eaattc17-3_factsheet_v3> [accessed 11/09/2017].

EATT six times at the time of writing – in 2013 and 2014 as an observer nation, and in 2015, 2016, 2017 and 2018 fully participated in the training.[366]

The multinational initiatives discussed above are not the sole opportunity for European air forces to gain such valuable experience within the framework of multinational cooperation. The most important occasion to learn is actual experience of and participation in air operations. For example, the UK, Poland and Sweden all were to different extents involved in Operation Enduring Freedom and the ISAF mission in Afghanistan. All three participated with their helicopter forces performing various tasks, such as Close Air Support (CAS), Quick Reaction Force, escorting convoys, fire support, shows of force or reconnaissance but also tactical transport of the ground forces and lighter cargo as well as medical (MEDEVAC) and casualty evacuation (CASEVAC). That extensive employment of helicopters in this mission significantly enhanced the tactical capabilities of involved air forces (and land forces in case of Poland as the Polish Mi-17s belong to the Polish Ground Forces not the Air Force). For example, in the case of the RAF, it led to developing those niche activities such as helicopter flying to a very high level, as noted by AVM Edward Stringer.[367] A number of Polish respondents confirmed the operation as a unique opportunity for pilots to gain experience of flying in the mountains, in a specific climate with high temperature amplitudes, while performing the mission after dark with night vision goggles.[368] Others referred to developing procedures for land-air cooperation, such as for example call for fire support, and including this experience in the training.[369] Also, in the case of Sweden, this operational experience was pointed out as having an important effect on the country's involvement in ISAF resulting in performing better in any other coalitions built in the future.[370]

The above section demonstrated the importance of collaborative initiatives in the area of AT. Both, SAC and SALIS pursued within the NATO

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[366] EATC, "ETAP-T 2018 another successful example."; EATC, "European Air Transport Training (EATT) 2016."; EDA, "European Air Transport Training 2013 (EATT13)."; EDA, "European Air Transport Training 2014."; EDA, "EATT 15." and EDA, "EATT17 closes with advanced tactical airlift operations."

[367] AVM Edward Stringer, interview dated 27/09/2016.

[368] Scholar at the WSU, interview dated 22/06/2016.

[369] Colonel in the Polish Air Force and a scholar at the War Studies University in Warsaw, interview conducted by the Author on 30/06/2016.

[370] Lt Col Stefan Wilson, interview dated 17/06/2016.

framework, as well as EATF initiated by EDA, present salient examples of cost-effective opportunities for European air power to strengthen their airlift capabilities. They also provide access to transport aircraft for those air forces which would not have it otherwise, or for which it would incur too high costs to acquire an AT fleet of their own. Finally, the discussed programmes present opportunity for the air crews to work together and gain invaluable experience. That, in result, also supports the argument in Chapter 2., suggesting that the more different air forces cooperate with each other, the smoother their cooperation will be, thus leading to the increasing transnationalisation of European air forces in the post-Cold War period.

4.3.2 Air-to-air refuelling

As discussed in Chapter 2., experiences from the Kosovo and Libya operations also pointed to the shortfall in European AAR capability and capacity. AAR was identified as a shortcoming in NATO military capability – especially among its European members.[371] The EU declared it as a 'critical capability shortfall'.[372] The reason for such a statement becomes very much obvious when one looks at the numbers – in 2014 NATO tanker inventory was 709 aircraft.[373] Without the US that number dropped to 71, and without the US, Canada and Turkey it dropped even further to 58 which included platforms from France, Germany, Italy, the Netherlands, Spain and the UK.[374] Only seven EU NATO members had at that time deployable AAR capability.[375]

Among the three case study countries only the UK has a viable tanker fleet. The latest data from *The Military Balance* 2018 shows 14 AAR aircraft in the RAF.[376] Swedish air tankers inventory can hardly be compared here. According to Nygren, Swedish Air Force in 2016 possessed only one tanker aircraft, which was used only for training purposes.[377] Poland, in turn, never had

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[371] *Air-to-Air Refuelling Consolidation. An Update*. Kalkar: Joint Air Power Competence Centre, March 2014, p. 1.
[372] Gustavo Cicconardi, "First Collective AAR Clearance Trial. An Outstanding Best Practice for Truly Collective Development." *Transforming Joint Air Power. The Journal of the JAPCC*, Edition 19 (Autumn/Winter 2014), pp. 11–15, p. 11.
[373] *Air-to-Air Refuelling Consolidation*. JAPCC, pp. 9–10.
[374] Ibid., pp. 9–10.
[375] Cicconardi, "First Collective AAR Clearance Trial.", p. 11.
[376] "Europe" *The Military Balance,* 118.1, p. 164.
[377] Lt Col Anders Nygren, interview dated 14/06/2016.

its own AAR capability. However, in 2014, the country, together with Norway and the Netherlands, decided to acquire a fleet of Airbus A330 Multi Role Tanker Transport (MRTT).[378]

This section discusses initiatives launched to fill the AAR gap, such as EDA's AAR project, a joint NATO and EU AAR exercise, and the ATARES programme. The fact that NATO and the EU are both paying so much attention and work together to obtain mutual AAR clearances is encouraging. Having these in place will increase the operational flexibility of the tanker assets possessed by European nations. That, in turn, is likely to lead to better efficiency of using the available AAR fleet and will increase their interconnectedness. That interconnectedness is also being developed outside of NATO and EU structures. It is, for example, a direct result of the cooperation pursued within the ATARES initiative, which will be discussed as another example of an effective cost-sharing programme and building capabilities for air forces that could not afford them on national level. Moreover ATARES, as a pooled multinational initiative, also reduces the bureaucracy between the participating countries.[379] This is another way to make multinational cooperation easier and smoother but also to increase interconnectedness between the involved air forces, which is one element of the process of military transnationalisation in post-1990 Europe.

European Defence Agency's AAR Project

Since the AAR provides an air force with greater range, endurance as well as flexibility, which is essential for expeditionary operations, filling, or at least reducing, that gap is vital for European states. There are several initiatives pursued within both NATO and the EU to address this issue. For example, the aforementioned initiative involving Poland, Norway and the Netherlands is a part of a project initiated by EDA in response to the limited AAR capability in Europe. The EDA's AAR project was started in 2012 and is realised in three work strands aiming at (1) optimising the use of existing tanker assets and acquiring new aircraft such as (2) Airbus A400M Atlas as well as (3) Airbus

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[378] European Defence Agency, "European multirole tanker transport fleet takes shape." (19/12/2014) Available at: <https://www.eda.europa.eu/info-hub/press-centre/latest-news/2014/12/19/european-multirole-tanker-transport-fleet-takes-shape> [accessed 18/10/2017].

[379] Zieliński, "Overview of Allied Defence Capabilities.", p. 99.

A330 MRTT leading to the creation of an MRTT fleet by 2020.[380] In 2016 a Memorandum of Understanding was signed by the Netherlands and Luxembourg, joined a year later by Germany and Norway, to buy seven aircraft of that type and have them delivered between 2010 and 2022.[381] Despite the initial signing of the Letter of Intent to acquire the pooled fleet of MRTT aircraft, Poland has not been part of that Memorandum.

NATO and EU AAR Clearance Request/Approval Training and Table Top Exercise

The acquisition of the pooled multinational fleet of AAR aircraft necessitates all participating states to have any required clearances in place for the fleet to become fully operational. In 2014, 40 per cent of such clearances in Europe were still missing. This reduced the flexibility and immediate deployability of available AAR assets.[382] The problem was addressed by both the EU and NATO. For example, in 2013 a first collective AAR clearance trial was organised in Italy involving the host nation's tanker – Boeing KC-767, two French Mirage 2000 and Rafale fighters and three Swedish Gripens. Eleven EDA states had signalled interest in the initiative initially.[383] In 2014, NATO identified Five Pillars of an AAR Clearance as areas which should be reviewed by the tanker and receiver nations in order to ensure that bi-lateral clearances are obtained.[384] Following that, the JAPCC initiated in January 2017 the first edition of the NATO and EU AAR Clearance Request/Approval Training and Table Top Exercise. This was conducted with the involvement of both, NATO International Staff and the EDA, as well as the MCCE, the Dutch Flight Test Centre and the European Air Transport Command, which hosted the training. The participants identified several key points to focus on during cooperation within the AAR

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[380] See European Defence Agency, "Air-to-Air Refuelling." (28/02/2017) Available at: <https://www.eda.europa.eu/what-we-do/activities/activities-search/air-to-air-refueling> [accessed 04/03/2017].
[381] Ibid.
[382] Cicconardi, "First Collective AAR Clearance Trial.", p. 11.
[383] Ibid., p. 12.
[384] The Five Pillars include reviewing both, technical and operational compatibility but also such issues like crew training and currency used, maintenance level as well as required legal and fiscal arrangements between the tanker and receiver states. See Victoria Thomas, "Better Together: First Ever Air-to-Air Refuelling Clearance Request/Approval Training and Table Top Exercise." *Transforming Joint Air Power. The Journal of the JAPCC*, Edition 24 (Spring/Summer 2017), pp. 40–45, pp. 41–42.

domain and requested that the event should be held annually.[385] As such, this initiative looks very promising for establishing mutual AAR clearances among NATO and EU nations in the future. It also serves as another example of the increasing transnationalisation of European air power.

Air Transport, Air-to-Air Refuelling and other Exchange of Services

An interesting example of a collaborative initiative based on pooling and sharing AT and AAR resources, although this time pursued outside of the NATO and EU framework, is the Air Transport, Air-to-Air Refuelling and other Exchange of Services (ATARES) arrangement. It emerged following the establishment of the MCCE in 2007 and the merger of the European Airlift Centre and the Sealift Coordination Centre. MCCE is based at the Eindhoven Air Base in the Netherlands and currently gathers 28 nations among which are all three case study countries – Poland since 2008, Sweden and the UK, as founding nations, since 2007.[386] The Centre is responsible for coordinating existing air, sea and land transport assets as well as opportunities of their usage and participating nations' needs, in order to ensure that these services are exploited in the most effective way.[387] One of the tools enabling to perform these roles is the ATARES initiative, which is another opportunity for the European air forces to use pooled and shared resources in order to fulfil their individual needs in AAR and AT. The arrangement allows for mutual exchange of services with a 'currency' of Equivalent Flying Hour (EFH) which is one flying hour of a Lockheed C-130 Hercules or Transall C-160 aircraft.[388] Any other types of a transport aircraft which participating states may possess can also be used. They are assigned their own equivalent factor calculated using the cost of one EFH. Therefore every member of the initiative has to compensate for used services (for example air tankers) with an agreed number of EFH, which have to be 'paid'

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[385] Joint Air Power Competence Centre, "NATO and EU Jointly Conclude 1st-Ever Table Top Exercise on Air-to-Air (AAR) Clearance Request/Approval Training." Available at: <https://www.japcc.org/aar-clearance-requestapproval-training/> [accessed 17/11/2017]. Also see See Thomas, "Better Together.", pp. 43–44.

[386] The remaining 25 are: Austria, Belgium, Bulgaria, Canada, Croatia, Czech Rep., Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey and the US. See Movement Coordination Centre Europe, "MCCE at a Glance." (March 2018), Available at: <http://mcce-mil.com/> [accessed 08/08/2018], p. 3.

[387] Zieliński, "Overview of Allied Defence Capabilities.", p. 98.

[388] Quintana, Heidenkamp and Codner, *Europe's Air Transport.*, p. 11.

back to ATARES nations in general and not necessarily to the particular country which resources were used in the first place.[389] Similar to the SAC initiative, the MCCE supports any operational and training needs of participating nations. For example, as was pointed out by a Polish Air Force officer, Poland uses ATARES during the pilots' training so they get the possibility to learn and maintain AAR, an area of training that the country cannot cover with its national capabilities. In return, Poland offers transport to pay for this training.[390] Poland also used ATARES when flying AT for the coalition during the ISAF mission in Afghanistan, exchanging those flying hours for AAR.[391] Sweden provided their tanker aircraft as part of the Centre's support to the ACE 2017 exercise.[392] The UK, finally, is among eight nations manning at the time of writing (2018) the AT Cell at the MCCE, coordinating the spare airlift capacity and the AT requests coming from the participating states.[393] The country also agreed for the ATARES members to use the RAF's spare capacity of the Airbus A330 MRTT Voyager fleet.[394] As such ATARES is an excellent example of the principles of specialisation and cooperation in Smart Defence, where participating nations share their respective strengths in order to make up for specific weaknesses of others, as a result building joint capabilities and military capacity.

Gaining operational experience is also of crucial significance for the development of shared European AAR capabilities. For example, as pointed out by Deputy Commander of Armed Forces Operational Command, Tadeusz Mikutel, Polish officers gained invaluable ISR and AAR experience during their reconnaissance mission in the Operation Inherent Resolve in Kuwait in 2016–2018.[395] According to the General, the mission's specifics involved 8–10 hour-long sorties performed several times a week and requiring AAR – something that

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[389] European Air Transport Command, "ATARES." Available at: <http://eatc-mil.com/175/ATARES> [accessed 19/04/2017]; Movement Coordination Centre Europe, "Air Transport." Available at: <http://mcce-mil.com/air-transport/> [accessed 14/03/2017].
[390] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 30/06/2016.
[391] Bartosz Bera, "Zespół lotniczy w Afganistanie." *Lotnictwo*, 12 (2012), 46–49, p. 47.
[392] Movement Coordination Centre Europe, "MCCE support to Arctic Challenge 2017." (29/05/2017) Available at: <http://mcce-mil.com/2017/05/mcce-support-to-arctic-challenge-2017/> [accessed 31/08/2017].
[393] MCCE, "MCCE at a Glance."
[394] Quintana, Heidenkamp and Codner, Europe's Air Transport., p. 12.
[395] Magdalena Miernicka, "Wyjątkowa misja." *Polska Zbrojna* (22/06/2018) Available at: <http://www.polska-zbrojna.pl/home/articleshow/25556?t=Wyjatkowa-misja> [accessed 02/06/2018].

the pilots could not train for back at home to such an extent since such flights are performed not that often and are much shorter.[396] Therefore, it is clear that operational experience, especially gained from high-intensity missions, not only raises the qualifications of the involved personnel but also improves future training as those pilots who will be sharing that first-hand knowledge with their colleagues.

In sum, AAR capability, just like AT, is crucial for an air force to be fully operational, especially in a time when expeditionary operations are the dominant form of warfare, but it is also a major shortcoming among European nations. As this section showed, several multinational initiatives aimed at filling that gap have been pursued within the framework of NATO, the EU and MCCE. The initiatives discussed above are focusing on two main points – pooled and shared AAR/AT fleet as well as obtaining mutual AAR clearances for NATO and EU countries. The cooperation within AAR as much as that pursued for airlift, confirms the idea of transnationalisation and European air forces becoming more interconnected and interdependent.

4.3.3   Intelligence, surveillance and reconnaissance

Another area of capability limitations present among European air forces is ISR which is a crucial enabler in any kind of modern military operation. As Peter Lee pointed out, ISR retains its primary importance among other air power roles since the foundations of the RAF,[397] what also would be applicable for any other air force. Without effective ISR they are unable to perform their tasks. Therefore, it is understandable that, similarly as in case of AT and AAR, attempts have been made to make up for these limitations with the use of multinational initiatives, giving the participating states access to capabilities that otherwise could not be afforded as well as complementing the already existing ones. As the section below will show, cooperation in the area of ISR also has led to increased interoperability and interdependence between participating air forces, serving as further evidence of their progressing transnationalisation.

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[396] Ibid.
[397] Peter Lee, interview dated 21/09/2016.

NAEW and AGS are explored below as pertinent examples of European cooperation in the area of ISR.

NATO Airborne Early Warning and Control System

As was already mentioned, NATO's Smart Defence is not a new idea as such and the NATO Airborne Early Warning and Control (NAEW&C) system is one of the concept's oldest predecessors. The initiative was started in 1978 and currently involves two components – the multinational NATO fleet of 16 Boeing E-3A Airborne Warning and Command System (AWACS) aircraft based in Geilenkirchen (Germany), and the UK component of 7 Boeing E-3D Sentry aircraft based at Waddington (UK).[398] Besides the main air base in Geilenkirchen, the multinational component operates also from forward operating bases in Italy, Greece and Turkey, as well as a location in Norway.[399]

The long endurance of the NAEW&C programme proves the utility of such initiatives. The programme is aimed at enhancing the alliance's ISR capabilities, which is an important area where European air power experiences limitations. According to the latest data provided by *The Military Balance*, in 2018 the UK possessed altogether 18 different aircraft to cover airborne early warning, electronic intelligence and ISR capability.[400] The Swedish Air Force had only five.[401] Poland does not possess any ISR capability at all. Therefore, in the field of intelligence and airborne early warning European air power can be strengthened with shared capability and pooled resources. A good example of that is the AGS programme discussed later in this section. This initiative provides a great opportunity especially for Poland to fill the gap in capability of conducting air recognition from unmanned platforms until its first UAS base, opened at the beginning of 2016, becomes fully operational.[402]

Although NAEW&C is an established initiative with a long history of success, Sweden, as a non-allied state, is not part of this particular programme. The country operates its own version of airborne early warning (AEW) system – three Saab 340 Erieye aircraft as well as two Gulfstream IV SIGINT aircraft

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[398]   NAPMA,   "NAEW&C   Force"   Available   at: <http://www.napma.nato.int/organisation/5.html> [accessed 10/03/2017].

[399] Johnson, LaBenz and Driver, "Smart Defense.", p. 46.

[400] "Europe" *The Military Balance,* 118.1, 65-168, p. 164.

[401] Ibid., p. 153.

[402] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 30/06/2016.

of American production.[403] Similarly, the UK also operates its very own E-3D Sentry aircraft at the Waddington base, but that fleet also forms the NAEW's second component. It involves 18 RAF officers and seven aircraft in the 8th Squadron – six of which are being used airborne and one as a training unit on the ground.[404] These provide the UK with national AEW capability which can be used, when required, towards independent operations or in support of a coalition.[405] At the national level, the E-3D Sentry is part of the UK Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) system,[406] but the British AWACS fleet also significantly contributes to the NAEW&C force. The Waddington component became fully operational in July 1992 and provided 25 per cent of the initiative's annual performance in the operations against ISIL in Iraq and Syria, having contributed in the past to missions taking place in Bosnia, Kosovo, Afghanistan or Iraq.[407]

Poland has participated in the NAEW system since 2006 and, with other sixteen NATO members,[408] is a user of the shared E-3A fleet at Geilenkirchen air base.[409] Poland also contributes military personnel for that AWACS component. In 2016, Polish Air Force officers filled over 20 positions in the air base.[410] The NAEW&C system provides information and data which Poland can use in case of a contingency or conflict. The Polish Air Force also participates in multinational exercises focusing on airborne early warning.[411] In addition to

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[403] "Europe" *The Military Balance*, 118.1, p. 153.
[404] HQ NAEW&C FORCE GK, "E-3D." Available at: <http://www.e3a.nato.int/organisation/awacs-fleet/e3d.aspx> [accessed 10/11/2017].
[405] HQ NAEW&C FORCE GK, "E-3D Component." Available at: <http://www.e3a.nato.int/organisation/e3d-component.aspx> [accessed 03/11/2017].
[406] RAF, "E-3D Sentry AEW1." Available at: <https://www.raf.mod.uk/equipment/e3d-sentry.cfm> [accessed 03/11/2017].
[407] NAPMA, "E-3D Component – RAF Waddington, United Kingdom." Available at: <http://www.napma.nato.int/organisation/7.html> [accessed 03/11/2017].
[408] These are Belgium, Canada, the Czech Republic, Denmark, Germany, Greece, Hungary, Italy, Luxembourg, the Netherlands, Norway, Portugal, Romania, Spain, Turkey and the US.
[409] Government of Canada, "Canada rejoins NATO Airborne Warning and Control System program." (14/02/2018), Available at: <https://www.canada.ca/en/department-national-defence/news/2018/02/canada_rejoins_natoairbornewarningandcontrolsystemprogram.html> [accessed 06/02/2018]; HQ NAEW&C FORCE GK, "Participating nations." Available at: <http://www.e3a.nato.int/organisation/participating-nations.aspx> [accessed 10/03/2017]; Tadeusz Wróbel, "Tysiąc lotów AWACS-a nad Polską." *Polska Zbrojna* (13/10/2016), Available at: <http://polska-zbrojna.pl/home/articleshow/20759?t=Tysiac-lotow-AWACS-a-nad-Polska> [accessed 30/08/2017].
[410] Wróbel, "Tysiąc lotów AWACS-a nad Polską."
[411] Ministry of National Defence Republic of Poland, "AWACS over NATO's Eastern Flank." (13/10/2016), Available at: <http://en.mon.gov.pl/news/article/latest-news/awacs-over-natos-eastern-flank-22016-10-14/> [accessed 30/08/2017].

these obvious benefits, the initiative also provides opportunity for training and exercises that are not necessarily focusing solely on ISR. One of the most recent events of that type, where Polish officers were among the AWACS crew, was the NATO Tiger Meet 2018.[412] However these are not the only ways in which the opportunities offered by membership in NAEW&C can be exploited. For example, AWACS aircraft were also present over Polish territory during such mass-scale events as the visit of Pope Benedict XVI (2006), the European Football Championship (2012), NATO Summit in Warsaw (2016) or the World Youth Day in Cracow (2016).[413] AWACS aircraft also supported the Polish Air Force in six BAP missions adding collectively pooled and shared resources to another joint effort.[414] As such, the NAEW&C programme has been beneficial especially for countries such as Poland, which would not be able to maintain and make use of advanced ISR capabilities otherwise.

Alliance Ground Surveillance

Poland is also involved in the Alliance Ground Surveillance (AGS) programme, which is another example of building a collective air capability in Europe in the field of ISR. In this case the country cooperates with fourteen other NATO members.[415] These states are acquiring together a system consisting of five remotely piloted Global Hawk aircraft and ground-based command and control stations, which altogether will allow for providing persistent surveillance from high-altitudes.[416] The first NATO Global Hawk is expected to arrive in the AGS main operating base in Sigonella (Italy) by the end of 2019.[417] The system and its fleet, once operational, will be available for all 29 NATO members.

The abovementioned AGS programme was started in 2004 and Poland participated in that initiative until 1st April 2009, when it withdrew due to

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[412] Magdalena Miernicka, ""Tygrys" z radarem." *Polska Zbrojna* (22/06/2018) Available at: <http://wwww.polska-zbrojna.pl/home/articleshow/25755?t=-Tygrys-z-radarem> [accessed 06/07/2018].

[413] Ministry of National Defence Republic of Poland, "AWACS over NATO's Eastern Flank."

[414] Wróbel, "Tysiąc lotów AWACS-a nad Polską."

[415] These include Bulgaria, Czech Republic, Denmark, Estonia, Germany, Italy, Latvia, Lithuania, Luxembourg, Norway, Romania, Slovakia, Slovenia and the US.

[416] NATO, "Alliance Ground Surveillance (AGS)." (updated 08/06/2018) Available at: <http://www.nato.int/cps/ua/natohq/topics_48892.htm> [accessed 08/08/2018].

[417] Ibid.

financial constraints.[418] As mentioned by a Polish Air Force Colonel who wishes to remain anonymous, another possibly political reason for this withdrawal might have been the fact that the Polish Government was pushing for the main AGS air base to be located in Powidz in Poland, but had been unsuccessful.[419] In view of the long-term benefits of being a member in this initiative, especially given the limitations of the country's national capabilities in the area of ISR, Poland re-joined the initiative five years later in 2014 and, once again, is a full member to the programme.[420] The UK and Sweden have never participated in the AGS. However, the former intended to sign a Memorandum of Understanding before the programme becomes fully operational with a view to contributing to the initiative with the RAF's own capabilities.[421]

Certainly, both systems, NAEW and AGS, are of great importance to European air forces and especially to those that are unable to build significant national capabilities in the area of ISR. The former, considering its long endurance, can be called the most successful cooperative initiative within NATO and in Europe. It provides the Alliance with a rapid airborne surveillance, command and control capability for any operation.[422] AGS, once fully operational, will complement it with providing near real time situational awareness. Both initiatives provide the participating nations with a capability that, again, some of them would not be able to afford, develop and maintain on their own. Therefore it is in their best interests to work together to get it up and running within the given timeframe in case of AGS, and to promote and develop further cooperation in case of NAEW. However, Poland's approach to the AGS example also indicated that countries may attempt to use their participation in multilateral efforts for the achievement of national political gain. That shows that increasing interdependence among European air forces may become at some point problematic. Nevertheless, as the UK's close involvement as one of

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[418] Grzegorz Hołdanowicz, "Nieprimaaprilisowe pożegnanie z AGS." *Raport – Wojsko Technika Obronność*, 05/2009, Available at: <http://www.altair.com.pl/magazines/article?article_id=2214> [accessed 29/08/2017].

[419] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 22/06/2016.

[420] Ministry of National Defence Republic of Poland, "Polska przystąpiła do programu AGS." (02/06/2014) Available at: <http://www.mon.gov.pl/aktualnosci/artykul/2014-04-02-polska-przystapila-do-programu-ags> [accessed 29/08/2017].

[421] NATO, "Alliance Ground Surveillance (AGS)."

[422] NAPMO, "NAPMO Information Booklet." Available at: <http://www.napma.nato.int> [accessed 10/03/2017], p. 7.

Europe's strongest air powers in most of the above initiatives, as well as Poland's eventual decision to re-join the AGS show, transnationalisation, in spite of the problems it may bring, is seen as the best way forward for European air power in the current security environment.

4.4   Conclusion

Shrinking defence budgets, increasing costs of military technological improvement and developments as well as limitations of European armed forces have contributed to the increasing transnationalisation of European militaries. Air power is not an exception here and, as this chapter demonstrated, European air forces have become increasingly interdependent and interconnected during the post-Cold War period.

Chapter 3. introduced the concept of transnationalisation of the RAF, Polish and Swedish Air Forces pointing to such phenomena as adapting certain NATO standards, reliance on the Alliance's documents when writing national doctrines, or changes in strategic thinking giving importance to the institutionalisation of international security through reliance on such organisations as NATO, EU or UN. This chapter provided further evidence of the increasing transnationalisation of European air forces by exploring a number of important examples of relevant multinational cooperative initiatives. The chapter showed that these initiatives, depending on specific needs and objectives, are being pursued within the frameworks of NATO or the EU, but also outside of these on an ad-hoc multilateral basis, for example established by organisations like the MCCE or as a joint efforts of interested countries (for example CBT). The majority of the discussed programmes focus on the areas identified in Chapter 2. as those are where European air power collectively faces the most serious limitations, namely air transport, air-to-air refuelling and intelligence, surveillance and reconnaissance. The initiatives take different forms, from burden-sharing missions, through exchange of services, pooling and sharing of resources to collective training and exercises. All of them are providing evidence of the transnationalisation of European air forces, including of the RAF, Polish Air Force and Swedish Air Force, resulting in their increasing interconnectedness and interdependence.

Both, interconnectedness and interdependence are inseparable elements of the multinational initiatives discussed in this chapter. The participating air forces often agree to share costs and resources, which significantly lessens the financial burden they would have to bear otherwise and gives them access to certain equipment. In some cases, like for example the AGS in Poland, this allows for access to capabilities that the country could not afford on its own. Furthermore, closer multinational cooperation within established programmes and missions results in gaining invaluable experience. By coming together to train they can also conduct much larger exercises at smaller cost. As a result, personnel comes back not only better trained, with greater tactical and operational knowledge but has also gained valuable experience in working with colleagues from different national and cultural backgrounds. The cost-effectiveness and the opportunity to gain that experience are the two points that were most often mentioned in the interviews conducted for this thesis on the topic of potential benefits of participating in multinational initiatives. Lindvall also stressed the wide variety of roles and tasks that an air force can train for when working together with other nations – these involve not only those available back home, but a much wider variety of possible activities.[423] Therefore participating in the initiatives of multinational cooperation and such training programmes allows especially smaller air forces to get experience in areas otherwise unavailable and, as a result, increase the air force's operational readiness. Involvement on a multinational level is also important for professional development among the air force officers. There is a strong motivation for air force personnel to get involved in the multinational initiatives. Stringer pointed out the direct link between participating in NATO exercises and career progress in the RAF.[424] Career progress certainly enhances the personnel's willingness to take part in such initiatives what, in turn, results in the development of their own skills and experience and of the effectiveness of their national air force as a whole. Participation in initiatives like those discussed in this chapter does not come free, but it is still more cost-effective than building specific capability from scratch within national capacity. The gains from discussed initiatives are proportional to a state's contribution and for the same reason, these programmes

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[423] Fredrik Lindvall, interview dated 13/06/2016.
[424] AVM Edward Stringer, interview dated 27/09/2016.

will never (and should never) substitute national military capability and capacity but rather complement them.[425] Therefore it remains vital for a country to maintain its own military capabilities and use the multinational initiatives as an opportunity to boost them.

Having discussed the increasing transnationalisation of European air forces the question arises whether this process ultimately will lead to the creation of a supranational 'European Air Force'. For example, Gardner suggested that deepened cooperation between European nations could, in the long term, affect the development of such a service.[426] However, a certain paradox exists in the process of building a transnational network of European militaries and air forces. Increasing cooperation since the end of the Cold War has led to a much higher degree of interaction, not only at the level of multinational command, but also at tactical and operational levels – something unlikely to be observed pre-1990.[427] Examples of the initiatives discussed in this chapter and also the procedural and doctrinal interdependence discussed in Chapter 3., provide evidence for this, since they are taking place mostly on a tactical and operational level. Having said this, these initiatives are intended to address certain capability and capacity gaps and are not aimed at full integration, which would be a strategic goal if the involved states had an aspiration to create a supranational, European Air Force.

It is also national units that participate in multinational ventures. In all cases, state sovereignty and national affiliation of forces retains primacy over the existing multinational networks.[428] This is true even if, like in the case of the UK, Poland and Sweden, participation in organisations perceived as guarantors of international security, like NATO or EU, is a strategic objective. For example, post-Cold War military reforms in Europe were driven by changes in defence strategies or budgetary cuts at national levels and primarily represented the interests of individual states rather than international organisations.[429] Similarly, the importance of national objectives may be noticed in levels of control that states maintain over their deployed forces. For example, it is in the interest of a

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[425] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 22/06/2016.
[426] Timothy Gardner, "European Air Power." In *Air Power 21. Challenges for the New Century*, ed. by Peter W. Gray, 99-122. London: The Stationary Office, 2000, p. 121.
[427] Anrig, *The Quest for Relevant Air Power.*, pp. 360–361; King, *The Transformation of Europe's Armed Forces.*, p. 45.
[428] King, *The Transformation of Europe's Armed Forces.*, pp. 272–273.
[429] Ibid., p. 273.

state to keep the potential risks their military forces may face to a minimum in order to limit the casualties and losses. As discussed in more detail in the next chapter, there are usually caveats enforced, which will often restrict the extent of their involvement in a multinational operation allowing the participating states retain control over their own military forces. Although there are specific instances where states have partially given up some of that control and subordinated their assets to a multinational command, as is the case, for example, with the European Air Transport Command noted in footnote 356, these are not common practice and have never involved the UK, Poland or Sweden.

Finally, in the process of transnationalisation, it is again the national level where states consider and decide on which military capabilities they should invest and specialise in, and which capabilities they prefer to maintain as a collective initiative. Many European NATO members' air forces specialise in a specific capability, which they contribute towards the collective strength of the alliance. Deciding which capabilities to pool and share is difficult for the simple reason that such a decision cannot be easily reversed. On the one hand, as the procurement of advanced air power technology is expensive, the prioritisation of certain capabilities and aircraft appears to be a sensible choice. On the other hand, rebuilding a certain capability, once lost, involves not only acquiring new platforms but also training the personnel and creating the infrastructure. As a Polish Air Force Colonel pointed out, it is therefore a lengthy process which may take decades.[430] As a result, many of the European air forces seek a balanced approach and, for example, invest in multirole aircraft that allow them to maintain varied capabilities at the expense of capacity.[431] Such a stance brings a serious risk to the effectiveness of a 'balanced' air force. For example, the RAF wants to be able to perform all of the air power roles, but it lacks the mass – the capacity to deliver a complete air force capable of conducting a large-scale operation independently.[432] Dandeker argues that due to financial constraints it may be very difficult for European states to maintain a sustainable force for the full spectrum of military capabilities, meaning that even those 'balanced' air

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[430] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 22/06/2016.
[431] Peach, "Coalition Air Operations.", p. 74.
[432] Air commodore in the RAF, interview dated 05/04/2017.

forces may be of little use on their own.[433] Therefore investing in national capabilities retains importance but, unless a state is prepared to bear the increasingly high costs of modernisation and technological developments on its own, involvement in burden-sharing multinational initiatives may be a better option.

In sum, post-Cold War military transnationalisation is not in itself a goal, but rather an inevitable side-effect of the need to build new capabilities and strengthening already existing ones through smart defence, pooling and sharing. The more the air forces are involved in such initiatives the more capable they are of being a worthy partner and contributor to multinational operations. Increased cooperation and transnationalisation inevitably leads to certain challenges that must be addressed, such as for example maintaining high interoperability in terms of procedures, technology and training with other alliance or coalition members. These potential challenges (and the way they are being dealt with) will be looked at in more detail in next chapter.

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[433] Dandeker, "Building Flexible Forces for the 21st Century.", p. 413.

Chapter 5: The challenges for European air forces of multinational cooperation

This chapter investigates the difficulties that British, Polish and Swedish Air Forces are facing when involved in different forms of multinational cooperation. It answers the final two sub-questions posed in the thesis: what are the ongoing problems encountered by European air forces when they engage in multinational operations, and how can these problems be overcome? Therefore, the chapter's main objective is two-fold. First, it demonstrates that the discussed challenges to multinational cooperation are to large extent dependent on cultural background of the air forces involved. Second, it shows that their negative effects may be minimised during the aforementioned process of transnationalisation, namely through active involvement in the different forms of multinational collaboration, for example, the initiatives discussed in Chapter 4.

The initiatives looked at in the previous chapter are part of the process of post-Cold War transnationalisation and take different forms, from burden sharing programmes to multinational training and exercises. The chapter identified several benefits coming from such cooperation among European air forces, for example access to nationally unavailable capabilities, strengthening the existing capabilities and gaining invaluable training and experience. From the point of view of these benefits, such initiatives of multinational cooperation look very appealing. However, the chapter also concluded that such cooperation may create potential challenges hindering the effectiveness of multinational initiatives and operations that also need to be taken into account. These challenges and how to overcome them are the subject of the following chapter.

Multinational operations are complex. As this chapter will reveal, that complexity stems from the fact that they are bringing together units from various nations – coming from different cultural backgrounds, speaking different languages, representing different national objectives, operating according to different procedures and using different equipment. Even if the nations involved are part of a multilateral organisation, for example NATO, that does not remove the potential challenges multinational collaboration may bring. Nevertheless, multinational operations, as pointed out by King, are the most frequent form of

military operations today.[434] As discussed in Chapter 2., the reasons for this are that as a result of shrinking defence budgets, downsizing of the armed forces and emerging new unconventional threats, individual states can no longer afford to deal with all potential security challenges on their own. Moreover, multinational coalitions have become a tool for attributing political legitimacy to a state's actions.[435] Therefore, the military personnel of participating nations should be aware of the challenges they may be facing and should take precautions to avoid or minimise their negative effects to increase the effectiveness of the multinational contingent. Some ways to achieve this may be, for example establishing common objectives and rules of engagement, adherence to standardised regulations and procedures, organising joint trainings or raising cultural awareness within national units.

Referring back to Hofstede's model of cultural dimensions, the chapter will focus on actual experiences of the British, Polish and Swedish Air Forces, also referring to the experiences of other countries' military forces where relevant, from their participation in multinational operations. Four main areas where potential challenges are most likely to arise will be identified. These are communication and interpersonal relations, language, national caveats and homogenous rules of engagement as well as interoperability in terms of procedures and technology. The chapter will conclude with a discussion of how these challenges may be overcome.

5.1 Cultural diversity in European air forces

Aviation creates very specific environments for both military and civilian pilots. The profession brings a lot of risk and, at the same time, is constrained by a high level of interdependence. Interdependence is relevant on both the national and international level, above all with regards to the use of English as a common language, adherence to standardised procedures, use of international air-traffic control system and the existence of International Civil Air Organisation

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[434] King, "The Paradox of Multinationality.", p. 251.
[435] See, for example, Allied Joint Publication (AJP)-3(B) *Allied Joint Doctrine for the Conduct of Operations*, NATO Standardisation Agency, March 2011, p. 1-10 or King, "The Paradox of Multinationality.", p. 251.

enforcing adherence to unified regulations on its members.[436] This hints at the existence of a one supranational aviation or air force culture invulnerable to the influence of national background of the air personnel. This section, however, argues that despite certain common elements, different air forces still reflect the traits characteristic for their national culture.

Considering the very specific environment that air personnel work in, on one hand, it could be argued that cultural diversity has very little, or even no influence on the quality of cooperation pursued among different air forces. Helmreich and Merritt, for example, observed that in civilian aviation the professional culture often supersedes national culture, meaning that pilots' professional activities are determined more by the values and norms of a shared aviation culture, than those seen as typical for society at large in their country of origin.[437] Speaking of such a common professional culture among pilots, Karl E. Weick and Karlene H. Roberts referred to the idea of 'collective mind' in aviation pointing out that there is no space for individualism among the air crew, because well-developed interpersonal skills are essential when it comes to tasks performance and dealing with emergencies.[438] On the other hand, Soeters and Boer found that there is a correlation between the power distance index of particular countries identified by Hofstede and flight safety.[439] In other words, if air crew come from a culture with a typically higher power distance index, aviation accidents are more likely to happen.[440] The authors referred to various examples of civil aviation accidents linked to power-related issues. One that was not discussed by them, but which is relevant for one of the case studies used for the thesis, is the crash of the Polish Presidential Tupolev in Smolensk in April 2010 mentioned in Chapter 4. According to the final report of the Committee for Investigation of National Aviation Accidents, the crew of that flight remained passive in executing commands of the captain and neither reacted to critically changing parameters, nor objected to the presence in the cockpit during landing of the Protocol Director and the Air Forces Commander-in-Chief who, as

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[436] Roger H. Palin, *Multinational Military Forces: Problems and Prospects.* Adelphi Papers 294, Oxford: Oxford University Press, 1995, p. 53.
[437] Helmreich and Merritt, *Culture at Work in Aviation and Medicine.*, pp. 70–72.
[438] See Karl E. Weick and Karlene H. Roberts, "Collective Mind in Organisations: Heedful Interrelating on Flight Decks." *Administrative Science Quarterly*, 38 (1993), 357–381.
[439] See Soeters and Boer. "Culture and Flight Safety."
[440] Ibid., pp. 120–121.

passengers, should not have been there.[441] The presence of superiors, even if they did not try to interfere, was likely to have put indirect pressure on the captain to land the aircraft at any cost and despite unfavourable weather conditions.[442] The situation might have been exacerbated by the fact that the same pilot two years earlier, this time as co-pilot, had witnessed an incident when the captain was called 'coward' and threatened with prosecution[443] after he refused to suddenly change the flight route on demand of the Polish President.[444] This situation took place in 2008 during the Russian war with Georgia. When the Polish President flew to Georgia for diplomatic support, the pilot was pressured to abort the initial plans of landing in Ganja in Azerbaijan and fly directly to Tbilisi instead. In spite of the fact that the President tried to use his authority as the Commander-in-Chief of the Armed Forces to interfere with the flight route, the pilot followed the procedures, continued the flight to Azerbaijan and did not risk flying over a war zone without the necessary permissions and guaranteed security.[445] These two examples demonstrate the correlation between Polish national culture and military culture. In the first case, the crew demonstrated undue respect and acceptance for authority and hierarchy towards the captain. That correlates with high power distance characteristic for Polish nationals as a whole. In the second case the pilot stood up to pressure from his superior and demonstrated adherence to the existing regulations and a high uncertainty avoidance index, both of which are characteristic for aviation culture. Of course, the ratio of accidents cannot be related simply with the pilots' cultural origins, but also depends on the resources and infrastructure available to them.[446] Nevertheless, both examples show how cultural aspects can play an important role in the military culture of states

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[441] *Final Report from the examination of the aviation accident no 192/2010/11 involving the Tu-154M airplane, tail number 101, which occurred on April 10th, 2010 in the area of the Smolensk North airfield*, Committee for Investigation of National Aviation Accidents, 25 July 2011, pp. 230–237.

[442] Ibid., pp. 235–236.

[443] The prosecutor's office ultimately dismissed the charges against the captain arguing that he behaved according to the procedures.
See Wojciech Czuchnowski and Renata Grochal, "Incydent gruziński." *Wyborcza.pl* (24/04/2010) Available at: <http://wyborcza.pl/1,76842,7808706,Incydent_gruzinski.html> [accessed 24/04/2018].

[444] Agnieszka Kublik and Wojciech Czuchnowski, „"Tchórz" zabolał mnie najbardziej." *Wyborcza.pl* (29/03/2011) Available at: < http://wyborcza.pl/1,76842,9337581,__Tchorz___zabolal_mnie_najbardziej.html> [accessed 20/08/2018].

[445] Czuchnowski and Grochal, "Incydent gruziński."

[446] Helmreich and Merritt, *Culture at Work in Aviation and Medicine.*, pp. 104–105.

In sum, there is something in the idea of the existence of a common aviation or air force culture shared by all air crews despite their nationality. This is the result of certain commonalities that all air personnel share, such as use of English language, adherence to common international procedures or international aviation rules. These are elements constituting certain standards and norms that air crew of all countries need to adhere to in order to be able to efficiently and safely perform their duties in international air space. As such, elements of a shared air force culture that transcends national boundaries might make the participation of air force personnel in multinational operations easier.

However, the above section also indicates that the influence of national culture on a state's military and air force culture still exists. Even when using the same language and adhering to the same procedures and regulations, the ways in which air crews think and perform are likely to be susceptible to the influence of their national background and culture to an extent. Within the framework of multinational operations, where air force personnel from different cultural backgrounds cooperate, this can lead to challenges that could potentially interfere with the effectiveness and smooth running of the mission. An awareness of these potential challenges and ways to deal with them is therefore essential.

5.2 Challenges encountered in multinational air operations – the case of British, Polish and Swedish Air Forces

Air power creates a specific environment with internationalised rules, procedures, technological interoperability and English serving as a common language. It is likely that these commonalities are even stronger if air force personnel from different countries work together within the framework of an established structure such as NATO, other alliances or coalitions, since these impose certain standards on the participating states, thus ensuring ease in cooperation

However, as the previous section implied, national culture and background are important even in organisations, such as air forces, that share many commonalities around the world. This means that even within the framework of a multinational organisation such as NATO potential difficulties in cooperation

between air force staff coming from different cultural backgrounds are likely. The following section will assess four possible challenges air forces might encounter in multinational operations, using the British, Polish and Swedish cases as examples. These challenges are communication issues resulting from cultural differences; language related issues; problems resulting from national caveats enforcing restrictions on a state's involvement in an operation and adapting different rules of engagement as well as interoperability issues.

5.2.1 Cultural diversity – communication and interpersonal relations

The cultural background of air force personnel participating in multinational operations and their differences in the four dimensions identified by Hofstede, especially power distance, can disrupt the communication and interpersonal relations within a multinational team. Helmreich and Merritt cited an example of such a problem arising in a cockpit where the captain and the second officer represented a different level of power distance what yielded misunderstandings on even a such basic level as how to address each other – by first name or by his title, i.e. 'captain' or 'officer'.[447] A study on command and leadership challenges in multinational operations found that, compared to other contingents, British military personnel were given the right to make decisions on a much lower level of military hierarchy – for example, by officers in the rank of captain or major.[448] In contrast, other participating nations allowed the same decisions to be made only by a lieutenant colonel, who would often seek additional confirmation from the higher ranks. Similar findings were published by Moelker and van Ruiten in their study of bi-lateral cooperation between German and Dutch officers at the NATO corps headquarters in Münster,[449] which gave an interesting insight into potential challenges resulting from different cultural backgrounds. For example, their respondents explicitly admitted that different military cultures – more authoritarian among the Germans

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[447] See Helmreich and Merritt, *Culture at Work in Aviation and Medicine.*, pp. 57–58.

[448] Keith Stewart *et al. Non-technical interoperability: The challenge of command leadership in multinational operations.* Paper submitted to the 10th International Command and Control Research and Technology Symposium: The Future of C2, 2004.

[449] René Moelker and Schelte van Ruiten, "Dutch Prejudice." In *Cultural Challenges in Military Operations.* ed. by Cees M. Coops and Tibor Szvircsev Tresch, 169–183, Rome: NATO Defence College, 2007.

and more relaxed among the Dutch, increased the feeling of 'otherness' in both groups.[450] This also led to misunderstandings, such as perceiving the less strict side as rude or disobedient. The above examples demonstrate the differences between an individualistic, egalitarian military culture and a collectivistic, authoritarian one. Communication problems and misunderstandings even on a very basic level can cause delays in the decision making process if the authorisation from superiors is needed.

Moreover, depending on a nations' power distance and uncertainty avoidance index, different approaches to leadership may disrupt smooth command of a multinational operation. As Febbraro suggested, multinational military missions often have a decentralised command and decision making structure allowing them to be run effectively and eliminating the need to wait for a decision from the higher ranks in the case of an unexpected situation or emergency.[451] Such an approach may put those nations high on power distance and uncertainty avoidance, such as, for example, Poland, in an uncomfortable position – unwilling to assume leading positions and making decisions in fast changing circumstances, or even unwilling to be under other nations' command and therefore disrupting the smooth organisation and running of a multinational coalition.[452] Lin-Greenberg pointed out that it may be potentially difficult for an air commander to work with personnel from different countries that underwent different training and adhere to different tactics or strategies.[453] For the same reason stated above, the participating states may be resistant to delegate their air forces under foreign command, fearing that differences in training, practice, culture or language will increase the risk their personnel is exposed to.[454] Therefore, not only cultural diversity, but also national interests can pose potential difficulties for conducting multinational air operations.

Interestingly, challenges resulting from cultural diversity may be applicable not only to individual nations being involved in a coalition, but are also present within their air forces. For example, Wilson referred to the specific

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[450] See ibid., pp. 177–178.

[451] Febbraro, "Leadership and Management Teams.", p. 58.

[452] Ibid., pp. 58–59.

[453] Erik Lin-Greenberg, "Airpower in Peace Operations Re-Examined." *International Peacekeeping*, 18.4 (2011), 439-453. Available at <http://dx.doi.org/10.1080/13533312.2011.588390> [accessed 10/10/2014], p. 447.

[454] Ibid., p. 447.

approach that British helicopter and airlift pilots have for participating in operations.[455] Both rarely see the bigger picture or consider themselves part of the larger operation never reading the Air Tasking Orders (ATOs) even if they are included in it. They would rather operate within the small designated box flying from point A to B without asking what is the purpose of that and what effect it would have.[456] In comparison, in opinion of Wilson, a fighter pilot would never go on a mission without familiarising himself with the ATO and considering the strategic effect of his actions.[457] Even though that example refers to a problem arising within an air force, such difference in behaviour among the air personnel may also lead to potential challenges in a multinational operation. In such a case, it could be related to the idea of elite and specialised units mentioned in Chapter 2. and identified by Soeters *et al.* as one of the challenges in multinational cooperation's.[458] Therefore the way in which airmen work together in multinational operations depends not only on their national background, but also on what they do – whether they operate fighters, helicopters, tankers, transport aircraft, UASs. These differences may further disrupt communication among the air force personnel and therefore one should be aware of such disparities in the approach they may have for performing their roles in the operation.

5.2.2   Language

Communication problems in multinational air operations are linked not only to cultural differences but also to different languages being spoken. The importance of being able to understand and to be understood by all members of the coalition was already signalled in Chapter 2. With English being the lingua franca in aviation, both civilian and military, the personnel of all European air forces is able to easily communicate. Therefore, being able to speak a common language is already part of air power culture and being able to communicate in English is absolutely crucial for all the personnel involved in order to ensure

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[455] Lt Col Stefan Wilson, interview dated 17/06/2016.

[456] Ibid.

[457] Ibid.

[458] Soeters *et al.*, "Smooth and Strained International Military Cooperation.", p. 203.

smooth running of the mission. For example, in case of Poland, the pilots and other personnel talk in Polish up to the point of boarding the aircraft, but with the very moment when the cockpit is closed the only language spoken is English.[459] Apparently, it has become second nature for Polish Air Force pilots and aircrew, which is likely to apply also to other nations especially if they are regularly involved in multinational operations, to automatically switch between the two languages in this way.

Reaching such level of proficiency to be able to naturally switch from one language to another is a lengthy process and requires fundamental preparation of the military personnel. The challenge will also not be equal for everyone. For example, one could imagine that the process will present more difficulties for Polish air personnel, who before 1990s were encouraged to speak Russian, than for any other Western air force, i.e. Swedish where English-teaching had been part of military education for a long time.[460] Lack of such preparation results in a seriously disrupted communication within a coalition and may be one of the major flaws in getting the military personnel ready for a deployment. Gaining sufficient language knowledge may prove to be especially difficult when an air force cooperates with a standing multinational structure, such as NATO, which is using its own, specific terminology, phraseology, abbreviations. For example, Bulgaria, experienced such problems during its various military involvements with NATO. In a study conducted by Yantsislav Yanakiev, 64 per cent of the respondents, Bulgarian Army and Air Force officers serving in various peace support operations, admitted the language training they received before they were sent to the mission was insufficient in terms of military terminology and acronyms.[461] Considering the Bulgarian example, it is likely that the Swedish Air Force, especially as belonging to a non-NATO state, would experience similar difficulties when involved in a multinational operation adhering to the Alliance's standards. In the Swedish case, however, this difficulty was anticipated and dealt with ahead of time. As was already mentioned in Chapter 3., the post-Cold War transformation of the Swedish Air

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[459] Colonel in the Polish Air Force, interview dated 30/06/2016.
[460] See section 3.2.1 of the thesis.
[461] Yantsislav Yanakiev, "Educating Adaptable Military Leaders and Training of Teams for Coalition Operations." In *Cultural Challenges in Military Operations.* ed. by Cees M. Coops and Tibor Szvircsev Tresch, 203–216, Rome: NATO Defence College, 2007, p. 208.

Force involved extensive efforts to increase their interoperability with NATO. For example, these efforts involved incorporating in the post-Cold War Swedish air doctrines references to NATO publications as well as introducing terminology used by the Alliance. That process was, however, much more comprehensive than standardising, to certain extent, national publications with those issued by NATO. In order to increase interoperability on multinational level, English was adapted as the operational language in the Swedish Air Force. What is more, that task was meticulously approached since learning English was a requirement not only for military personnel but also for the civilians working at air bases including the cleaning staff.[462] The language preparation, as shown in the next paragraph, also involved special courses for the pilots to familiarise them especially with NATO phraseology and glossary used during missions.

Nevertheless, even with the best training unexpected problems may occur, because it is impossible to cover all eventualities in training. An interesting example of an unexpected problem occurring was given in an interview by Wilson who recalled a situation when the Swedish Air Force was going through a transformation switching from Swedish to English and adapting to imperial units system.[463] Before an exercise in the North of the country the Swedish pilots had to go on a course and take a test on phraseology and acronyms used in NATO to make sure they will be able to communicate with each other. During the exercise a command 'pancake' was given meaning everybody should go back to the base and land, however that particular word was not on the list studied by the Swedes. Therefore after 10–15 minutes, Lt Col Wilson found himself alone on the radio frequency and had to ask the air traffic control what is going on and what he should do since he did not know this particular command.[464] Therefore thorough and ongoing language preparation is crucial before the deployment of the military forces to a multinational operation in order to avoid such problems as much as possible.

The language barrier may exist not only due to lack of preparation and insufficient knowledge of English, but also because of different accents, pronunciation or simply confidence and proficiency in speaking a foreign

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[462] Fredrik Lindvall, interview dated 13/06/2016.
[463] Lt Col Stefan Wilson, interview dated 17/06/2016.
[464] Ibid.

language. Mastering the grammar and learning vocabulary does not necessarily guarantee achieving the goal of smooth communication flow among the members of a multinational team. It is equally important to be able to convene the information so that it is understood and interpreted in the same way by every member of the coalition.[465] Here, again, the 'recipient' is key – his/her language proficiency, but also values, traditions and cultural background. The cultural origin of the person giving the information is also important – how did he/she formulate the sentence?[466] Non-native speakers can lack confidence in communicating in a foreign language and therefore might not formulate statements in a clear way or will not be willing to participate in discussions in multinational groups.[467] The language barrier is also relevant for English native-speakers. They may also not to be able to communicate freely since other participants of the coalition may not fully understand their accent, grammar, specific vocabulary, sense of humour, et cetera.[468] This problem was highlighted by an Air commodore in the RAF recalling that when, during the British involvement in ISAF, he was flying a CAS mission for the French Special Forces and, even though English was commonly spoken, the communication was still hindered because of different accents which were even more difficult to understand because of the oxygen masks the fighter pilots wear.[469] It is important for the air personnel to be aware of these challenges. As pointed out by Anioł, a Polish officer acting as a Tactical Director at the NAEW&C Geilenkirchen base, the AWACS crew members are used to dealing with such situations and therefore these differences do not generally affect the overall performance of the multinational team.[470]

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[465] Elron, Shamir, and Ben-Ari, "Why Don't They Fight Each Other?", p. 81; Vuga, "Cultural Differences in Multinational Peace Operations.", p. 557.

[466] Vuga, "Cultural Differences.", p. 562.

[467] Andrea van Dijk, "Tough Talk: Clear and Cluttered Communication during Peace Operations." In *Military Cooperation in Multinational Peace Operations. Managing Cultural Diversity and Crisis Response*, ed. by Joseph Soeters and Philippe Manigart, 70–80. London: Routledge, 2008, pp. 77–78; Anne-Marie Søderberg and Merete Wedell-Wedellsborg, "The Formation of the Global Soldier: Managing Identities in Multinational Military Units." In *Military Cooperation in Multinational Peace Operations. Managing Cultural Diversity and Crisis Response*, ed. by Joseph Soeters and Philippe Manigart, 180–197. London: Routledge, 2008, p. 191.

[468] van Dijk, "Tough Talk.", pp. 78–79.

[469] Air commodore in the RAF, interview dated 05/04/2017.

[470] Miernicka, ""Tygrys" z radarem."

Another factor exacerbating the language barrier in multinational air operations is preference given to one's native language especially in conversations within national units. It should not be surprising that, even with sufficient knowledge of English, members of multinational coalitions often resort to speaking their native language in informal conversations. However, it can lead to problems at formal levels when information given at joint meetings to be passed on to individual units is communicated in native languages owing to insufficient knowledge of English. Members of a multinational coalition can also tend to resort to speaking their native language during emergencies, when military personnel have to act under pressure.[471] All of this can have major drawbacks – firstly, frequent use of native languages may increase divisions between the participating nations disintegrating the team and secondly, lead to disruptions in the flow of information and smooth cooperation. This means that in spite of the fact that most countries' air force personnel are able to use English as a shared, professional lingua franca, varying levels of language proficiency still present a challenge to multinational air operations that requires ongoing attention.

5.2.3   National caveats and homogenous rules of engagement

In addition to language barrier and cultural background causing disruptions in communication, national caveats and adherence to diverse rules of engagement (ROE) also can lead to potential challenges and misunderstandings in multinational operations. According to the definition provided by the *NATO Glossary*, caveats should be understood as 'any limitation, restriction or constraint imposed by a nation on its military forces or civilian elements under NATO command and control or otherwise available to NATO, that does not permit NATO commanders to deploy and employ these assets fully in line with the approved operation plan.'[472] Implementing national

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[471] Ljubica Jelušič, "Cultural Challenges for Small Countries in Missions Abroad." In *Cultural Challenges in Military Operations.* ed. by Cees M. Coops and Tibor Szvircsev Tresch, 36–49, Rome: NATO Defence College, 2007, p. 43; Maren Tomforde, "How About Pasta and Beer? Intercultural Challenges of German-Italian Cooperation in Kosovo." In *Cultural Challenges in Military Operations.* ed. by Cees M. Coops and Tibor Szvircsev Tresch, 155–167, Rome: NATO Defence College, 2007, pp. 161–162.
[472] *NATO Glossary of Terms and Definitions.*, p. 21.

caveats is a norm in multinational operations and became increasingly common in the post-Cold War years when that form of military intervention became dominant.[473] That correlation is based on the issue of national sovereignty over one's military forces deployed to operate as a part of a coalition. As was discussed in the previous chapter, it is rather unlikely that states, although willing to participate in multinational operations, would delegate control over their deployments to a multinational command. Maintaining national control is one of the basic reasons of imposing caveats over ones military units. However, some scholars also point to further motivations behind such decision, which are, for example, minimising costs and risks that their military forces may face.[474] Furthermore, caveats may also be a reflection of domestic politics. As such, caveats may be used as a way of finding compromise between political parties which represent opposing views on the military involvement as well as ensuring that any action performed by the deployed armed forces will not contradict the national interests of the deploying country.[475] Speaking of the latter one, some scholars also point to the fact that, with the presence of omnipresent media and undisturbed information flow, states participating in a multinational operation may impose restrictions on their deployed forces in order to protect their (or the political leaders') good image in the eye of public opinion – especially if the operation is unpopular among the society.[476] Finally, Saideman and Auerswald suggest national caveats may originate from the cultural background – the extent

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[473] Alexandra Novosseloff, "No Caveats, Please?: Breaking a Myth in UN Peace Operations." *Global Peace Operations Review* (12/09/2016) Available at: <https://peaceoperationsreview.org/thematic-essays/no-caveats-please-breaking-a-myth-in-un-peace-operations/> [accessed 16/08/2018]; David P. Auerswald and Stephen M. Saideman, *Caveats Emptor: Multilateralism at War in Afghanistan.* Paper presented at the Annual Meeting of the International Studies Association in New York, 15-18th February 2009. Available at: <http://citeseerx.ist.psu.edu/viewdoc/similar?doi=10.1.1.591.265&type=ab> [accessed 20/08/2018], pp. 5–6; Regeena Kingsley, „#14 An Alarming New Norm: National Caveat Constraints in Multinational Operations." *Military Caveats* (03/07/2017), Available at: <http://militarycaveats.com/14-an-alarming-new-norm-national-caveat-constraints-in-multinational-operations/> [accessed 16/08/2018].

[474] See Seideman and Auerswald on 'balancing against threats' and Frost-Nielsen on 'balancing between commitment to the alliance and entrapment'.
Per M. Frost-Nielsen, "Conditional commitments: Why states use caveats to reserve their efforts in military coalition operations." *Contemporary Security Policy*, 38.3 (2017), 371–397, pp. 376–377; Stephen M. Saideman and David P. Auerswald, "Comparing Caveats: Understanding the Sources of National Restrictions upon NATO's Mission in Afghanistan." *International Studies Quarterly*, 56 (2012), 67–84, pp. 79–80.

[475] Frost-Nielsen, "Conditional commitments.", pp. 374–379.

[476] Kingsley, „#14 An Alarming New Norm."; Saideman and Auerswald, "Comparing Caveats.", pp. 80–81.

of a state's involvement in a multinational operation therefore may vary depending on their priorities or perception of an 'appropriate' behaviour.[477] However, one should also be aware that national caveats may not always work as a way to keep one's nation's image 'crystal clear'. As pointed out by Gray and a scholar who wishes to stay anonymous, air forces in a multinational operation do not operate in vacuum and therefore, even if they refrain from using direct force, they may facilitate it by their other actions, such as providing AAR or performing ISR and sharing the data with the coalition.[478]

The challenge of writing and implementing ROE for multinational air operations has also been identified as a potential problem. According to NATO definition ROE are 'directives issued by competent military authority which specify the circumstances and limitations under which forces will initiate and/or continue combat engagement with other forces encountered.'[479] Therefore, ROE have a double purpose. Firstly, they provide the deployed units with clear guidelines on how to use force in specified circumstances and, what is also intrinsically linked with that, they set legal boundaries within which the performed activity is considered as appropriate.[480] Secondly, even though issued primarily for the use of the commander, ROE also serve as a tool for the governing authorities to ensure that military force is employed according to set political goals.[481]

As explained in the section above, both national caveats and ROE imposed on a nation's air force reflect the state's national interests and policy priorities and are therefore rooted in cultural background. For example, national caveats may be a perfect illustration of what Hofstede referred to as 'masculine' or 'feminine' characteristics in a nation's behaviour as discussed in Chapter 2.

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[477] Saideman and Auerswald, "Comparing Caveats.", pp. 80–81.
[478] Gray, interview 20/09/2016; Scholar at the RAF College Cranwell, interview dated 21/09/2016.
[479] *NATO Glossary of Terms and Definitions*., p. 99.
[480] Andrew J. Carswell, "Converting Treaties into Tactics on Military Operations." *International Review of Red Cross*, 96 (2014), 919–942, pp. 928–929; J. F. R. Boddens Hosang, "The Effects of Paradigm Shifts on the Rules of the Use of Force in Military Operations." *Netherlands International Law Review*, 64.3 (2017), 353–373, p. 356; Regeena Kingsley, „#16 The Practical Value of National Rules of Engagement: An Assesment." *Military Caveats* (03/08/2017), Available at: <http://militarycaveats.com/16-the-practical-value-of-national-rules-of-engagement-an-assessment/> [accessed 16/08/2018]; Ted Westhusing, "Taking Terrorism and ROE Seriously." *Journal of Military Ethics*, 2.1 (2003), 1–19, p. 4.
[481] Kingsley, „#16 The Practical Value of National ROE."

Swedish involvement in operation Unified Protector in Libya in 2011, where the Swedish Air Force was tasked with reconnaissance missions, is a good example. Considering the high quality of the images taken allowing, for example, for measuring the level of oil in oil tanks, according to Nygren, the Swedish Air Force performed their role superbly.[482] However, their activities were also very much constrained by the mandate issued by the Swedish Government. As pointed out by Wilson, the Government allowed for the enforcement of no-fly zones, but without the option of resorting to offensive action to rule out collateral damage.[483] This stance was not a surprise, considering that this was the first expeditionary operation in 48 years where Swedish fighter jets were deployed. The Government's strict mandate was closely adhered to by the Swedish Air Force in order to ensure ongoing public support for the country's decision to send fighters to Libya.[484] In practice, the initial Swedish mandate meant they were allowed to take reconnaissance pictures but not to get involved in any combat mission, no matter how significant encountered targets of opportunity were. Nygren at SWENDU gave a very good example of such constraint referring to a situation when Swedish Air Force, while performing a reconnaissance mission over Libya, encountered Libyan opposition forces being cut off in fight by Muammar Kaddafi's troops and trying to hold an oil pipeline.[485] Because of their mandate, the Swedish could not support the forces on the ground, even though the target was clear.

The Swedish mandate was slightly widened as the operation progressed, from a defensive air campaign to providing tactical ISR for the Joint Force Command.[486] Initially, the Swedish Air Force was tasked to perform reconnaissance missions against targets important for maintaining no-fly zones, such as ammunition stores and airfields. This allowed the Swedish Air Force to be part of only one out of three main operational tasks listed in the *UN Security*

[482] Lt Col Anders Nygren, interview dated 14/06/2016.
[483] Lt Col Stefan Wilson, interview dated 17/06/2016.
[484] Robert Egnell, "The Swedish Experience: Overcoming the Non–NATO-Member Conundrum." In *Precision and Purpose: Airpower in the Libyan Civil War*, ed. by Karl P. Mueller, 309–338. Santa Monica: RAND, 2015, p. 331 and 334–335.
[485] Lt Col Anders Nygren, interview dated 14/06/2016.
[486] Dahl, Ann-Sophie. "Partner number one or NATO ally twenty-nine? Sweden and NATO post-Libya." *NATO Research Paper*, no. 82, (September 2012), p. 4.

Council Resolution 1973[487] and even then their involvement was somewhat limited as it did not include attacking these targets, which would normally be considered part of a no-fly zone enforcement mission.[488] Once the targets relevant for the enforcement of no-fly zones were destroyed the Swedish contribution under its initial mandate proved to be useless.[489] Subsequently, after a visit to Sigonella base, where the Swedish contingent was stationed, by a delegation from the government who were shown footage of an attack performed by Kaddafi's forces on a hospital, the mandate was widened to involve the collection of data and reconnaissance missions against any type of target, not all necessarily related to no-fly zones.[490] It became obvious that, if Sweden wanted to uphold the humanitarian status of their mission, they could not be too selective in the choice of targets for reconnaissance and had to include in their reports not only threats to no-fly zones, but also threats to civilians providing the essential and accurate data for more effective air strikes from the coalition.[491] The above example is of relevance for the masculinity-femininity index values discussed in Chapter 2. The very restricted mandate clearly demonstrated the Swedish preference of not being involved in the, what Hofstede would call 'masculine' kinetic use of force. Furthermore, it was a perfect illustration of how a country's political will may constrain an air force's contribution and effectiveness in a multinational operation.

Finally, national caveats may be imposed not only by a participating government but also by host countries. For example, as mentioned by Harwood, during the British involvement in Northern Afghanistan, the RAF was using the Turkish air bases while performing no-fly zones missions and, if shot at, was allowed by the Turkish Government to respond with fire only within ten minutes of the incident occurring.[492] This rule no longer applied when the RAF moved to the South of Afghanistan, giving it considerably more room for manoeuvre.

Every air force participating in a multinational operation will bring certain national caveats to the table (as well as often unstandardised ROE), such

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[487] These were: imposing no-fly zones, arms embargo and protection of civilians. See *United Nations Security Council Resolution 1973*, S/RES/1973, March 2011.
[488] Egnell, "The Swedish Experience.", p. 331.
[489] Ibid., p. 332.
[490] Lt Col Stefan Wilson, interview dated 17/06/2016.
[491] Egnell, "The Swedish Experience.", p. 332.
[492] AVM (ret.) Michael Harwood, interview dated 14/09/2016.

as, for example, not being allowed to drop bombs or to fly at night, causing challenges for the operation's planners and hindering the effectiveness of the operation. This may certainly cause disruptions in smooth running of the mission, but may also, as suggested by Nygren, increase the willingness of other coalition or alliance partners of excluding those air forces which present a lot of such limitations from participating.[493] Reportedly, the Swedish Air Force experienced such a situation during the first weeks of their involvement in Libya in 2011. During the initial, restricted phase of its deployment, Swedish diplomats and officers were not allowed to participate in classified meetings at all command levels.[494] Imposing too many caveats on one's forces may very likely lead to increased burden put on other participants, causing discontent between the contingents and disruption in a coalition.[495]

Following on the sections above, in case of ROE, problems in cooperation may arise when different countries have conflicting approaches to the same problem as a result of their foreign policy priorities or in relation to the extent of their engagement in the operation.[496] For example, achieving a universal understanding of the ROE is often seen as the biggest challenge in multinational operations. Lee pointed out that diverse interpretation of, for example, UN resolutions may cause disruption in a coalition from its very start since what is an authorised action for one state may be considered an excessive use of force by another.[497] Following on that, participating states may have different perceptions of how 'self-defence' is to be defined.[498] In his study of air power involvement in irregular operations Bartnik also pointed to the difficulty in agreeing on fundamental issues, such as who to regard as a combatant or non-combatant.[499]

Different understandings of ROE also result from cultural differences between the involved air forces mirroring, for example, different levels of power distance among the participating nations. Allocating targeting authority is a

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[493] Lt Col Anders Nygren, interview dated 14/06/2016.
[494] Egnell, "The Swedish Experience.", p. 332.
[495] Frost-Nielsen, "Conditional commitments.", p. 372.
[496] Ryszard Bartnik, *Lotnictwo w walce z siłami nieregularnymi*. Warszawa: Akademia Obrony Narodowej, 2014, pp. 94–96.
[497] Peter Lee, interview dated 21/09/2016.
[498] For example, Air commodore in the RAF, interview dated 05/04/2017.
[499] Bartnik, *Lotnictwo w walce z siłami nieregularnymi.*, p. 94.

pertinent example. Some nations may grant this directly to the pilots, while others require approval from a higher rank, sometimes even the Ministry of Defence. However, these rules may also change according to the situation. For example, an Air commodore in the RAF pointed out that during the operation in Kosovo, British targeting authority was initially placed with the Secretary of State for Defence but, as the operation was progressing, such a solution proved ineffective and time-consuming, so authority was passed on to the pilots.[500] In contrast, during the British involvement in Iraq authority was moved in the opposite direction. In 2003 it was with the pilots and a few months later, as the operation became less dynamic, it was moved up the command chain.[501] Nevertheless, in order to avoid excessive use of force or collateral damage (or at least to minimise the risk), homogenous ROE adhered to by all coalition partners must be agreed on and implemented. If they are not standardised, the diversification of rules may, just as in case of national caveats, hinder the effectiveness of the mission, undermine the multinational command and cause divisions among the participants due to disproportionate allocation of tasks.[502]

5.2.4 Interoperability in procedures and technology

Another big challenge in multinational air operations is interoperability, which also involves language issues and ROE. Cooperation is much easier within an established structure, for example NATO, where rules, procedures and equipment are standardised. Multinational cooperation will also be easier for the Anglo-Saxon countries, because of their shared language and some other cultural commonalities. For example, when asked about potential difficulties the RAF may encounter when involved in multinational operations and any necessary adjustments to be made, Stringer noted that these would be minimal or non-existent. That is because the UK has always been a close partner with the US and together they were working on the NATO standards, since most of these

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[500] Air commodore in the RAF, interview dated 05/04/2017.
[501] Ibid.
[502] Regeena Kingsley, „#17 The Complexity of Diverse National ROE within Multinational Security Operations." *Military Caveats* (10/09/2017), Available at: <http://militarycaveats.com/17-the-complexity-of-diverse-national-roe-within-multinational-security-operations/> [accessed 16/08/2018].

Standardisation Agreements' (STANAGs) discussions are led by the Anglo-Saxon countries.[503] That, plus the obvious benefit of speaking English as a native language as well as financial and industrial capacity to afford advanced technology, especially in the sphere of intelligence and cryptographies, makes the cooperation between the RAF and USAF very easy.[504]

It should not come as a surprise that for some nations it will be easier to cooperate with each other while for others, even under the very same circumstances, some difficulties may occur. For example, according to a scholar at the SWENDU, during their involvement in ISAF, the cooperation between Swedish and British or Swedish and Norwegian Air Forces, went rather smoothly while the relations with the German units proved to be more difficult, because they had different practices in place as well as focusing on different goals. Adherence to national procedures in a multinational team can also seriously hinder technical interoperability. An example of this is the Polish experience during the country's involvement in the ISAF mission. One of the major problems that the Polish Air Force had to face when transporting cargo from home air bases to Afghanistan was lack of necessary regulations allowing for transporting weapons such as, for example, missiles, grenades or explosives.[505] Surprisingly, at that time the only weapons that, according to the International Air Transport Association (IATA) regulations that Poland adhered to, could be loaded on military transport aircraft were rifle and flare ammunitions. In practice, that meant that the Polish Air Force was unable to provide the contingent with necessary equipment. Therefore, a decision was made to change the existing regulations and to align them with procedures outlined in the USAF's Air Force Manual 24-204 and NATO's STANAGs no. 3854 and 4441 allowing for transportation of majority of weapons in accordance with the classification of hazardous materials set by the ICAO.[506]

Experience in adhering to common procedures of a coalition is also important for the smooth running of a multinational operation. At the time of

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[503] AVM Edward Stringer, interview dated 27/09/2016.
[504] Ibid.
[505] Information shared by the Armed Forces Operational Command, email to the Author dated 04/10/2016.
[506] Information shared by the Armed Forces Operational Command, email to the Author dated 02/03/2017.

their involvement in Afghanistan, the Polish Air Force was still relatively new to NATO and, as such, was still learning to adhere to the binding procedures. As pointed out by a Colonel in Polish Air Force, one of the major things the Polish Air Force had no or very little experience in was the cooperation between air component and forces on the ground, for example calling for CAS.[507] Practicing these abilities as well as establishing such posts as Forward Air Controller or Tactical Air Control Party were requirements for enabling the Polish Air Force to cooperate with other NATO members at a much more advanced level.[508]

Communication and clear procedures are crucial for smooth cooperation. 'Interoperability with regards to networking' was identified by an Air commodore in the RAF as another example of challenges faced in multinational air operations.[509] There are security protocols for sharing data between coalition members. In the case of NATO, as in any other military alliance, all members must ensure their networks can receive and send information according to set standards. Especially countries joining from outside of this structure can pose problems in this respect. An example of this is again Sweden's experience from the operation in Libya in 2011. As pointed out by Wilson, it took a month for the Swedish Air Force to get access to NATO data exchange systems, because the necessary security protocols were not in place.[510] This caused serious disruptions in the work flow, because the Swedish coalition partners could not read any ATOs and had to depend on the Danish component to share that knowledge with them. Nygren noted that the Swedish Air Force was even unable to view a report they had produced themselves, because it was processed through the NATO system which they did not have access to.[511] The Swedish Air Force experienced interoperability issues also on a technical level. For example, during the initial phase of operation Unified Protector, they encountered a lot of difficulties with fuel compatibility.[512] The fuel provided at Sigonella was suitable for use on aircraft carriers but not compatible with Swedish Gripens, creating a serious diplomatic and logistical challenge of transporting the correct fuel from Sweden

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[507] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 30/06/2016.
[508] Ibid.
[509] Air commodore in the RAF, interview dated 05/04/2017.
[510] Lt Col Stefan Wilson, interview dated 17/06/2016.
[511] Lt Col Anders Nygren, interview dated 14/06/2016.
[512] Lt Col Stefan Wilson, interview dated 17/06/2016.

to Italy in a convoy.[513] All of the above disruptions delayed the integration of Swedish component into the operation. Therefore it is quite obvious that integration of the systems and procedures in an international framework is absolutely essential. However, this is easier said than done and problematic from the point of view of the security of an operation. As suggested by Gjert L. Dyndal, advanced integration of ISR and data sharing systems may pose a threat to secure sending and receiving of sensitive information between the coalition members.[514]

Interoperability issues may even arise when air forces are using the same equipment. A good, more general but timely example here is the procurement of F-35 multirole fighter. Eleven nations are participating in the programme – Australia, Denmark, Israel, Italy, Japan, the Netherlands, Norway, South Korea, Turkey, the UK and the US, therefore there will be eleven Air Forces operating the same aircraft which, in theory, should present no problems with interoperability. However, since all of them are investing in different versions of that aircraft, leaving some features out but keeping others, the result may look much less optimistic. As an Air commodore in the RAF admitted: 'we are all investing a lot of money in an aircraft that we think will bring a perfect interoperability but, even now, we already know there will be some areas where we will miss each other.'[515] A similarly challenging situation will arise within the CBT when Norway replaces its F-16s with F-35s and they become involved in training and exercises with Swedish Gripens and Finnish F-18s.[516]

Financial constraints are another potential challenge in creating and maintaining interoperability. Those constraints are particularly significant for small air forces. Compatible systems and procedures for accurate and timely data gathering and sharing are at the heart of every successful multinational military operation. Those systems are highly advanced and very expensive. For the small air forces, such as Poland, this poses a two-fold problem – first, they may be able to afford only a limited amount of such equipment and, second, these highly valuable assets, especially if possessed only in small capacity, may in fact

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[513] Egnell, "The Swedish Experience.", pp. 329–330.
[514] Gjert Lage Dyndal, "Airborne Intelligence, Surveillance and Reconnaissance." In *Routledge Handbook of Air Power*, ed. by John Andreas Olsen, 107-117. Routledge, 2018, p. 115.
[515] Air commodore in the RAF, interview dated 05/04/2017.
[516] Lt Col Stefan Wilson, interview dated 17/06/2016.

become a vulnerability requiring extra effort to make sure they are not destroyed in an operation.[517] As a Polish Air Force Colonel poignantly pointed out, it is impossible to afford it all. Especially smaller air forces face the choice of spending their defence budget on extensive training and exercises with NATO at the expense of procurement, or prioritising the purchase of advanced equipment at the expense of improving the qualifications and interoperability of their air force personnel through NATO training and exercises[518] This sentiment is reminiscent of Dandeker's argument discussed in Chapter 3., that with shrinking defence budgets one cannot sustain an all-capable air force.[519] Whatever seems more important, individual states need to decide how to maintain some balance in this matter.

The above sections discussed examples of challenges which the RAF, the Polish and Swedish Air Forces experienced during their involvement in multinational operations. These are related to the cultural differences, affecting communication and teamwork, but also the result of specific procedures or ROE that each air force has to follow. The language barrier, national political priorities, membership in established alliances and financial constraints affecting the technological interoperability of the air forces have also all made cooperation in multinational operations more difficult. These challenges are unavoidable in a multinational setting. Nevertheless, their negative effects may be minimised with the increasing and ongoing process of transnationalisation of the air forces. Sustained participation in cooperative initiatives and growing experience in multinational operations will lead to a better understanding of partner nations and will aid in the establishment of increasingly common procedures and standards.

5.3   Conclusion

Looking at the experience of the British, Polish and Swedish Air Forces in multinational operations it becomes clear that some of the difficulties they have encountered are related to the cultural dimensions as identified by Hofstede,

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[517] Sanu Kainikara, *At the Critical Juncture. The Predicament of Small Air Forces.* Canberra: Air Power Development Centre, 2011, p. 105.
[518] Colonel in the Polish Air Force and a scholar at the WSU, interview dated 22/06/2016.
[519] Dandeker, Christopher. "Building Flexible Forces.", p. 413.

namely power distance, uncertainty avoidance, individualism vs. collectivism and so-called masculinity vs. femininity. These difficulties were especially visible in the sphere of interpersonal communication, enforcing national caveats and understanding of the ROE or targeting and command authority. Cultural influences may also be spotted in the political decisions shaping a particular country's involvement in an operation. These decisions clearly reflect national interests as well as the current political direction a country follows, but very often are also dictated by the culture of that particular country and values it honours. Another challenge in multinational cooperation, discussed in the chapter, is interoperability, which involves the problems listed above, but in addition also includes the ability to communicate in the same language, adhering to unified procedures and regulations as well as operating compatible systems allowing for smooth exchange of information and services, such as for example refuelling.

The cultural diversity within a multinational coalition, although it poses certain difficulties, should not be viewed as an insurmountable challenge. These difficulties are unavoidable, but may be mitigated in the process of transnationalisation that has been taking place among European air forces since 1990 on both an informal and formal level. As long as participants in a multinational operation are aware of the cultural differences and, instead of trying to ignore or eradicate them, know how these should be addressed, cooperation will steadily improve.[520] Participating nations have been making efforts at all levels to get to know each other and learn their culture in order to understand how they think, what procedures they are likely to follow, and how they communicate. For example, British senior commanders noted the significance of establishing good relations with members of the multinational unit under their command and suggested, for example, prioritising visits to the foreign contingents over the British ones or organising social meetings at the operational level.[521] Also, the Swedish way of handling their duties, diligence in following regulations and willingness to participate in social events reportedly had a positive effect on the integration of Swedish Air Force contingent with

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[520] Moelker and van Ruiten, "Dutch Prejudice.", p. 178.
[521] Stewart *et al. Non-technical interoperability.*

other members of the operation Unified Protector in Libya.[522] Many of these gatherings obviously were an informal initiative helping the soldiers to socialise. However, they ultimately improved the cooperation between the involved nations as well as effectiveness of the missions they conducted together.

Similarly, an important form of enhancing good interpersonal relations is proactive behaviour of coalition members focused on facilitating the cooperation and achieving the common objective. For example, as discussed in this chapter, during their involvement in operation Unified Protector in Libya, the Swedish Air Force encountered certain interoperability challenges which made performing their duties almost impossible. The situation was saved by the Danish unit, which for the first few weeks acted as a link between the Swedish contingent and the mission's joint command.[523] The significance of such willingness to step forward was stressed by Wilson, the commander of the Swedish contingent in Libya, who noted that within an hour after his arrival he was approached by the commander of the Danish unit and offered help to share the necessary operational data and information, like for example ATOs, until the Swedes gained full access to NATO systems.[524]

The willingness to improve interpersonal relations and awareness of potential differences within a multinational setting is an important way of developing cooperation on an informal level. However, there are also formally established frameworks to learn from one another. Increased participation in various forms of multinational cooperation, whether these are expeditionary missions, exchange of services and burden-sharing programmes or training and exercises, will progressively improve performance and limit the occurrence of potential difficulties. As was already stressed in Chapter 4., the more an air force works together with other air forces, the more capable they are of that cooperation. Active involvement in multinational exercises proved beneficial for Sweden during their participation in Libya. Despite certain interoperability challenges they had to face at the beginning and despite the fact that it was the first campaign the Swedish Air Force performed in the last 50 years, their input was a success thanks to their extensive involvement in joint exercises with other

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[522] Egnell, "The Swedish Experience.", p. 324.
[523] Dahl, "Partner number one or NATO ally twenty-nine?", p. 4.
[524] Lt Col Stefan Wilson, interview dated 17/06/2016.

Scandinavian countries, two of which – Norway and Denmark are also NATO members and can pass on their experience of working according to the Alliance procedures and regulations.[525] Another way, apart from joint training, of learning from each other are individual arrangements between countries and their military forces. For example, as mentioned by Nygren, there is a course organised for cadets at the SWENDU focusing on multinational operations where speakers from different countries, including NATO members, are invited to talk about their experiences of working in a coalition or their views on what should be expected from other coalition members.[526] This is particularly important considering that the Swedish Air Force does not yet have very extensive experience of deployments abroad. This is why they are very keen on hearing about the experiences of other nations.

The role of established international structures such as NATO or EU providing the tools for facilitating effective cooperation is significant, for example, for identifying gaps and limitations of the members' air forces, prioritising the needs within an alliance or streamlining the cooperation process with unified rules and procedures to ensure interoperability. They also provide ground for establishing programmes and initiatives like those discussed in Chapter 4. These structures, NATO or EU, are extremely important when it comes to training. They provide a framework to build on. As stressed by Nygren as long as the national units are familiar and trained up to NATO standards it does not really matter where the future deployment will take place as the officers will know what to do.[527] Moreover, as pointed out by Kainikara, for a well-developed and effective cooperation at military level, well-established political relations between interested states are crucial as the country must be willing to participate in multinational training and work on increasing the interoperability of their own forces with other nations.[528]

Nevertheless, one should remember that, among other challenges, there are also financial constraints which limit a country's participation in multinational operations. Although cost- and burden-sharing initiatives seem a

[525] Dahl, "Partner number one or NATO ally twenty-nine?", p. 5.
[526] Lt Col Anders Nygren, interview dated 14/06/2016.
[527] Ibid.
[528] Kainikara, *At the Critical Juncture.*, pp. 130–131.

perfect solution for that problem, there may still be situations when a state may not be able to afford sending its air forces to a particular training or other multinational programme. After all, national capabilities are still considered as at least equally important and states will therefore be careful to strike a balance between national defence budgets and expenses towards participation in multinational cooperation. Certainly, it is unlikely that the latter will ever become an absolute priority. As was argued in the previous chapter, despite the cooperative effort and obvious benefits it brings, transnationalisation of European air forces is not a final objective and therefore, is not aimed at creating a supranational air force because involved states will always prioritise their national militaries.

Chapter 6: Conclusion

Since its foundation in the beginning of the past century, air power has developed into an essential instrument of warfare. Today, it is hard to imagine an armed conflict where it does not play a central role. Considering that fact, the role of air power in modern warfare, as well as its potential and limits, continues being subject to serious scholarly debate. However, scholarship on air power has always been US-centric and still is today. As the USAF is the most advanced air force in the world, such an approach to the topic is not surprising. This focus, however, has meant that other important aspects of contemporary air power, for example the experiences of its European counterparts, have remained understudied. European air forces have neither the capabilities nor military capacity of the USAF. This means that many of the questions and debates central to air power scholarship, for example, pertaining to the potential and limitations of independent or 'strategic' application of air power, are relevant for these smaller, European air forces only to a certain extent.

The majority of military operations involving Western air forces today are multinational efforts, not least because of the fact that few countries other than the United States have the capabilities to launch and sustain substantial independent overseas missions or air campaigns on their own. Certainly for European air forces, the participation in multinational operations has formed the bulk of their operational activity and experience since the end of the Cold War and this situation is unlikely to change substantively in the immediate future. As the thesis advocated, the increased 'multinationalisation' of European air forces should be understood as their interconnectedness and interoperability as well as mutual reliance being an effect of two major trends common for the post-Cold War European militaries. Following Anthony King's, idea, these were identified in the thesis as concentration and transnationalisation[529] and were experienced by all three case studies – the UK, Poland and Sweden.

The thesis's objective is to address two important gaps in the air power literature. Firstly, it set out to move away from the aforementioned US-centric outlook of much of this literature, focusing instead on the experience of smaller,

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[529] King, *The Transformation of Europe's Armed Forces.*, pp. 32–44.

European air forces. Secondly, the thesis focused on multinational operations, which have dominated the activities of European air forces since the end of the Cold War. Given the air power debate's continuing preoccupation with 'independent' and strategic air power especially in a US context, the nuances of multinational air operations are rarely addressed. Studying the potential and limitations of European air forces engaging in multinational operations, using the UK, Poland and Sweden as case studies, the thesis makes an important contribution to our understanding of an often-understudied aspect of contemporary air power.

Following the end of the Cold War and the shift in in the security environment from bi- to multi-polar, the RAF, Polish and Swedish Air Forces, although facing different challenges, came through a series of changes leading to their professionalisation and transnationalisation. Facing cuts of defence budgets, all three air forces underwent a reduction in size, which King called the 'concentration' of military forces. All three, like many other European air forces in the post-Cold war years, decided to transform their militaries into professional, all-volunteer forces abandoning conscription and introducing the idea of 'jointness'. This led to a qualitative shift, creating forces that were numerically smaller, but also more effective and efficient. Another process, which King called the 'transnationalisation' of European militaries, occurred hand in hand with concentration. Since multinational operations became the dominant form of modern conflicts, it became obvious that potential partners in a coalition must be compatible and interoperable. Therefore, the UK, Poland as well as non-allied Sweden increasingly started adhering to NATO standards, not only by upgrading their equipment or introducing unified regulations but also by adopting similar approaches to the use of air power and role of international community in guaranteeing security in Europe in their doctrinal publications. As the thesis showed, this adjustment was easiest for the RAF, as the UK had been a member of NATO already for many decades by this point. The transformation was more challenging for Poland and Sweden. The former one had to completely revise the existing Warsaw Pact regulations and practices and adapt to new, NATO regulations as well as face several equipment issues like outdated, post-Soviet fleet which, already in early 1990s, presented very little modern combat capability. The challenges faced at that time by Sweden, were closely related to

the country's 'solidarity declaration' policy. While the country remained non-allied, the military transformation was conducted according to standards set out by NATO ensuring interoperability with the Alliance. The processes of concentration and transnationalisation help to explain the increased participation of European air forces in multinational operations and to identify some of the challenges resulting from these developments. As such, they provide important background for understanding the transformation of European air forces in the post-Cold War years as well as discussing the potential and limitations of European air power in that form of military involvement in the thesis.

6.1 Findings and contributions

The main research question the thesis sought to address is as follows: what are the potential and limitations of European air power in contemporary multinational operations? It was answered by addressing six second-order questions: (1) why has the end of the Cold War led to an increasing number of multinational operations? (2) why have the UK, Swedish and Polish air forces specifically been used predominantly in multinational operations since the end of the Cold War? (3) how have European countries sought to create the conditions required for the effective cooperation of their air forces in multinational operations? (4) what role have collaborative initiatives, such as Smart Defence and Pooling and Sharing, played in the creation of these conditions? (5) what are the ongoing problems encountered by European air forces when they participate in multinational operations? and (6) how can these problems be overcome?

Focusing on the above questions, the thesis investigated the involvement of the RAF, Polish and Swedish Air Forces, in contemporary multinational operations. These potentially different, because of their political situation in 1990, case studies were chosen as demonstrating several similarities like, for example, their active involvement in multinational cooperation, perceiving NATO and the EU as guarantors of European security and undergoing a similar process of military transformation. That allowed the Author to investigate the subject from different perspectives and resulted in a comprehensive view of the involvement of European air power in multinational operations. The thesis then

assessed the potential and limitations of such cooperation and considered the ways in which challenges resulting from that cooperation could be overcome. Overall the thesis argued that the benefits of involvement in multinational initiatives gained by European air forces far outweigh the potential problems they may encounter.

Addressing the more detailed sub-questions the thesis reached several conclusions. First of all, it identified two major processes in post-Cold War transformation of European air forces, namely their concentration and transnationalisation which, when paired with the changes at that time taking place in the security environment, led to an increased number of multinational military operations. Answering why the end of the Cold War has led to an increasing number of multinational operations, and why the three air forces have engaged in these military operations, the thesis argued that such situation is rooted in the change from a bi-polar to a multi-polar security environment and the emergence of new threats, such as, intra-state conflicts or terrorism.

These changes required transformation of the existing militaries in order to be able to address the wider spectrum of threats and respond to conflicts taking place not in the immediate neighbourhood of these states. The thesis showed that the RAF, Polish and Swedish Air Force underwent concentration and transnationalisation in the process of adapting to the new security and defence requirements. Following reduction of defence budgets, the mass, conscript air forces were transformed into much smaller, all-voluntary units. This process revealed their significant limitations and they focused on developing multinational cooperation. These gaps, especially in the area of AT, AAR and ISR, prevented them not only from conducting large-scale expeditionary operations independently, but also from maintaining sustainable national defence since their air forces are suffering from serious capability limitations. Increased multinational cooperation, therefore, allowed them to make up for these shortcomings and it also led to growing interconnectedness and interoperability. This conclusion helped to answer how European countries have sought to create the conditions required for the effective cooperation of their air forces in multinational operations, and the role played by collaborative initiatives, such as Smart Defence and Pooling and Sharing, played in the creation of these conditions?

Military cooperation has taken the form of various multinational initiatives, ranging from military operations, pooling and sharing programmes, exchange of services or trainings and exercises. These are being pursued within the frameworks of NATO, EU or outside of these structures as regional initiatives and play a crucial role in building and strengthening collective capabilities and capacity of European air power. These benefits could be considered in a two-fold way – in relation to the RAF, Polish and Swedish Air Force, and in relation to European air power in general perceived through the existing multinational constructs, for example NATO and the EU.

In the first case, the thesis demonstrated that multinational initiatives aimed at building collective capabilities and military capacity help to make up for the limitations experienced by individual national air forces. As Gremez pointed out: '"multi-mission" and "multinational" may become the only way to overcome the budgetary constraints that nations will continue to face in the years to come.'[530] That statement proved true for all three case studies. By sharing the purchase or charter and maintenance costs of the acquired fleet, they were granted access to larger number of types of aircraft if their existing capacity is insufficient; for example, through SAC or SALIS. Strengthening existing capabilities is one gain the UK, Poland and Sweden get out of the multinational cooperation. The other one is a way to build a capability that was either unattainable or is currently under development and not yet fully operational. That is of a lesser importance for the RAF which strives to maintain a 'balanced' force with the full spectrum of capabilities, however it matters a lot for smaller air forces like Poland and Sweden. For example, the latter two, through ATARES or AGS, benefit from access to AAR and ISR – either non-existent or to large extent underdeveloped capabilities. Apart from the obvious benefits from pooling and sharing materiel or exchanging services through various forms of multinational cooperation, all three also gain valuable experience they could not get otherwise. Multinational initiatives, such as, CBT, ACE, EATT or EATTCC, allow for organising larger and more complex exercises with several nations contributing their resources than if these were confined only to the assets available at their national level. As such, practicing in a larger and multinational

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[530] Gremez, "Doing the Same with Less.", p. 56.

team gives better results allowing, for example, for more complex manoeuvres to be performed as well as giving opportunity to improve working practices with other nations or implementing unified procedures. As pointed out by an anonymous interviewee, increased interaction with other nations, whether by sharing resources or exchanging experiences, is a way of strengthening one's national security since learning from the more advanced air forces helps to improve the effectiveness of one's own units.[531]

The benefits of involvement in multinational cooperation do not apply solely to individual states but also have an effect on European air power in general working together through established structures such as NATO and the EU. The most obvious element increasing efficiency of European air power in joint multinational operations, is the implementation of unified procedures and regulations streamlining the cooperation between nations as well as standards aimed at increased interoperability of equipment. Practicing according to these unified rules during multinational exercises and training increases the efficiency of not only individual participants, but above all, the cooperative effort of involved air forces as a whole. Furthermore, that experience has much wider applicability than only to the air crews taking part in these initiatives. The knowledge gained is passed onto the personnel remaining at their home bases allowing for their better preparation for future deployments, strengthening capabilities of the whole alliance or coalition. Pooling and sharing of equipment has a similar effect, because by filling any gaps in capability of individual air forces it also provides the coalition or alliance with the full spectrum of air power capabilities. In the case of NATO, it may be understood as a pre-emptive fulfilment of the Article V obligations – by investing in pooled and shared fleets as well as in personnel's training a collective defence capability for the participating states is being created.[532] Then, building collective defence capabilities within a multinational organisation has a deterrent effect on potential opponents.[533] Effective cooperation is a strong signal that the cooperating states are not only capable of collective defence, but it also demonstrate will and resolve to stand up for each other's security. An explicit example of such

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[531] Scholar at the WSU, interview dated 22/06/2016.
[532] Colonel in the Polish Air Force, interview dated 30/06/2016.
[533] Major in the Swedish Air Force, phone interview with the Author conducted on 20/06/2016.

cooperation used in the thesis is the BAP mission, however any of the discussed initiatives will ultimately lead to strengthening collective capabilities of European air power.

As this thesis also showed, unified procedures and regulations and active participation in various forms of multinational cooperation does not guarantee easy cooperation. On the contrary, it poses significant challenges for the air forces involved. The thesis addressed the ongoing problems encountered by European air forces when they participate in multinational operations, and how they can be overcome. Similar to the benefits of the multinational cooperation, also the potential challenges it brings may be discussed in a two-fold way. Firstly, one can consider their meaning for individual air forces, in this thesis specifically the RAF, Polish and Swedish Air Force. Secondly, the challenges are also applicable for the existing alliances/coalitions and European air power as a whole.

Multinational initiatives, although beneficial, should not be treated as a panacea for the limitations of national capabilities. Joining the NAEW&C programme was enthusiastically welcomed in Poland and raised some voices claiming that now the country has its own AWACS which will control Polish air space.[534] That was a huge overestimation. Due to their multinational nature, these initiatives and resources they provide are not at the unlimited disposition of all the participating states. Instead, the shares of individual air forces are proportional to their individual contribution, both on a financial and personnel level. Joint defence initiatives or defensive alliances only work if all participants are committed to making a serious contribution to the common good. Therefore, although access to joint assets is strengthening national capabilities, individual states should be cautious about neglecting their national capabilities.

Whereas at a national level participation in collaborative initiatives may get disrupted or constrained by financial factors, at an alliance and coalition level these challenges are far more diverse. For example, on a state level the decision on whether one's air force should join or withdraw from a particular initiative affects only that particular force. However, on a multinational level one country's withdrawal will affect the whole coalition. The example of SALIS

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[534] Scholar at the WSU, interview dated 22/06/2016.

(Chapter 4.) demonstrated that arrangements based on pooling and sharing of the equipment are especially susceptible to any changes in the composition of the membership. Since such ventures are based on collective resources and contributions of the participants, withdrawal of one of them affects the whole initiative and may seriously disrupt its effectiveness or even question its further validity.

The thesis showed that effective cooperation at a multinational level may be disturbed predominantly by differences and misunderstandings resulting from cultural background of the air forces involved. These may take the form of different work practices, language deficiencies, imposed national caveats and differences in ROE and their interpretation as well as insufficient interoperability between units. Looking for ways to address these challenges, which are inevitable in every coalition or alliance, the thesis showed, that they may be, paradoxically, mitigated by even more cooperation. As demonstrated in Chapter 5., the more the RAF, Polish and Swedish Air Force actively participated in various forms of multinational cooperation, the more aware they became of these differences and, as a result, the more effective that cooperation turned out to be. Certainly, some difficulties will not be completely eradicated. However, anticipation and preparedness helps to minimise their negative effects. That is especially important for non-allied states. For example, Sweden not being a member of NATO, needs to put much more effort into training their personnel to be familiar with the Alliance's standards as well as upgrading their equipment to ensure greater interoperability when involved in a NATO operation. Nevertheless, an approach aimed at progressively developing cooperation, despite the challenges it brings, is important for European air power for two reasons. Firstly, as already suggested, intensified cooperation leads to an improvement of the effectiveness of multinational ventures by European air forces. Secondly, the thesis demonstrated that due to significant capability and capacity gaps, for European air forces as a whole developing multinational cooperation is the best option to deal with their limitations. Therefore, as far as there is awareness of and preparedness for the difficulties as well as acceptance of the fact that multinational initiatives are not a panacea, persistent collaboration with other air forces ultimately will prove to be beneficial. This confirms the main arguments made in the thesis, that the gains European air

forces get from active participation in multinational operations are greater than the challenges they encounter as part of the process.

In spite of the fact that individual European air forces have different levels of national capabilities and some, arguably, benefit from multinational cooperation more than others, it is clear that the benefits of such cooperation are widely seen to be beneficial by all air forces involved. This raises the question whether the motivations for participating in multinational efforts are different for smaller air forces that lack some central capabilities, like ISR or AAR in the case of Poland or Sweden, than for the richer and more powerful ones like the RAF? Why would the latter be willing to contribute to these initiatives and, in fact, act as one of the main 'sponsors' making up for others' shortcomings? As demonstrated in the thesis, it is obvious that smaller air forces, like the Polish or Swedish, use these programmes as an opportunity to build or strengthen very limited capabilities. It is likely that these motivations are similar for any other air forces participating in the pooled and shared initiatives. As discussed in Chapter 2., even the more powerful European air forces would not be able to conduct a large-scale or lengthy military operation independently. For example, the RAF aims at building a force with balanced capabilities, but there is also a recognition that it does not possess enough resources to act fully independently. As pointed out by Lee, the fact that the RAF participates in numerous multinational initiatives, where it often is among the major contributors, acknowledges that capacity limitation.[535] Therefore, one could differentiate that for the RAF, multinational initiatives help to build the air force's capacity. Whereas, both Polish and Swedish Air Forces are using them as an opportunity to, at least partially, make up for their capability limitations for example AAR, which in case of Poland is non-existent and, in case of Sweden, notwithstanding with the needs. Nevertheless, despite differences in motivations, multinational cooperation strengthens national defence of European states whether by capacity or capability building. Therefore, in case of a major conflict, the UK just as Poland or Sweden, would have to join forces with their allies in order to be able to sustain in military operations that would take place.

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[535] Peter Lee, interview dated 21/09/2016; Air commodore in the RAF, interview dated 05/04/2017.

In addition to the above, one could also point to other motivations in favour of creating multinational ventures. One being politically driven, which will be discussed in section 6.2 below and the other implied by the nature of contemporary conflicts. As was discussed in the thesis, the post-Cold War changes taking place in European security environment involved major change in the character of potential threats. In place of traditionally understood state-on-state aggression, these started to increasingly take form of intra-state ethnic or religious conflicts, humanitarian crises or international terrorism as well as are involving non-state actors. The new threats to security, therefore became transnational and no longer constitute a problem that either affects or can be solved by one individual state. As such they require a multinational response. In such a case, building alliances and coalitions to deal with these challenges is essential. Hence, even the more powerful states with strong air forces get engaged in multinational operations and it is in the common interest of the European community to work together towards improving that cooperation.

This thesis constitutes a substantial addition to the existing literature with a systematic study on the potential and limitations of European air power in multinational operations. Its secondary contribution is providing a conceptual framework for such analysis. As was outlined in Chapter 1., there is no single theoretical framework for investigating the various issues discussed in this thesis. A conceptual framework was derived from the available secondary literature and official documents focusing on post-Cold War military transformation in Europe and multinational operations as well sociological research based on Hofstede's model of cultural dimensions. As such it could be used for further studies on the use of contemporary European air power in multinational operations.

Using a sociological approach in the thesis has resulted in some limitations. On the one hand, it provided a point of reference to study the influence of a state's national culture on its military culture. Therefore, it proved helpful in explaining the importance of cultural differences between the RAF, Polish and Swedish Air Forces. On the other hand, limitations in the available data, especially the small number of studies applying Hofstede's model to military organisations, means that the conclusions reached in the thesis, as well as the general applicability of the framework, are not absolute. Compared to

Hofstede's extensive research on IBM employees, existing studies using his model in a military context are more selective. They tend to encompass only a small number of nations and also studied the armed forces as a whole, rather than air forces specifically. In order to provide a full spectrum of cultural differences among European air forces, further and more focused studies using Hofstede's model would be desirable. Within the framework of this thesis, a study of such a scale and involving large-scale survey research conducted in various countries would not have been feasible, both financially and in terms of access. However, it is hoped that the exploratory research presented in this thesis on the previously understudied subject of European air forces and multinational operations has laid some of the groundwork for further and more wide-ranging studies in the future.

6.2 Implications and future outlook for European air power

To sum up the thesis, it is vital to say that the ever more important practice of multinational cooperation between European air forces has significant implications for European air power, for individual air forces like the RAF, Polish and Swedish Air Force, and also for existing international organisations often facilitating that collaboration, such as NATO or the EU.

The development of and active involvement in multinational initiatives has a strong political dimension. In a situation where multinational operations are the dominant form of military engagements, states cannot isolate themselves. Participation in multinational initiatives strengthens not only these countries' air forces, but also their national security and defence. This is not down to building collective military capability and capacity alone. The political act of contributing to the development of multinational initiatives is equally important. As was pointed out by an anonymous officer in the Polish Air Force, the more a country participates in multinational initiatives organised, for example by NATO, the stronger its position is both within that particular organisation, as well as its image as a desirable and reliable partner state.[536] Maintaining interoperability with partner air forces and adherence to binding Alliance's standards is an important element of building collective security. This pertains also to non-allied

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[536] Lieutenant Colonel in the Polish Air Force, email conversation dated 28/09/2016 and Maj. Gen. (ret.) Krzysztof Załęski, email conversation dated 16/11/2016.

states. As pointed out by Wilson and Hansson, involvement in NATO initiatives and missions is crucial for Sweden since it presents them as a reliable ally but also increases the chances that, if such need arises, they will receive help from the Alliance.[537] This view was clearly and explicitly outlined in the Swedish 'solidarity declaration'.[538]

To summarise, the credibility of a particular state as a reliable partner in a coalition increases the more they participate in multinational ventures – whether these are military operations, pooling and sharing programmes or multinational exercises. Building that credibility is vital for both, individual states as well as the alliances or coalitions as a whole. Consistent participation in and contribution to multinational operations and initiatives brings political dividends for a state, as it increases this state's image as a reliable partner. In spite of variations in contributions and national capabilities, participating states, like the UK, Poland and Sweden, are being treated as equal partners and can therefore expect that in case their national security is endangered the other coalition or alliance members will respond to the threat. Similarly, organisations like NATO, the EU or the smaller, regional coalitions and partnerships benefit from a strong network of reliable partners who are working together to strengthen the cooperation and, what follows, strengthen the alliance/coalition making it capable to efficiently respond to the aforementioned transnational threats. Furthermore, working as a coalition or an alliance adds political legitimacy to military operations.[539] As such multinational cooperation becomes a vital tool to justify any military action to both, individual state's nation, as well as international community. All of the above reiterates that multinational ventures are not only beneficial for small and less capable allies relying on pooled and shared resources, but also for stronger states with capable national military forces.

In the case of building collective capabilities in air forces, the importance of maintaining national capabilities must be reiterated. Although participation in multinational initiatives and operations provides the deployed air forces with

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[537] Lt Col Mattias Hansson, email conversation dated 27/10/2016 and Lt Col Stefan Wilson, interview dated 17/06/2016.
[538] See Chapter 1.
[539] AJP-3(B) *Allied Joint Doctrine for the Conduct of Operations*, p. 1-10.

invaluable experience and access to otherwise often unattainable equipment, it can never replace the development and maintenance of national capabilities. This point was also stressed in an anonymous interview pointing out that primary responsibility of a national air force is the defence of its own territory and that should remain their main focus.[540] Of course, by participating in military alliances like NATO, the members are obliged to certain actions, that is, collective defence. Nevertheless, these should not be prioritised over national security. What is required is a balanced approach.

Besides, maintaining one's independence over their own air force is also a matter of national identity and prestige and may be demonstrated in different ways. This is also a major reason for why the increasing transnationalisation of European air forces is unlikely to ever result in the creation of a joint European air force. For example, the RAF, while still being part of the NAEW&C, participates in the initiative with its own airborne early warning aircraft creating a whole separate component for NAEW&C stationed at Waddington base. Similarly, Sweden supports its national industry and procurement of Gripens or development of their own early airborne system – Erieye. These efforts are aimed at demonstrating the national sovereignty over one's air force as well as its sustainability and, to certain extent, independence.

Nevertheless, the majority of European states cannot afford building and maintaining a sustainable, fully operational air force. Therefore, one may speculate that the trend of both the increase in the number of multinational operations, as well as development of various multinational initiatives aimed at building collective security and defence capabilities, will continue for the European states and their air forces.

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[540] Scholar at the Polish Air Force Academy, interview dated 28/06/2016.

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