

The Quest for Relevant Air Power - Continental Europe

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Due to limited resources, no single European air force has been able to acquire the full spectrum of air power. Against the backdrop of American air power dominance, this situation led to a transatlantic air power capability gap. While much has been said about this capability gap and continental European reluctance to make meaningful contributions to allied military operations, the actual achievements and distinct features of continental European air forces have been neglected. This article attempts to address this neglect by scrutinising continental European contributions to deployed operations, by examining European alliance frameworks, and by analysing air power deficiencies and remedies. In its conclusion, the article highlights four potential guidelines for the development of relevant and flexible European air power.

In the course of operation Desert Storm, the dominance of American air power manifested itself in a way that could not have been anticipated. Against this backdrop, a prominent British air power scholar and practitioner coined the term 'differential air power', referring to a transatlantic air power capability gap.¹ In addition to this gap, American airmen began to consider continental Europe, particularly France, as obstacles to the 'proper' application of American air power. In a hearing of the Senate Committee on Armed Services in October 1999, the American Air Component Commander of Allied Force, Lieutenant General Michael Short, argued that France should not have been allowed to restrict American aviators, who had borne 70 per cent of the air campaign over Serbia and Kosovo.² The Iraq crisis in early 2003 reinforced this negative image of 'Old Europe'.

While much has been said about a transatlantic air power capability gap and continental European reluctance to make meaningful contributions to allied military operations, the actual achievements and distinct features of continental European air forces have been neglected. Seeking to address this neglect, this article will scrutinise the contributions of continental European air powers to deployed operations. It will continue to examine European alliance frameworks and their repercussions for air power. Thereafter, the need to develop European air power, deficiencies in air power capabilities, and remedies will be examined. The article will conclude by highlighting four potential guidelines for developing relevant and flexible

European air power.

Deployed operations

The title *The Quest for Relevant Air Power* implies that the purpose of European air power first has to be established. Air power, like all forms of military power, in essence is subservient to politics. The relationship between the military and politics is best expressed by Carl von Clausewitz's famous dictum: 'War is merely the continuation of policy by other means.'³ Hence, despite the fact that air power came to the fore almost a century after Clausewitz's statement, the relevance of modern air power still has to be assessed in Clausewitzian terms. Since the demise of the bipolar ideological and nuclear confrontation between the West and the East, and since operation Desert Storm, the successful liberation of Kuwait in early 1991, continental European air power has generally served two purposes in deployed operations – humanitarian relief and combating terrorism. Operations conducted for humanitarian purposes and air operations against the backdrop of the 'War on Terror' form the basis for critically examining European air power.

Balkan air campaigns

In the first half of the 1990s, the United States and Europe were confronted with internal, ethnically motivated conflicts in the Balkans and elsewhere. The most predominant of these was the Bosnian Civil War, lasting from 1992 to 1995. As a response to this conflict, the West launched a UN operation on the ground, and in the air, NATO conducted its first air campaign,

operation Deny Flight.

Deny Flight started on 12 April 1993. It was first supposed to enforce a declared no-fly zone over Bosnia by means of round-the-clock combat air patrols.⁴ In the months that immediately followed, the mission spectrum was extended to include air-to-ground strikes.⁵ Due to the narrow rules of engagement, the civil war parties could execute air space violations with near impunity,⁶ and a total of only four CAS (close air support) missions were authorised in the course of two years.⁷

Only in the second half of 1995 did consensus for a more vigorous air campaign begin to build. The massacre of Srebrenica in July 1995 certainly contributed to such a change in attitude. Yet the immediate event that triggered a more robust air campaign, operation Deliberate Force, was the shelling of a marketplace in Sarajevo on 28 August 1995. Early on 30 August 1995, NATO aircraft took off to strike targets in Bosnia.⁸ The campaign itself was halted twice for negotiations. After these faltered, the bombing was resumed.⁹ On 14 September, the Serbs agreed upon UN terms, which caused offensive operations to be suspended.¹⁰ The avoidance of collateral damage was considered to be of strategic importance by the American air component commander, Lieutenant General Ryan. The target set was restricted to purely military targets, such as ammunition depots and artillery sites.¹¹

The Alliance air forces,¹² flew 3,515 sorties, including 750 strike sorties, and slightly more than 1,000 air-to-ground munitions were released.¹³

A total of up to 300 aircraft were assigned for operation Deliberate Force, among these approximately 20 air-to-air refuelling aircraft.¹⁴ In terms of sorties, the US services accomplished by far the most (66 per cent), followed by the UK (ten per cent) and France (eight per cent), with Dutch, German, Italian, Spanish, and Turkish aircraft flying the remainder.¹⁵



Puma of 33 Sqn based at RAF Benson on operations in Kosovo

The air campaign was part of a larger package, finally producing the November 1995 Dayton Accords – bringing peace to Bosnia and Herzegovina. The international sanctions started to have an effect, and the Bosnian-Muslims and Croats launched a ground offensive alongside the air campaign.¹⁶ Moreover, Deliberate Force included a heavy ground component. A French, British, and Dutch multinational brigade was deployed to Bosnia in mid-1995. According to the French general commanding the brigade, artillery fire paralysed Serb military movements around Sarajevo and produced synergies with air power.¹⁷

Between 24 March and 9 June 1999, NATO embarked upon the largest air campaign over the Balkans, the goal being to stop the suppression of the Albanian majority in Kosovo.¹⁸ Why Milosevic gave in is still a controversial issue. A bundle of factors was identified, with air power underpinning all the other factors – declining support from Russia, NATO's cohesion as an alliance, diplomatic interventions, and the increasing threat of a NATO ground intervention.¹⁹

In its destructive effect, Allied Force was much larger than its predecessors. Approximately 23,000 bombs and missiles were used, of which 35 per cent were precision-guided, including 329 cruise missiles.²⁰ Unlike operation Deliberate Force, these munitions were not exclusively aimed at purely military target sets. Allied Force went beyond the immediate battlefield and laid waste to large parts of the Serbian infrastructure, including oil refineries along the Danube.²¹

Characteristics of the Balkan air campaigns

The Balkan air campaigns had typical characteristics, which are largely related to the highly sensitive political environment in which the operations were conducted. Throughout the 1990s, continental European constituencies in general were not at ease with the use of military power for achieving foreign political goals. Force could only be applied for an evident humanitarian purpose. Consequently, the Balkan air campaigns were only gradually escalated. Unlike Desert Storm, where several target

sets were attacked simultaneously – in a so-called parallel warfare mode, operations Deny Flight, Deliberate Force and Allied Force were gradualist, taking account of the brittle political environment. European politicians and militaries were reluctant to get dragged into an all-out war. The situation in Germany, and to a lesser degree in the Netherlands, aptly highlights the reality of this politically fragile environment. On the first night of operation Allied Force, a Dutch F-16 downed one of three Serb MiG-29s destroyed by the Alliance. Indicating the sensitivity of this incident, the Dutch Chief of Defence, Admiral Lukas Kroon, expressed concerns about too much publicity to General Wesley Clark.²²

On 30 June 1995, the German parliament voted in favour of a more robust military commitment in the context of the Bosnian civil war – so far, the Federal Republic has only provided AWACS personnel. The core of the German contribution encompassed eight Tornado ECR, specifically dedicated for SEAD (suppression of enemy air defences) missions, and six reconnaissance Tornado aircraft.²³ Yet nationally imposed rules of engagement provided a very narrow margin for German aircraft to operate. Their employment was restricted to supporting defensive actions of the multinational brigade. As a consequence, German Tornado aircraft were not entitled to directly participate in the UN mandated air campaign Deliberate Force.²⁴ While the Alliance could not directly draw upon German SEAD aircraft for operation Deliberate Force, the mere presence of German Tornado ECR

aircraft inhibited hostile SAM activity.

Given Europe's fragile political environment for the use of military force, a genuine European air power doctrine would have to embrace the realities of European politics. Accordingly, European air power doctrine also has to conceptualise the gradualist approach, even if this runs contrary to the widely accepted US view on air power doctrine, which places an emphasis on striking hard and swift.

Yet gradualism and political restraints are not negative things *per se*.

Deliberate Force is an example of how a gradualist joint campaign effectively achieved its goals, through concentration on the battlefield – the target set consisted exclusively of military targets – and in conjunction with the other tools of grand strategy. Secondly, against the backdrop of operation Allied Force, it is generally agreed upon that Russian diplomacy played a role in convincing Milosevic to agree to a G8 plan, in order to stop NATO's air campaign against Serbia. It is doubtful whether the Russians would have been willing to exert pressure on the Serbs, if NATO would have embarked upon an all-out air campaign from the very beginning. In essence, the object in war is to attain a better peace. Accordingly, the British strategist Liddell Hart argued: '...it is essential to conduct war with constant regard to the peace you desire.'²⁵ This dictum pertinently applies to campaigns conducted for humanitarian purposes. From such a vantage point, Deliberate Force – with its emphasis upon avoiding collateral damage and upon gradualism, can be regarded as a very successful military operation. In general, Europeans feel

more at ease with operations, which clearly focus upon the battlefield in the narrow and traditional sense.

Continental European air powers and the 'War on Terror'

Despite alliance frictions in the course of Allied Force in 1999, the French Air Force was the first European air force to engage targets in Afghanistan by means of fighter-bombers. This kinetic phase was preceded by a reconnaissance phase, in order to provide French decision-makers with autonomous intelligence. Regarding the deployment of attack aircraft, the French approach was two-pronged.



French Air Force Mirage 2000D

On the one hand, French Super Etendards from the aircraft carrier *Charles de Gaulle* had been flying missions over Afghanistan since December 2001. Together with Italian Navy Harriers operating off the carrier *Garibaldi*, these aircraft supported US Navy fighter-bombers orbiting over Kandahar and Tora Bora. On the other hand, six Mirage 2000D together with two tanker aircraft were deployed over 6,000 kilometers from France to Manas,

Kyrgyzstan, on 27 February 2002. On 2 March, these aircraft, alongside 16 French Navy Super Etendards, took part in operation Anaconda.²⁶ The American Air Component Commander, General Moseley, argued that, given the ferocity of the fighting on the ground, he immediately had to engage the French Mirage aircraft, without giving them time to acclimatize. The French detachment, consisting of fighter-bombers and tanker aircraft, was the first to be based at Manas, and General Moseley acknowledged France's role in establishing a new front for operations over Afghanistan. He considered it particularly important to complement air power projected from aircraft carriers by a land-based approach. In June 2002, the French Mirage aircraft in Manas were joined by USMC F/A-18D Hornets. Both in the air and on the ground, co-operation between the two contingents was very tight. Up to autumn 2002, the American and French air forces were the only ones among the 12 coalition countries that patrolled over Afghanistan day and night. Missions lasted between four to seven hours.²⁷ Within seven months, French Mirages logged 4,500 flying hours and 900 sorties, destroying or neutralizing 32 targets.²⁸ Over a protracted period of time, French aircrews covered vast distances in each sortie.

In the first half of 2007, the French Air Force deployed its Rafales for the first time to Central Asia. Their missions encompassed tactical reconnaissance, low-level passes to deter and disperse enemy forces or to provide close air support. On 1 April 2007, for instance, French Air Force fighter-bombers

responded to a call by US troops for air strikes against insurgents 200 kilometers east of Kabul. The request was picked up and executed by a Rafale and a Mirage 2000D. French Navy Rafales operating from the *Charles de Gaulle* also contributed to the fighting on the ground.²⁹

The successful rapid integration of French air assets in the initial stages of operations Enduring Freedom was partly the result of significant defence restructuring. Shortfalls, as experienced during operation Desert Storm, triggered a far-reaching defence reform under President Jacques Chirac in the mid-1990s, putting an emphasis upon modernising the conventional component of France's defence architecture.³⁰



French Air Force Rafale

European co-operation is highlighted by the fact that, on 1 October 2002, the French Mirage 2000D aircraft based in Manas were replaced by a European F-16 detachment.³¹ This combined detachment consisted of eighteen F-16s from Denmark, the Netherlands, and Norway supported by a Dutch KDC-10 tanker aircraft. It is interesting to point out that during this transition period,

European transport and air-to-air refuelling aircraft were co-ordinated by a common European Airlift Co-ordination Cell (EACC) based in the Netherlands.³² EACC was part of an evolutionary process that has been leading to a common European air transport command, as will be elaborated further below.

Within one year of operations, the Dutch fighter-bombers alone logged 804 sorties and 4,640 flying hours, regularly providing close air support to ground troops.³³ The combined European F-16 detachment finally led to the establishment of a European F-16 expeditionary air wing, known under the acronym EPAF EAW (European Participating Air Forces' Expeditionary Air Wing).

The multinational F-16 deployment to Manas was effective despite some legal and procedural obstacles. In order to further improve co-operation between the European F-16 users, General Berlijn, then Commander-in-Chief Royal Netherlands Air Force, took the initiative to approach his Belgian, Danish, Norwegian and Polish Air Force counterparts to ask for their view upon establishing a European expeditionary F-16 wing. The EPAF EAW memorandum of understanding was finally signed by the defence ministers of Belgium, Denmark, the Netherlands, Norway, and Portugal during the NATO summit in Istanbul on 28 June 2004.³⁴ The participating air forces intend to make optimum use of available and complementary assets in out-of-area operations, in order to increase efficiency. EPAF EAW allows for deployments involving two or more air forces, depending on the particular circumstances.

Through this approach, national sovereignty is respected, with each participating nation defining its level of commitment.³⁵ The essential benefit of the EPAF EAW concept is synergy. Through their combined commitment, EPAF nations as a group can deliver more robust and sustainable force packages than autonomous national efforts would allow for. Currently, European F-16s under the EPAF EAW banner continue to support ISAF operations in Afghanistan.

Rapid reaction interventions in Africa

Military operations that have increasingly taken place in the post-Cold War era, but have attracted scant attention, are so-called rapid reaction interventions. The British and French armed forces have accumulated most experience in these operations, and it is basically their experience, which served as an example for the EU Battle Group concept. These are highly integrated operations, with air power playing an important force enabling role. Operation Palliser was the most prominent British rapid reaction operation in Africa of the post-Cold War era. In 2000, the operation decisively helped to stabilise civil war-torn Sierra Leone with minimal, but rapid, use of force. This article turns to an examination of the French experience.

When rapidly deploying forces to Central Asia in early 2002, against the backdrop of operation Enduring Freedom, the French Air Force could draw upon a vast experience in small-scale deployments to Africa since the late 1960s.³⁶ These operations provided the French Air Force with the necessary expertise to

open a new front for air operations over Afghanistan.

French operations in Africa have traditionally been autonomous national operations. After the Cold War, French forces have on many occasions intervened in order to temporarily stabilize hotspots or to evacuate Western citizens. As these operations have required quick reaction, power projection by air has proved indispensable for mission-success. Besides airlift, the French Air Force has often provided combat aircraft, giving the lean, French, ground force deployments a decisive edge in firepower. For instance, operation *Turquoise*, lasting from 22 June until 22 August 1994, was aimed at stopping genocide in Rwanda and establishing a safe haven. Since Rwanda is a land-locked country and more than 8,000 kilometers away from France, rapid deployment could only be executed by airlift. The air-bridge was considerably augmented by chartered Russian wide-body transport aircraft. A total of 3,000 personnel and 700 vehicles and additional cargo were moved during the operation. Firepower was delivered by 1,200 French frontline troops supported by 12 combat aircraft.³⁷ Further major joint interventions were conducted in Central Africa (1996), in the Congo (1997), and in Ivory Coast, beginning in late 2002. Forward deployed bases and troops proved to be an essential key to success.

Developments in creating a common European security and defence policy have also had corollaries for French overseas interventions, implying a shift from autonomous national towards multi-lateral operations. One

of the most prominent operations took place in the southern provinces of the Democratic Republic of Congo in mid-2003. The operation was a response to the killing of approximately 400 civilians in the city of Bunia by civil war factions. There had already been 700 lightly armed UN peacekeepers in place – yet they had not been capable of providing adequate security. The French President's positive response to the UN Secretary General's call for assistance in order to stabilise the crisis in the Ituri district paved the way for the EU's first autonomous military operation outside Europe, lasting from 6 June to 1 September 2003. Out of 1,860 troops, France provided 1,660 for operation *Artemis*.³⁸ The main combat element consisted of 150 French and approximately 75 Swedish special operation forces. The deployment of these Swedish forces is an interesting aspect, particularly against the backdrop of the country's legacy of neutrality. During the operation, French Mirage aircraft provided close air support and reconnaissance.³⁹ Again, inter- and intra-airlift, as well as forward deployed French bases, proved indispensable for the timely management of this humanitarian crisis.

British and French experience in rapidly deploying joint contingents to hotspots led to the EU Battle Group concept; basically a joint force with a core of approximately 1,500 infantry troops. At the Franco-British summit in *Le Touquet* on 4 February 2003, the concept was raised for the first time.⁴⁰ After the experience of prolonged interventions in Bosnia and elsewhere, the EU Battle Group concept represents a thrust towards

more robust, but timely limited, operations, primarily based on Chapter VII of the UN Charter, which does not require the consent of the warring parties.

For smaller European countries, the EU Battle Group concept represents a major challenge and accelerates their force transformation process. At the Council of Defence Ministers in Brussels on 22 November 2004, it was declared that Sweden, Finland, Norway, and Estonia intended to establish a multinational battle group, with Sweden being the lead nation. Out of 1,500 troops, Sweden contributes approximately 1,100. The Nordic Battle Group's first standby period lasted from 1 January to 30 June 2008.⁴¹ Though being a land-centric concept, the Nordic Battle Group had a significant impact upon the Swedish Air Force's thrust towards deployed operations. During the standby period, eight NATO interoperable JAS-39 C Gripen combat aircraft provided part of an air component.⁴² This rapid reaction Gripen unit is a preliminary point of culmination in a considerable shift from an air force that was almost exclusively geared towards autonomous territorial defence to an air force that is getting ready to take on its share on the international stage.

Division of labour - NATO and the EU

In this section, the alliance frameworks, which have provided the political framework for various military operations, are examined. The American-led Balkan air campaigns, under a NATO banner and partly on behalf of the UN, were

in many ways a formative experience, as they represented for a majority of European air forces the first real combat operations since World War II. These days, European nations engage primarily in two types of operations, NATO or EU operations. Accordingly, a division of labour is gradually becoming apparent between the two co-operative security bodies. While NATO's ISAF operation in Afghanistan constitutes a support operation against the backdrop of the 'War on Terror', the EU focuses, besides stabilisation operations in the developing world and in the Balkans, on small-scale rapid-reaction interventions.

Whereas deterrence and collective defence had provided the fulcrum during the Cold War era and have continued to be a central NATO Alliance issue, the emphasis *de facto* shifted towards peace support and crisis management operations after the Cold War.⁴³ Despite this shift, NATO remains the sole instrument for collective defence. It is also important to point out that in the post-Cold War era, there have been several initiatives to strengthen the European pillar in the alliance in order to achieve a more balanced transatlantic burden sharing, such as the ESDI (European Security and Defence Identity) of the early 1990s.⁴⁴

In parallel to NATO's re-orientation, EU members agreed on the development of a Common Foreign and Security Policy (CFSP) in 1992. Implicitly, the prospect of a future common defence was held out. With the ratification of the Amsterdam Treaty in June 1997, the European Council incorporated the Western European Union's *Petersberg* tasks

into the EU's CFSP.⁴⁵ These include humanitarian and rescue tasks, peace-keeping tasks, and peace-enforcement.⁴⁶

Yet despite the declaration of broad political intentions, no concrete action plan for common defence matters was decided upon. Moreover, Europe's difficulties in dealing with the crisis in the Balkans seriously put into question the effectiveness of the CFSP. It was essential to improve European military capabilities if the EU wanted to take on strategic responsibilities. This realisation led the UK and France, the two critical European military actors, to take action, resulting in the bilateral Franco-British *Saint-Malo* declaration of late 1998.⁴⁷ France and the UK jointly declared that 'the Union must have the capacity for autonomous action, backed up by credible military forces, the means to decide to use them, and a readiness to do so, in order to respond to international crises.'⁴⁸

In the ensuing years, a rapid Europeanisation of the *Saint-Malo* declaration took place. Particularly, the EU summit in Cologne, in June 1999, was an important milestone towards a European Security and Defence Policy (ESDP) as an integral part of the EU's CFSP. In particular, the apparent European shortfalls during the Kosovo air campaign were a catalyst for making swift progress in common European defence matters.⁴⁹

NATO and the ESDP complement each other. The former guarantees a strong transatlantic link and provides for collective defence, a particularly important aspect for the Eastern European members. The latter is

particularly suited to respond to active requests by the UN Secretary General against the backdrop of crises in the developing world. In many cases, the ESDP is the natural choice for the conduct of non-Article 5 crisis management scenarios. ESDP-led operations are, in certain theatres, seen as more benign than potential NATO operations. This specific reality was underlined by a French Air Force officer with ample experience in the African theatre at a recent NATO conference.⁵⁰ Yet while the ESDP provides a suitable framework for peace support operations, it is less likely to provide an adequate framework for conventional high-intensity warfare in deployed operations.

Critics might argue that in the field of defence, the EU is producing irrelevant redundancies in relation to NATO. These supposed redundancies, however, are of almost exclusively conceptual and not physical nature. There are no separate EU troops. Both NATO and the EU largely draw on the same troops – hence, there is a single set of forces for both institutions. There are some redundancies regarding command and control, such as a Civil Military Planning Cell within the European Union Military Staff. Yet these redundancies come at a minimal cost and are necessary. In order to secure political freedom of action, particularly in the light of Europe's fragile political environment for military interventions, a host of potential options needs to be generated. The current environment is characterised by the formula 'the mission defines the coalition', as expressed by the former Secretary of

Defense, Donald Rumsfeld.

The need to develop European air power

Co-operation in the field of air power was already, during the days of the Cold War era, of pivotal importance – particularly given the short warning times in case of a Soviet surprise attack. Hence, NATO's integrated air defence played a vital role. Yet in the post-Cold War era, the necessity to generate common approaches has become even more urgent. Four reasons for this can be identified:

- Shift from a threat-based to a capability-based paradigm for defence planning.
- Shift from 'fighting in place' to deployed operations.
- Shift from deterrence postures to real operations.
- Costs for advanced air power technology combined with European reluctance to keep defence spending on a Cold War level.

The Cold War, with its clearly defined threats, provided governments and militaries alike with a more or less reliable framework for planning, force structuring, and procurement. This certainty ceased to exist. Instead, Western armed forces had to shift from a threat-based to a capability-based approach. The threat-based approach basically meant that forces were tailored according to a relatively clear Warsaw Pact threat. With the end of the Cold War, these clearly defined threats ceased to exist. As a consequence, it has been attempted to structure armed forces along a number of defined capabilities,

in order to be able to respond to a number of scenarios, ranging from alliance defence to peace support and humanitarian operations.

In the post-Cold War era, the challenge of a sensible force mix concerns both larger and smaller European actors. For the smaller nations, the particular question is what particular capabilities they should provide, in order to contribute to a sensible force mix on a supra-national level. *These capabilities include offensive aspects such as precision-strike, defensive aspects such as theatre ballistic missile defence, or force enabling aspects such as air-to-air refuelling. They underpin the four core air power roles – control of the air, mobility and lift, intelligence and situational awareness, and attack, both kinetic and non-kinetic. In the current environment of deployed operations, a fully autonomous force must be able to meet all these roles. Yet achieving full effectiveness in all areas is, and will almost certainly remain, beyond the affordable reach of a single European nation.*

The second reason identified to generate common approaches to air power is the shift from 'fighting in place' to deployed operations. Deployed operations actually require more roles to be covered than traditional territorial alliance defence. This particularly concerns the areas of mobility, sustainability and force protection.

Thirdly, the shift from deterrence postures to real operations revealed significant shortfalls in European force structures. Unlike the Cold War deterrence postures, real operations are unforgiving in exposing shortfalls.

Capabilities not only have to exist on paper, but they must be robust, deployable and usable at short notice. Moreover, real operations are challenging and demanding in terms of interoperability issues.

Finally, costs for advanced air power technology, combined with European reluctance to keep defence spending on a Cold War level, are major challenges in generating modern air power. In sum, political, financial and technological constraints and trends have prevented most European nations from acquiring air power capabilities comparable to those of the United States.⁵¹ As a consequence, the transatlantic air power capability gap continued to widen in the 1990s, as operation Allied Force clearly demonstrated.

Deficiencies in European air power

Allied Force is referred to as a benchmark for highlighting deficiencies in European air power and for examining developments that have taken place since 1999. In the course of Allied Force, the United States was shouldering by far the largest burden. While some European allies were able to make valuable SEAD contributions or to deliver precision-guided munitions, many European allies lacked the capabilities to operate effectively with the US services,⁵² which contributed 59 per cent of all allied aircraft involved in the air campaign and released over 80 per cent of the expended munitions.⁵³ Approximately 23,000 bombs and missiles were used, of which 35 per cent were precision-guided, including 329 cruise missiles.⁵⁴

Examining NATO's air campaign as a model for possible future European military operations, a British defence expert argued in 2000 that the approximately 500 all-weather bombers that the UK, France, Germany and Italy could field at the time needed to be increased by about 50 per cent.⁵⁵ Furthermore, the transatlantic capability gap became visible in the fields of AAR (air-to-air refuelling) and airborne stand-off jamming. As regards the latter, NATO's air campaign hinged entirely upon US capabilities. In the domain of AAR, approximately 90 per cent of the sorties were flown by American aircraft.⁵⁶

Air mobility

The post-Cold War era revealed significant gaps in European strategic airlift. This problem is related to the fact that during the Cold War, Western European armed forces were supposed to fight 'in place'.



Royal Air Force C-17A Globemaster III

As a consequence, with a significant increase in out-of-area operations, European air forces have suffered from a shortage in strategic airlift capacities. Even at the end of the

1990s, Western Europe did not own a single military wide-body transport aircraft capable of lifting a main battle tank.⁵⁷ In 2001, the RAF was the first European air force to bridge this gap by leasing four C-17s from Boeing with the option to buy at the end of the lease period. The aircraft were finally procured and the fleet was extended to six aircraft by early July 2008.⁵⁸

Yet it would be wrong to conclude that strategic mobility just depends on transport aircraft. Deployable ground infrastructure represents a major shortcoming in European air power, too. Against the backdrop of the NATO Response Force air component, the Royal Air Force and the French Air Force have so far been the only air forces to provide deployable air bases on a national basis.⁵⁹

AAR – a specific element of air mobility – is one of the foremost European shortcomings in deployed operations. Whereas the USAF, the USN and the USMC together operated more than 650 tanker aircraft of various types in 2006, the air forces of France, Germany, Italy, the Netherlands, Spain, Sweden, and the United Kingdom could muster approximately seventy aircraft, with the UK and France providing the bulk of the European tanker fleet.⁶⁰ This gap is likely to remain so. The UK and France, operating the largest European tanker fleets, plan to replace their aging tanker transport aircraft each.⁶¹ As a consequence, there is likely to remain a significant imbalance between the shaft and the spear, between force enablers and offensive air power.

Precision strike

The shortfalls in kinetic air power have been addressed more vigorously than the issue of force enablers. Accordingly, European air forces went to great lengths in the wake of Allied Force at improving their precision strike capabilities. During operation Allied Force, when American forces and the Royal Navy released a total of 329 cruise missiles, the continental Europeans were not in a position to contribute to the cruise missile campaign. Since then, the Germans and French have been acquiring over one thousand missiles combined,⁶² and France has been pursuing an innovative approach through the AASM (*armement air sol modulaire*), basically a rocket boosted precision-guided bomb which can function as a cheap substitute for cruise missiles or which can be used to engage targets of opportunities, depending on the homing device.⁶³

Technological advancements since Allied Force have also significantly enhanced firepower per aircraft. The Rafale or Eurofighter Typhoon for instance are capable of releasing a standard air-to-ground weapons load of four to six precision-guided munitions, whereas in Allied Force, strike aircraft, such as the Tornado, the Mirage 2000D or the F-16, carried a standard weapon load of only two laser-guided bombs. Such an increase in firepower puts the above argument by a British commentator, that Europe would have to increase its 500 all-weather bombers by 50 per cent, into a different perspective. While the lack in precision firepower has been addressed quite effectively, the imbalance between the shaft and the

spear still remains problematic.

Remedies

Improvements in European defence are often presented as inextricably linked to limited defence budgets and to a lack of investment in research and development. Yet co-operative approaches to European air power might offer more value for money, as has already been highlighted by the development of the European F-16 wing against the backdrop of operations in Afghanistan. Further alternatives include role specialisation as well as doctrinal and operational responses. Moreover, command and control gained a new emphasis in the post-Cold War era, in order to effectively employ air power assets.

European airlift co-operation

In the wake of the Kosovo air campaign, Lord Garden argued that the support area, especially airlift, offered opportunities for pooling



A400M Roll-out

and rationalisation without too many issues of national sovereignty.⁶⁴ In the meantime, European air forces have indeed been active in this field, and a number of complementary initiatives

can be identified.

Since 2001, European Air Group air forces⁶⁵ have commonly co-ordinated their airlift assets first through the European Airlift Coordination Cell (EACC) based in Eindhoven, which was further evolved into the European Airlift Centre (EAC) in mid-2004.⁶⁶ The rotation of the French Mirage detachment in Manas with the European F-16 component was facilitated by EACC. Moreover, Europeans have started both to commonly charter and to commonly procure wide-body/long-range transport aircraft. These days, there are basically two complementary initiatives. The first initiative is the so-called Strategic Airlift Interim Solution (SALIS), under which a multinational consortium of 16 countries, led by Germany, is chartering Antonov An-124-100 transport aircraft. SALIS has been operational since March 2006. The SALIS initiative contributes to bridging the European capability gap in strategic airlift until the commissioning of the European A400M military transport aircraft. SALIS is equally available to both NATO and EU operations, underlining the strategic partnership between the two alliance frameworks.⁶⁷

NATO's Strategic Airlift Capability initiative for its part is an example of shared ownership. Ten NATO countries plus two Partnership for Peace (PfP) nations, Finland and Sweden, signed a memorandum of understanding confirming their participation in commonly acquiring and sustaining three C-17 strategic transport aircraft. Based at Papa

airbase in Hungary, the aircraft, scheduled for 2009, will be flown and maintained by multinational crews.⁶⁸ The most far-reaching project is the European Air Transport Command (EATC) initiative. At the Franco-German summit in November 1999, France and Germany declared their intention to transform their co-operation in the field of military airlift into a common transport command.⁶⁹ In May 2007, finally, an agreement between Germany, France, Belgium, and the Netherlands was signed for establishing EATC, which is supposed to reach initial operational capability in early 2009.⁷⁰ This multi-lateral approach will provide each of these countries with an unprecedented surge capability, as EATC will pool more than 100 Airbus A400Ms from Germany, France, and Belgium.⁷¹ Against the backdrop of sustained out-of-area operations or rapid reaction operations, co-operation in the field of military airlift will enhance European power projection capabilities significantly.

Role specialisation

Unlike the pooling of assets, role specialisation has been politically more sensitive. As a consequence, role specialisation has been taking place by default – due to lack of resources – rather than by a deliberate policy. Role specialisation is perceived to supposedly limit national freedom of action. In particular, nations are reluctant to become reliant on other allies for particular capabilities.

Yet small nations in any case have to limit themselves to a very narrow band-width of roles. Very often these are primarily relegated to quick

reaction alert, air policing, a tactical precision-strike and reconnaissance capability, tactical mobility and a very limited inter-theatre airlift capability to re-supply up to battalion-sized contingents in deployed operations. It would be beneficial for small nations to explore the potential of role specialisation more systematically and to acquire subject matter expertise in certain key areas, which would allow them to gain leverage within an alliance or a coalition.

Reluctance to go down the path of role specialisation also contributes to the European imbalance between the shaft and the spear. Particularly small countries, which have to make hard choices due to constrained defence resources, emphasise so-called kinetic air power capabilities over force enabling capabilities. Kinetic assets are still seen as providing for a country's defence, whereas an overemphasis on force enablers is seen as excessive role specialisation. This attitude exacerbates the teeth-to-tail ratio on a supra-national level. Despite the fact that the potential procurement of a limited number of C-17s in the late 1990s by a medium-sized European state would have generated an international leverage out of proportion to the costs involved, this option has not been pursued. Instead, the emphasis has been placed on the acquisition of offensive assets, such as combat helicopters.

A particular example that shows the benefits of role specialisation is electronic warfare. Airborne stand-off jamming represents a significant European shortfall. In the meantime, there are projects in Germany and France to remedy this gap.⁷² Yet

it seems to be unnoticed that the Swedish Air Force has retained an expertise in airborne stand-off jamming for most of the post-Cold War era. In the late 1990s for instance, ten two-seat Viggens were modified into dedicated electronic warfare platforms. These so-called SK-37E Viggens were phased out in mid-2007. As a next step, the JAS-39 D Gripen might be further developed into an electronic warfare platform. Yet the project does not have the highest priority within the Swedish Air Force.⁷³ The Swedish Air Force ought to place a particular emphasis on retaining and improving this capability, as it would give Sweden a sought-after niche capability and hence leverage in composite air operations. This capability could be put at the disposal of the EU, and Sweden is also seeking active co-operation with NATO and involvement in NATO's Response Force.

Doctrinal and operational responses

Doctrinal and operational responses can function as force multipliers, as they allow European air forces to rely more on human-centric approaches than on hardware and software. Examples are stand-off jamming and SEAD. They are considered capabilities that have become indispensable for composite air operations. Yet, real operations have proven that there are ways to operate effectively without these specific capabilities under certain circumstances. In the course of operation Deny Flight, the American Air Component Commander announced that all missions had to be escorted by SEAD aircraft. Some European allies, however, expressed

their doubts about this far from flexible way of operating.⁷⁴ Instead of over-reliance on SEAD and stand-off jamming assets, Dutch pilots preferred to make their flight patterns as unpredictable as possible.⁷⁵ It was basically an argument on whether to rely on rigid force packages with stand-off jammers and dedicated SEAD assets or to draw upon air power's flexibility.



F-16 of the Danish Air Force

The Royal Netherlands Air Force (RNLAf) displayed distinct national approaches to air power in the air campaigns over Bosnia. Since the mid-1980s, the RNLAf had been pioneering the so-called swing-role concept. In contrast, other European F-16 users were employing the aircraft in fixed roles only.⁷⁶ All Dutch F-16 pilots are trained in both the air-to-air and air-to-ground role.⁷⁷ Due to this concept and its inherent flexibility, Dutch F-16s could be re-tasked from an air defence to an attack mission while in the air. This gave the combined air operations centre at Vicenza some extra leeway.⁷⁸ Since swing-role not only requires multi-role capable combat aircraft, but also versatile aircrews,

the RNLAF is willing to meet the demands of a very intensive and costly training programme.⁷⁹

Not primarily a matter of size

To draw the conclusion that proficiency in the application of air power is primarily a matter of size or that size is proportional to effectiveness is wrong. In fact, size has not so much mattered in generating European air power.

For operation Allied Force, the German contingent contained ten dedicated SEAD Tornados and four reconnaissance Tornados.⁸⁰ They accounted for approximately 1.4 per cent of the allied aircraft fleet, which in the course of the campaign was increased to slightly more than 1,000 assets.⁸¹ Yet the small German Tornado contingent released a significant number of high-speed, anti-radiation missiles, 236 out of a total of 743 expended throughout the entire campaign,⁸² which corresponded to approximately a third.

Likewise, the Dutch detachment consisting of a total of 20 F-16s and two KDC-10 tanker aircraft proved very efficient. Throughout operation Allied Force, Dutch F-16s flew 700 air-to-air, approximately 450 air-to-ground and 50 reconnaissance sorties over Yugoslavia. The RNLAF delivered more than 850 air-to-ground weapons, including 246 laser-guided bombs and 32 Maverick missiles. Given these figures, the RNLAF played a substantial role in operation Allied Force and provided, according to Dutch sources, approximately 7.5 per cent of the offensive NATO sorties.⁸³ To put the number of expended precision-

guided munitions into context, the RNLAF accounted for approximately 3.5 per cent of the total number employed during the campaign and released slightly more than the RAF, which employed 244 laser-guided bombs and six ALARM anti-radiation missiles.⁸⁴ Accordingly, the RNLAF lived up to its motto *Parvus Numero Magnus Merito*.

Command and control

In general, a shift from a particular emphasis upon airframes to a balanced approach, giving more consideration to air power software, has taken place. In fact, air power software gained unprecedented importance at the outset of the post-Cold War era. In the wake of operation Desert Storm, Martin van Creveld argued: 'No other country possesses the hardware, much less the 'software', needed for mounting an air campaign that will even remotely compare with US capabilities in this field.'⁸⁵ Yet in the meantime, the RAF, the French Air Force, and the German Air Force have been building up computerised command and control systems, essential for the conduct of autonomous European air operations.

The SCCOA system (*système de commandement et de conduite des opérations aériennes*) has become of pivotal importance in France's thrust towards enhanced and interoperable conventional forces. The deployable component of SCCOA can support a combined Joint Force Air Component Command (JFACC) Headquarters in deployed operations.⁸⁶ Enhanced interoperability on a technical level has enabled the French Air Force to take on a lead role on the international scene. As such, the

French Air Force was in charge of the NATO Response Force (NRF) JFACC during the second half of 2005. Despite France's non-integration into NATO's integrated military command structure, the French Air Force was the first European air force to provide such a capability on a national basis to the NRF.⁸⁷

The German Air Force has also made significant steps in improving its command and control capabilities. During the Cold War era, the German Air Force had no means at its disposal to conduct air combat operations above the wing level and fully hinged upon NATO command and control structures. In the post-Cold War era, with an increasing German commitment to out-of-area operations, a national capacity for the planning, conduct, and command of air combat operations became necessary. In late 2001, the German Air Force established its Air Operations Command – *Kommando Operative Führung Luftstreitkräfte*. For the first time in its history, the German Air Force received an autonomous capacity for tactical and operational planning of air operations. The Air Operations Command was primarily designed as a national nucleus for a multinational Air Component Command Headquarters against the backdrop of NATO or EU operations.⁸⁸ As such, the Air Operations Command will enable Germany to act as the lead nation AIR in multinational operations.⁸⁹

EU operations

European countries do not have to be capable of autonomously dealing with major contingencies,

such as a future conflict involving China. In these circumstances, it is 'inconceivable that European governments would act independently of the US.'⁹⁰ However, the EU needs to be capable of autonomously undertaking peace support operations across the spectrum of military force, with a particular focus upon battle group sized early-entry operations in failed states. After severe disagreements over Iraq in early 2003, it is, for instance, difficult to imagine that the EU could have drawn easily upon NATO resources – meaning American assets – for operation Artemis in mid-2003.

Rapid intervention operations in failed states require solid strategic airlift, ISTAR (intelligence, surveillance, target-acquisition, and reconnaissance), and close air support capabilities, the latter providing escalation dominance. While a NATO C-17 airlift fleet might prove very useful in these scenarios, it will finally always require US consent – a right the Americans have put a premium upon in order to secure their influence upon European security.⁹¹ In contrast, co-operative arrangements that can be made equally available to NATO and EU operations, such as the European Air Transport Command, offer assured availability for European operations. In the field of satellite reconnaissance and surveillance, both France and Germany have taken significant steps in recent years. Next to the French-led Helios II project, Germany launched the first of five SAR-Lupe (Synthetic Aperture Radar) satellites in late 2006. It is planned to secure satellite data exchange between Germany and France.⁹² Once a robust

number of A400M aircraft has been delivered to European air forces, combined with various European satellite programmes and other ISTAR assets, rapid intervention operations on behalf of the UN should no longer represent a major challenge for Europe in terms of military capabilities.

Concluding thoughts

The rapid deployment and the sustained presence of European air power detachments in Afghanistan and elsewhere show that Europe can make relevant contributions to current operations. In this process, European co-operation is key to creating relevant air power. By overcoming fragmented approaches to air power, it draws upon the synergies of the various air forces. In accordance with this, the article concludes by highlighting four potential guiding principles for the future development of European air power.

According to the principle 'primacy of politics', co-operative ventures and supra-national pooling of assets have to take into account the political dimension. Today's operations are primarily conducted by NATO, the EU, or *ad hoc* coalitions. As established above, NATO and the EU's Security and Defence Policy (ESDP) complement each other. While NATO guarantees a strong transatlantic link and provides for collective defence, the ESDP is particularly suited for rapid interventions in the framework of humanitarian operations. Accordingly, a natural division of labour between the two organisations is shaping up. Hence, in order to

guarantee political freedom of action, co-operative ventures should be equally available to both NATO and the ESDP. This flexibility is important in a politically fragile environment, when it comes to the projection of military power.

Secondly, if we mean serious European co-operation, we have to go beyond the pooling of assets to role specialisation – not only a challenge, but also an opportunity for the smaller European air forces. Role specialisation would help to address the imbalance between offensive air power and force enablers. While there are disadvantages regarding national discretion, role specialisation could offer small nations significant leverage within a coalition or alliance, by providing a sought after-niche capability. European air power suffers from significant shortages in the force enabling areas, including deployable air base infrastructure or air-to-air refuelling assets.

Co-operation among the larger European air forces, which maintain balanced force structures, is also gaining in importance. The Royal Air Force, the French Air Force, and the German Air Force together – or any of these two combined – are likely to cover a significant range of aerospace power capabilities in the medium-term. These include airborne early warning, wide area air-to-ground surveillance, stand-off jamming, suppression of enemy air defences, theatre ballistic missile defence, high-altitude long-endurance unmanned aerial vehicles, deployable air operations centres, combat search and rescue, air-to-air refuelling, strategic airlift, and deployable air bases. This core of

capabilities will be coherent and will allow smaller European air forces to plug in and play. By providing niche capabilities, they can reinforce existing capabilities of these larger air forces and thereby contribute to more robust and sustainable force packages. While it makes sense for larger European nations to retain balanced force structures, smaller nations should give thought to partial role specialisation. Role specialisation should not happen by default, as is currently the case owing to limited resources, but as a result of a deliberate and focused policy.

While it cannot be expected that all alliance partners, be it in the framework of NATO or the ESDP, will contribute to a particular operation, it is realistic to assume that any two of the larger European air forces combined with a number of smaller air forces will commit themselves. If defence resources are appropriately spent, such a combination of air forces is likely to cover a balanced range of capabilities in order to conduct effective and sustained air operations.

Thirdly, effective European air power is not primarily a matter of size and resources – it is rather a question of balanced, interoperable, and usable capabilities. Moreover, it is a question of political will. Are countries willing to make a meaningful contribution? Likewise, it is a question of an air force's qualities regarding professionalism, training, education, and attitude.

Finally, are we conceptually embracing certain distinct European characteristics? European air power is likely to operate in very fragile political environments. Popular

support for air campaigns that might seem too offensive is likely to remain brittle. Hence, gradualist approaches might often be the only options.

Do European doctrines reflect those political realities, in order to meet genuine European interests? 'No major proposal required for war', Clausewitz accurately proclaimed, 'can be worked out in ignorance of political factors; and when people talk, as they often do, about harmful political influence on the management of war, they are not really saying what they mean.'⁹³ Air power is and will remain a tool of politics.

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