

Building Partnership Capacity

Operation Harmattan and Beyond

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The Air Force Association is planning a remarkable panel discussion—Close Cooperation among Allies—as part of its National Convention and Air and Space Conference near Washington, DC, in September. The association has invited Gen Denis Mercier, the Armée de l’air (French air force) (FAF) chief of staff, and Air Chief Marshal Stephen Dalton, the Royal Air Force (RAF) chief of air staff, to join Gen Mark Welsh, the new US Air Force chief of staff, on stage.¹ This joint invitation is in step with the US Department of Defense’s effort known as building partnership capacity.² According *Building Partnership Capacity: QDR Execution Roadmap* (2006), the nation cannot attain its strategic objectives without a unified approach among capable partners at home and with key friends and allies abroad.³ At the same time, the French and British have national ambitions that drive a deeper partnership with each other and closer ties with the United States. Within this geo-

political backdrop, the three chiefs developed their vision to better integrate the three air forces.⁴ But let us be clear from the start: this rapprochement is not a matter of starry-eyed idealism or naïveté but of straightforward pragmatism fueled by austerity. As physicist Ernest Rutherford, a Nobel laureate, once said, “We haven’t the money, so we’ve got to think.”⁵ As this article shows, the close cooperation among allies during the Libya operation affirmed this new “thinking.”

The article has a twofold purpose. The first, in essence, is pedagogic, presenting what the FAF brings to the fight through the lens of the military action in Libya, code-named Operation Harmattan by the French for the hot, dry winds that blow through the Sahara between November and March. This aim is essential in and of itself—as American Airmen endeavor to build dynamic partnerships, we must begin by knowing the capabilities of individual air forces. Second, the article sets the contextual framework for the chiefs’ initiative to “develop an increased level of interdependence” among the three air forces and addresses how Libya serves as a springboard for this endeavor.⁶ It is neither a comprehensive treatise on the operation in Libya nor a summary of “lessons learned.” Moreover, it purposely avoids the larger strategic debates concerning the operation’s implications for the future of the North Atlantic Treaty Organization (NATO) alliance. Rather, the article highlights particular contributions of the FAF with regard to what the operation means for future cooperation among the three air forces. It explains why Harmattan was an important milestone for the FAF, validating 20 years of transformation and demonstrating the coherence and capability of its force. By design, the article singles out the French contribution but by no means intends to minimize that of the 14 other air forces and joint partners that participated.

This piece is both timely and necessary. Even as the world hails the historic elections that took place just eight months after the fall of Mu’ammar Gadhafi, one finds an overwhelmingly negative slant in the US press, running contrary to what Vice President Joe Biden declared immediately after the dictator’s capture: “NATO got it right.”⁷ “While

the operation has revealed strains within the Alliance and foreshadows future challenges, the Libyan operation is a great success,” agrees Damon Wilson, renowned NATO expert.⁸ However, one year later, in 2012, the *Washington Post* declared that “NATO’s Lost Lessons from Libya” deal with the disputed number of civilian casualties rather than the success of the operation.⁹ “Libya hardly looks like a success story right now,” comments international relations expert Stephen M. Walt after the NATO summit in Chicago.¹⁰ Meanwhile, the *New York Times* editorial board opines that the operation is “one more reminder that Europe is still not ready for prime time.”¹¹ Certainly, Libya displayed alliance shortcomings, but coalition members can—and should—be proud of what they achieved. As Gen Norton Schwartz said in his *CSAF Vector 2011*, “I could not be more proud of you!”¹² Similarly, after the free Libyan elections, President Obama recently emphasized that “the United States is proud of the role that we played in supporting the Libyan revolution and protecting the Libyan people.”¹³ As this discussion points out, the FAF is equally proud of its effort in Operation Harmattan.

Toward that end, the article first examines the French contribution, including the prelude to war, the national air campaigns, the ad hoc coalition effort known as Operation Odyssey Dawn, and the NATO-led Operation Unified Protector. It then briefly presents the four French weapons systems employed in Libya: the Rafale aircraft, the Armement Air-Sol Modulaire (AASM) precision-guided munition (PGM), the Système de croisière conventionnel autonome à longue portée (SCALP) air-launched cruise missile, and the Harfang remotely piloted / autonomous vehicle. Finally, the article explores how airmen can capitalize on Libya to further the chiefs’ vision of “increased operational effectiveness through closer collaboration.”¹⁴

The French Contribution

For good reasons, American Airmen may not be very familiar with the particular capabilities of the FAF, not the least of which is France’s particular relationship vis-à-vis NATO since 1966. The lack of direct

interaction with the French over many decades often accompanies persistent “legacy” stereotypes: the French are “ungrateful”; they “would rather surrender than fight”; and “we can’t rely on the French . . . they are too damned independent.”¹⁵ However, the Air Force Association’s Aaron Church recently pointed out that for many years, France has been “in the fold” as one of the largest contributors of combat troops to NATO operations in Kosovo and Afghanistan.¹⁶ He notes that in the aftermath of the terrorist attacks of 11 September 2001 (9/11), French president Jacques Chirac fully supported the US-led operation in Afghanistan, deploying 5,000 French troops—a force second only to Britain’s among allied contributors. Further, during Operation Anaconda in March 2002, French fighter aircraft, flying from Manas Air Base in Kyrgyzstan, and the French aircraft carrier *Charles de Gaulle* carried out the first non-US air strikes against targets in Afghanistan.¹⁷ France remained committed (even as “Freedom fries” replaced French fries in the House of Representatives cafeteria in protest over France’s lack of support in Iraq), maintaining the third-largest contingent of combat troops and suffering the fourth-highest number of deaths.¹⁸ France has indeed been in the fold.

From the very beginning of the rebel movement against Gadhafi as part of the “Arab Spring,” France in many ways led the Western response to the rebellion—in part to recover from previous missteps, particularly in neighboring Tunisia. France was the first country to recognize the new rebel government—the Transitional National Council—and joined Great Britain in calling for military intervention. The two countries remained in lockstep throughout the seven-month operation, as Amb. Ivo Daalder, US permanent representative to NATO, noted in his remarks to the press after the capture of Gadhafi. Highlighting the assistance of other NATO nations and allied partners, he remarked, “*Of course* France and the United Kingdom did an extraordinary job and they were equally indispensable to the success of this operation” (emphasis added).¹⁹ However, the extent of the French and UK effort is likely not evident on the other side of the Atlantic. For their part, the French flew one-fourth of all coalition sorties, launching one-third of

the offensive missions and more than 20 percent of the total coalition air strikes, hitting in excess of 750 military targets. Furthermore, the French army flew 90 percent of the attack helicopter missions, destroying 550 targets.²⁰ French forces logged 27,000 hours, 80 percent by the FAF. In total, the French flew more than 5,000 sorties, losing no aircraft or personnel.

As mentioned above, Harmattan held particular significance for the FAF, affirming its successful 20-year transformation since the first Gulf War and demonstrating what Gen Jean-Paul Paloméros describes as the *cohérence* in its recruitment and training of French airmen.²¹ Whether in the Gulf, Kosovo, and Afghanistan or during French-only operations in Africa, the FAF has repeatedly demonstrated its expeditionary mind-set and capabilities. However, given the sustained length of the campaign, coupled with the fact that significant portions of the operation were conducted from bases within France, Harmattan gave the FAF an opportunity to show how far it has come since the days of the Cold War force that deployed during Operation Desert Storm. The FAF has transformed itself, transitioning to an all-volunteer force while reducing its manpower by 50 percent—from 100,000 to 50,000—possibly with more cuts to come.²² Additionally, the FAF has radically cut the number of aircraft in its fleet, developing omnirole platforms such as the Rafale. It continues to address deficits, particularly the need to modernize its aging tanker and airlift fleet. In this regard, the Airbus A400M strategic airlifter will begin arriving in 2013, and the FAF plans to acquire the Airbus A330 multirole tanker transport.²³ Finally, it is in the process of revamping its infrastructure, closing 12 bases (one of every four), all the while ensuring that the remaining bases remain flexible *outils de combat* (combat tools).

One should keep in mind that throughout the seven-month war, the FAF could not put its other defense commitments on hold. As President Obama recently quipped in the middle of his reelection campaign, “I’ve still got my day job.”²⁴ For seven months, French airmen also went about their “day jobs,” namely maintaining the air compo-

ment of the French nuclear deterrent and standing vigilant in what they call the *Posture Permanente de Sécurité* (Permanent Security Posture). The FAF maintains an air defense alert unmatched in Europe, able to respond in seven minutes during the day and 15 minutes at night, thanks to alert aircraft at numerous bases and a network of 80 radar stations throughout France. Moreover, in addition to its commitment in Afghanistan, the FAF is forward based in Djibouti and, since May 2009, at Al Dhafra Air Base in the United Arab Emirates, directly across the Strait of Hormuz from Iran. It is there to “assert a joint presence, to deter any possible aggressor and, where appropriate, to facilitate the rapid implementation of initial actions for responding to hostile action.”²⁵ Their vigilance at home and their forward posture in crisis regions offer a clear indication that the French, contrary to what some American analysts might say about European air forces, do not have an “air force [just] for air shows.”²⁶

In addition to these ongoing commitments, the FAF created and managed an aerial-exclusion zone over Deauville, Normandy, during the G-8 conference in May 2011.²⁷ Further, beginning 1 July, the FAF took the lead of NATO Response Force (NRF) 17 for six months, having already successfully led NRF 5 in 2005 and NRF 12 in 2008.²⁸ Finally, just 12 days after the first air strike in Libya, the FAF participated in a noncombatant evacuation operation (NEO) in the Ivory Coast, where military aircraft transported almost 3,000 people.²⁹ Yes, the FAF was also busy with its “day job” throughout Operation Harmattan.

Phase One: National Air Campaigns

One month before the opening strikes, the FAF was already in Libya conducting NEOs and intelligence, surveillance, and reconnaissance missions. On 22 February, the FAF flew two Airbus A310s and an Airbus A340 to evacuate 512 French citizens from Tripoli and Sebha. Notably, two weeks later, these same airplanes and crews flew six shuttles between Tokyo and Seoul, evacuating 977 French nationals after the tsunami and subsequent nuclear accident at Fukushima.³⁰ Combined

with the aforementioned NEO in the Ivory Coast, the FAF demonstrated its capacity to use organic assets to evacuate noncombatants, flying under extreme conditions where civilian airline companies refuse to operate.

Additionally, from 5 through 18 March, the FAF autonomously collected intelligence using numerous platforms—the French Airborne Warning and Control System (AWACS), the C160G Gabriel, and the Mirage F1CR, a tactical reconnaissance fighter. According to French authorities, the FAF flew approximately 30 missions to gain precise comprehension of the Libyan situation on the ground, conducting its own operational mission planning and using its own command and control (C2) architecture. French intelligence centers exploited the imagery, sending it on to the FAF Commandement de la défense aérienne et des opérations aériennes (CDAOA) (Air Operations and Air Defense Command) and then to the Centre de Planification et de Conduite des Opérations (Joint Operations and Planning Center) in Paris. The French chief of defense staff presented the imagery directly to French president Nicolas Sarkozy, who was directly engaged in the effort.

On Saturday, 19 March, at a press conference following a summit among President Sarkozy, US secretary of state Hillary Clinton, British prime minister David Cameron, and other European and Middle Eastern leaders, President Sarkozy announced that he had ordered French planes into the skies above Libya. In all, eight Rafales from Saint-Dizier, two Mirage 2000 interdiction fighters from Nancy, and two Mirage 2000 air superiority fighters from Dijon flew over 1,800 miles, a distance roughly halfway across the United States. Joined by six French tankers and the French AWACS from Istres, the FAF ensemble was the first force to begin fulfilling the United Nations mandate to establish a no-fly zone and protect the Libyan population. In fact, just two hours after receiving the presidential order, FAF jets opened fire and destroyed a column of armored vehicles on the outskirts of Benghazi, where pro-Gadhafi troops were advancing on the city to make good on the dictator's threat to massacre civilians.³¹ The French took consider-

able risk because Libyan surface-to-air missile (SAM) defenses had not yet been neutralized by US and UK Tomahawk missile launches, which would come later that night. However, France “had to act fast” due to the threat to Benghazi civilians, explained Col Thierry Burkhard, spokesman for the General Staff of the armed forces.³²

These first strikes confirmed the FAF's capability to project power as a “first-entry” force. The USAF and RAF followed with air strikes later that evening. While the French navy's anti-air destroyer *Forbin* and anti-air frigate *Jean Bart* were already off the coast of Libya, the French aircraft carrier *Charles de Gaulle*, recently returned from Afghanistan, was in transit with its full naval group consisting of a submarine and several frigates.³³ Its 20 Rafale, Super Etendard, and E-2C Hawkeye aircraft would join flying operations on day four.³⁴ Over these first three days, as each nation ran its own national air campaign, France used its strategic, operational, and tactical C2 infrastructure to plan, coordinate, and execute a total of 55 sorties. Together with the naval cruise missile strikes, the three air forces crippled Libya's air defenses and clipped the wings of its air force, halting threatening tanks in their tracks and showing the inherent responsiveness and strategic reach of airpower.

Phase Two: Coalition Operations at Ramstein AB, Germany; Operation Odyssey Dawn

Beginning on 22 March, the operation took a more familiar shape, as the FAF and RAF joined with the USAF and Odyssey Dawn, led by the Seventeenth Air Force commander, Maj Gen Margaret Woodward—the combined force air component commander (CFACC). Earlier, in light of the Obama administration's reluctance to get involved, the FAF planned to lead a Franco-British coalition from Lyon–Mont Verdun Air Base, where it maintains an autonomous national air defense capability as well as a permanent and deployable joint force air component commander. As in the United States, the French air defense mission became more urgent after 9/11. Coordinating that mission is the French Centre national des opérations aérienne (National Center for

Aviation Operations), located inside a hardened facility reminiscent of the Cheyenne Mountain military complex near Colorado Springs.³⁵ Additionally, the FAF maintains an NRF-certified C2 architecture capable of controlling 200 sorties and 120 deployed aircraft per day—roughly the equivalent volume seen in Libya.³⁶

Before the launch of *Odyssey Dawn*, Maj Gen Patrick Charaix, then the deputy commander of the CDAOA, was en route to Lyon from Paris when he was redirected to Ramstein after President Obama gave the green light to US participation. For the next 10 days, he worked very closely with General Woodward and Air Vice Marshal Greg Bagwell, commander of RAF Group 1, which directs all RAF fighter aircraft, as well as representatives from the other air forces who joined the coalition each day. This was familiar territory for General Charaix, since the FAF had participated in US European Command's Exercise *Austere Challenge 2010 (AC10)*. During that exercise, Lt Gen Frank Gorenc, US Third Air Force commander at the time, directed the combined task force, and General Charaix was forward-deployed to Germany, representing Lt Gen Gilles Desclaux—the CDAOA commander and the exercise CFACC. General Gorenc, General Charaix, and their staffs were collocated and completely integrated as one team at the Warrior Preparation Center just outside Ramstein. At the same time, the FAF remained connected to Lyon, where US Air Force personnel were embedded.

Gen Stéphane Abrial, the FAF chief of staff at that time, and Gen Patrick de Rousiers, then the commander of the CDAOA, first launched the idea for this exercise scenario years earlier as they sought to better integrate with the US Air Force. The FAF prepared extensively for more than a year, spending over \$1 million to develop technical solutions that would allow French national C2 systems to communicate with US C2 systems. Moreover, French computer information specialists were in place at the Warrior Preparation Center several weeks before the start of the exercise to ensure smooth connectivity.³⁷ Unfortunately, despite the tremendous effort, the French and US C2 systems proved incompatible. According to Gen Roger Brady, commander of US

Air Forces in Europe (USAFE) at that time, the US targeting database (not releasable to foreign nationals) required human-in-the-loop approval before the data could pass to the coalition network—a major hindrance. “As a result, the [combined task force] and CFACC could only prosecute 5% of the normal targeting capacity of a US only operation and also much less than what the French could do on their own.”³⁸ Although in this respect it was considered a failure, AC10 represented an important step in identifying the challenges of integrating air force capabilities. As discussed in the section “Capitalizing on Libya,” below, overcoming these types of technical and policy-driven obstacles to seamless integration is exactly the intent of the strategic trilateral engagement. As General Brady observed after AC10, “With our emphasis on coalition warfare, we need to resolve issues that impede our ability to fight as an integrated multi-national team.”³⁹

That said, perhaps the most important part of AC10 was the personal contact between French and American airmen. The trust built through this exercise proved tremendously helpful in working around C2 and information-sharing hindrances encountered later in *Odyssey Dawn*. Gen Philip Breedlove, the current USAFE commander, recently underscored the importance of these types of exercises: “Building partnership capacity is about human to human contact.”⁴⁰ Maj Gen Larry Nicholson, commanding general of the Marine Expeditionary Brigade–Afghanistan in 2009, learned the same lesson in Iraq: “The surge was great, the surge provided more troops and more equipment; but at the end of the day, you can’t surge trust, you can’t surge cooperation, you can’t surge personal relations. Those have to be built over a period of time.”⁴¹ Fortunately, thanks to AC10, French and US airmen had already established understanding and trust, as General Woodward affirmed: “I think when you look back, we will see this coalition effort as a historic operation that is a testament to the day-to-day training, exercising, and interoperability we’ve built with various partners around the world. . . . Without those existing relationships and experience working together, we could not have accomplished the task we were given in so short a time frame.”⁴²

In the days leading up to *Odyssey Dawn*, General Welsh, then the USAFE commander, personally ensured that the FAF and RAF felt welcomed at Ramstein, receiving—according to one French senior officer—an equal “seat at the table.” However, the short time frame made it impossible to overcome certain impediments—namely, existing prohibitions on information sharing that led to inefficient coalition operations. Consequently, French airmen could not participate alongside their USAF and RAF counterparts in developing either the master air attack plan or each day’s air tasking order. Neither could they take part in developing the targeting list, which involved a classified network in conjunction with planners at bases in the United States and United Kingdom. Instead, given its national operational planning structure, France continued to develop its own air tasking order and presented it each day to the combined air operations center, which added that information to the daily US air tasking order. Moreover, intelligence gathering, exploitation, and distribution were not a shared coalition effort, as France and the United States relied on their own autonomous capabilities. Finally, according to French officials, French fighters could not communicate with US AWACS aircraft using US cryptographic (secure communications) codes, so they flew their missions only when the French AWACS was airborne. French officials lauded the efforts of General Woodward and the 617th Air Operations Center to work around these obstacles as they led what became a 12-nation coalition. As discussed later, the task at hand (especially in light of increasingly strained resources) calls for removing the types of obstacles encountered during both AC10 and *Odyssey Dawn* so that commanders can prosecute future coalition air campaigns in the most efficient way possible.

Phase Three: NATO’s Operation Unified Protector

NATO took command of *Unified Protector* on 31 March. The commander of Allied Joint Forces in Naples led the operation, and Lt Gen Ralph Jodice, USAF, commander of Allied Air Command Izmir, oversaw the air component. That coalition air forces sustained operations throughout these successive changes in leadership is a remarkable tes-

tament to the flexibility of airmen. According to a Rafale squadron commander, the FAF was particularly proud of the fact that through all these transitions, it never took an operational pause or a “no fly day.” Overall, France’s critical role in Unified Protector stood as evidence that the French have been at the heart of NATO operations for years.

Further, while spotlighting known alliance shortfalls, the operation let all coalition air forces demonstrate how much they had improved their capabilities since Kosovo. Alliance and partner nations flew more than 26,500 sorties, destroying in excess of 5,900 military targets.⁴³ General Jodice noted that “over 85% of the weapons employed came from Air Force aircraft operating from land bases, and 100% of the weapons deployed from fixed wing aircraft were precision guided munitions.”⁴⁴ An adviser to Ambassador Daalder observed that the operation reflected “the investments made over the past 10 years” by alliance and partner nations.⁴⁵ Despite reports that some coalition partners did not have enough PGMs on hand, one must remember that just 20 years ago, during the first Gulf War, only nine out of every 100 bombs dropped were precision guided. True, a decade later in Kosovo, that figure had risen to 90 percent, but as Ambassador Daalder reminds us, “in Kosovo . . . ninety five percent of all PGMs that were dropped were *American*” (emphasis added).⁴⁶ Despite such shortcomings, Libya embodied the tremendous strides made by European air forces, particularly in terms of weaponry and targeting.

PGMs, like the French AASMs, proved critical in limiting collateral damage and civilian casualties. No one knows the exact number of the latter; however, despite the 9,658 strike sorties flown by the allies and the 7,700 bombs or missiles launched, their efforts to avoid collateral damage resulted in a minimal number of civilians killed.⁴⁷ Certainly, the urban nature of the conflict and the problem of distinguishing between pro-Gadhafi and rebel forces added to the difficulty of this task. On a number of occasions, leaders called off planned air strikes on legitimate military targets at the last minute, fearing for the safety of civilians. Thanks to NATO’s leadership and training, as well as the profi-

ciency of NATO and allied aircrews, only 10 percent of the daily sorties represented designated targets—the rest were prosecuted by means of “dynamic target[ing].”⁴⁸ In layman’s terms, this “means the mission wasn’t planned and that the pilot had leeway to find and direct bombs toward targets on the ground.”⁴⁹

Although we regret any civilian casualties, the price of nonintervention undoubtedly would have been many more civilian deaths—witness the conflict in Syria. President Obama justified his decision to engage US forces along those same lines:

At this point, the United States and the world faced a choice. Qaddafi declared he would show “no mercy” to his own people. He compared them to rats, and threatened to go door to door to inflict punishment. In the past, we have seen him hang civilians in the streets, and kill over a thousand people in a single day. Now we saw regime forces on the outskirts of the city. We knew that if we waited—if we waited one more day, Benghazi, a city nearly the size of Charlotte, could suffer a massacre that would have reverberated across the region and stained the conscience of the world.⁵⁰

It is worthwhile to put the discussion of civilian casualties in historical perspective. As the Second World War raged on, Gen Dwight Eisenhower and Sir Winston Churchill developed a bombing plan in advance of Operation Overlord and argued about Churchill’s concern for French civilians. General de Gaulle interjected himself into the conversation, justifying the civilian casualties in order to shed the yoke of the Germans. Thus, General Eisenhower prevailed.⁵¹ In fact, during the liberation of France, Allied strategic bombing caused the death of 68,778 French civilians. The bombings in Normandy before and after D-day were especially terrible, killing nearly 50,000 French men, women, and children.⁵² Contrary to American pop culture’s accusations of cowardice, the French bravely “knew what sacrifices were necessary to rid Europe of Nazi occupation. . . . There is a collective acceptance of this tragedy, a quiet knowledge that it was an inevitable prelude to D-Day.”⁵³ President Obama made clear that the price of nonintervention in Libya, as in France during the Second World War, was too high to accept.

French Arms on Display

France boasts a well developed and technologically advanced defense industry, with more than 4,000 companies employing 165,000 people.⁵⁴ The FAF is proud of the performance of its weapons systems in Libya. As General Paloméros explains, that accomplishment was no accident but the product of recognizing after the first Gulf War what it needed to do to become a first-class air force:

Twenty years ago Operation Desert Storm taught us that the polyvalence of our equipment and armament would allow us to face the unknown commitments the future would hold. Twenty years is the time required to measure the efficacy of large procurement programs, specifically those that are achieving amazing results today. Fighter aircraft that are suitable for all types of missions, all-weather stand-off munitions, precision-guided cruise missiles. . . . All stemmed from the needs expressed in 1991.⁵⁵

Rafale

The Rafale, flown by the French navy since 2004 and the FAF since 2006, confirmed its *polyvalence*—its flexibility to adapt to complex and changing missions. The two services' 28 Rafales deployed to the operation, maintaining an in-service-capable rate of 95 percent. In particular, this aircraft lived up to its reputation as an omnirole fighter, able to fly air defense, ground-attack, or reconnaissance missions during the same flight.⁵⁶ According to one pilot, "The idea that a single aircraft can be re-tasked in flight from reconnaissance to strike to interception during the same sortie is truly revolutionary, and we're just now beginning to understand all that this implies."⁵⁷ Among other things, this presents a major advantage for operational management, insofar as the FAF no longer needs to match the mission with a given aircraft-weapon combination.⁵⁸

Specifically, General Paloméros emphasized the ability of the Rafale to provide imagery intelligence to the coalition through its advanced digital reconnaissance pod.⁵⁹ Furthermore, the Rafale works in a truly networked environment, a necessity underscored by US secretary of

defense Robert Gates: “The most advanced fighter aircraft are [of] little use if allies do not have the means to identify, process, and strike targets as part of an integrated campaign.”⁶⁰ In this regard, the Rafale can receive targeting and other tactical data from a wide range of coalition sources through the Link 16 datalink, combining this data with that collected by its own sensors. These targeting coordinates are automatically programmed, and the Rafale pilot need only push a single button to launch up to six bombs toward their designated targets, whether in front of, abeam, or even behind the aircraft. In other words, the Rafael can hit up to six targets in just a single pass.⁶¹

AASM

France’s AASMs, automatically programmable bombs, are similar in concept to the American Joint Direct Attack Munition, guided by the Global Positioning System (GPS). Used in Afghanistan since 2008, AASMs always launched near the designated target in that theater.⁶² In Libya the French put the 250-pound bomb built by the Sagem company to the test; for example, in one instance, the weapon used its booster’s full range to hit a Libyan tank 35 miles away.⁶³ Former French minister of defense Gérard Longuet notes that France launched a total of 225 AASMs during the operation.⁶⁴ Normally employing an inertial/GPS guidance system, the weapon can use infrared guidance for even greater precision. Furthermore, laser guidance has improved the accuracy of the newest AASM version to just one meter.

SCALP

Complementing the AASM, the SCALP (equivalent to the British Storm Shadow) conventional long-range cruise missiles saw their first operational use on 23 March, according to FAF officials. At that time, two FAF Rafales, each loaded with two SCALPs, joined two Mirage 2000Ds and two Rafalos from the French navy, each carrying one SCALP. This ensemble of six aircraft successfully launched their eight SCALP missiles against the Libyan air base of Al Juffra, approximately 240 miles

away. Three more SCALPs were fired in a subsequent strike, all 11 hitting their objectives.⁶⁵ These successful attacks confirmed the capabilities of this 2,860-pound weapon, guided by inertial/GPS, topographic, radar, and infrared systems. All told, FAF and French navy jets launched 15 SCALP missiles during the operation.⁶⁶

Harfang

France's remotely piloted / autonomous Harfang operated in Libya alongside US Air Force Predators. The FAF, which gained experience integrating its four Harfangs in Afghanistan, aspires to expand these operations, particularly in partnering with the RAF. During a Franco-British summit in February 2012, leaders agreed to continue plans to develop a medium-altitude, long-endurance vehicle by 2020.⁶⁷ Currently, the FAF plans to buy 20 remotely piloted platforms to bridge the gap until that time.

Capitalizing on Libya

Operation Harmattan allowed the FAF to prove that it is a modern, full-spectrum service with an autonomous capacity as a "first entry force." It has a robust operational planning capability and an advanced national C2 architecture; moreover, the FAF can collect, exploit, and distribute real-time intelligence. In both a political and military sense, the Libya operation also confirmed "the birth of a Franco-British 'leading team.'"⁶⁸ This is logical in light of the fact that France and the United Kingdom are the third- and fourth-largest military spenders in the world, respectively, and represent half of the European defense effort.⁶⁹ Further, they view themselves as global powers and maintain an expeditionary mind-set, having repeatedly shown their willingness to project force independently or as part of a coalition.⁷⁰ Given these attributes, as the US Air Force looks to build partnership capacity with allies in Europe, it makes sense to begin with these two air forces. This is a matter of focus, not exclusion. In a letter to General Abrial, cur-

rently NATO's supreme allied commander—transformation, the three chiefs wrote that the cooperation among the three air forces is destined to benefit the greater alliance.⁷¹ Other countries, especially Germany, will certainly have a large role to play during the evolution of the NATO alliance. British defense minister Philip Hammond remarked that this marked “the beginning of a new, more balanced era in the relationships within the Alliance” as close allies “respond to shifts in the geopolitical landscape” with a “recalibration of burden-sharing.”⁷²

This initiative among the three air forces began before the operation in Libya, but it provides a tremendous springboard. Similar to the situation after the Second World War, these air forces can capitalize on the close collaboration during the operation to further their partnership. After the world war, as an “iron curtain” descended upon Europe, US air, land, and naval forces entered into various defense agreements with their counterparts in the United Kingdom and Canada. These included the Air and Space Interoperability Council; the American, British, Canadian, Australian, and New Zealand Armies' Program; and the naval Combined Communications Electronics Board. These organizations, which still exist, sought to foster interoperability and standardization—that is, to allow their members to fight better as a coalition.⁷³

President Eisenhower and British prime minister Harold Macmillan reinforced these links a few years later when they met for three days of defense talks in Washington, DC, in part to repair the “special relationship” following the Suez crisis.⁷⁴ The two leaders issued a Declaration of Common Purpose, in which they stated that “the concept of national self sufficiency is now out of date. The countries of the free world are *interdependent* and only in genuine partnership, by combining their resources and sharing tasks in many fields, can progress and safety be found” (emphasis added).⁷⁵ Immediately following this joint declaration, Canada subscribed to this principle of interdependence and joined the arrangement, which became known as the Tripartite Technical Cooperation Program. Australia and New Zealand joined in the second half of the 1960s.⁷⁶ Collectively, the five nations are com-

monly referred to as the “Five Eyes” community, notably for the ability to share intelligence amongst each other. “ ‘The Five Eyes community is very close, and we rely and trust each other,’ said Lord West, who was former British Prime Minister Gordon Brown’s national security adviser. ‘We share some sensitive information.’ ”⁷⁷

Certainly, at the time when these five nations were solidifying their ties, President de Gaulle, who possessed *une certaine idée de la France* (a certain idea of France), was pursuing an independent, sovereign approach often at odds with the United States and its close partners.⁷⁸ Fast forwarding a half-century, we find France at a crossroads, as noted by Leo Michel, Distinguished Research Fellow at the National Defense University: “While the French believe strongly in their need to preserve ‘strategic independence,’ they see new challenges in the evolving international security environment that will oblige them to accept greater cooperation with others, even in areas once considered too sensitive to discuss.”⁷⁹ As President Sarkozy said, “We no longer have the time for theological quarrels! It is time for pragmatic efforts to make our national security forces more efficient and operational to face today’s threats.”⁸⁰ Calling for cooperation and solidarity, he returned France to the integrated military structure of NATO, providing the first of three catalysts for the chiefs’ initiative, allowing their air forces to “work under a common umbrella.”⁸¹

The second catalyst, the Franco-British Lancaster House defense treaty of 2010, marked “an unprecedented rapprochement between the two largest European military powers. Based on the observation that France and the UK have similar capabilities, ambitions and interests, whilst being faced with the same limitations in terms of an increasingly hostile budgetary situation, this cooperation aims to pool the resources of both countries, without either losing sovereignty over them in order to keep their respective capabilities at an optimum level.”⁸²

Evidently, idealism is not driving the rapprochement. As Prime Minister Cameron said, “Britain and France have a shared history through two World Wars. Our brave troops are fighting together every day in Af-

ghanistan. But . . . this is a treaty based on pragmatism, not just sentiment.”⁸³ More than a century after the 1904 *entente cordiale* ended the long-lasting enmity between the two nations, the new partnership has been dubbed the *entente frugale*, as ever-decreasing defense budgets have led the French and the British to set aside “years of mutual suspicion.”⁸⁴ President Sarkozy echoed this idea: “We must go forward with pragmatism, with ambition, not ideologically, with our guiding principle the concern of the security of the Western world.”⁸⁵

Michel observes that this rapprochement offers the United States a window of opportunity: “Greater bilateral cooperation [between the United Kingdom and France] will, in my view, actually open new opportunities for trilateral cooperation with the United States.”⁸⁶ In this sense, the US Air Force stands at the threshold of an opening not seen since the 1950s. Lt Gen Richard Newton, then the assistant vice-chief of staff, supported this notion: “International and industry partnerships will become even more ‘crucial’ as the Defense Department begins to reduce the size of its forces and looks to cut costs wherever possible.”⁸⁷ Similarly, the three chiefs identified these financial pressures as the final catalyst for the trilateral initiative: “We are all facing increasing financial pressure to deliver compelling air power with fewer resources. It makes good strategic sense that all these [the three catalysts] should facilitate greater co-operation.”⁸⁸

Interdependence. Cooperation. Solidarity. Partnership. What do these words mean for these three air forces? To answer that question, the three chiefs initiated a series of strategic engagements beginning in June 2011.⁸⁹ To date, three strategic-level workshops held in Paris, RAF College Cranwell, and Washington, DC, have taken place, organized by each air force’s strategic studies group.⁹⁰ Charged with “increas[ing] effectiveness through closer co-operation,” the vision essentially involves moving beyond interoperability to integration—reducing unaffordable redundancy to be able to operate as a seamless unit. In their letter to General Abrial, the chiefs point out that the workshops have identified not only areas of common interest and capabilities but also

shortfalls, especially in the critical area of C2. They note that these conclusions were consistent with the experience in Libya, emphasizing that improving “command and control coherency [is the] most important near term priority” and recognizing it as “the most effective way to generate capacity, increase tempo, [and achieve] maximum effect from our limited budgetary resources.”⁹¹

With this in mind, French, British, and American airmen will assemble for a fourth trilateral workshop in December 2012 at Lyon–Mont Verdun Air Base. This workshop will have two goals. The first is the same as that of the three preceding workshops: to build trust among these airmen by establishing the type of personal relationships lauded as the enduring value of AC10. As mentioned above, the idea that led to AC10 came from General Abrial, who, almost 40 years ago, spent six months as an exchange cadet at the US Air Force Academy in Colorado Springs, part of a program begun in 1968 to prevent French and Americans from losing all contact.⁹² Later in his career, he returned to the United States to attend the Air War College. AC10 and Odyssey Dawn validated the benefit of this type of personal communication, and these workshops offer such opportunities. Although it may take many years to see the fruit of such contact, as General Breedlove told the Washington workshop in April 2012, “We don’t build a 30-year friendship on a policy tomorrow.”⁹³

Of course, attaining the second goal—removing barriers to greater operational effectiveness—requires going beyond establishing relationships. In Lyon, airmen from the three air forces will examine the strategic-level policies, operational-level obstacles, and technical challenges involved in improving C2 processes, infrastructure, and information sharing. US Army colonel Jonas Vogelhut recently wrote an excellent reference for this endeavor, addressing the difficulty of balancing information security and sharing requirements.⁹⁴ Everyone concerned must “develop, improve, and implement policies, processes, and technology” that will permit the three air forces to “rapidly and effectively share sensitive mission command information.”⁹⁵ Regarding

this necessity—certainly not a new challenge—the US national military strategy of 2004 noted that “achieving shared situational awareness with allies and partners will require compatible information systems and security processes that protect sensitive information without degrading the ability of multinational partners to operate effectively with US elements.”⁹⁶ Impediments to sharing both sensitive mission-command information and situational awareness must be removed before the conflict begins. As mentioned above, the United States did not release many intelligence products to coalition partners during Odyssey Dawn because “many U.S. participants did not understand requirements to classify for releasability.”⁹⁷ Notwithstanding the tremendous effort by foreign disclosure officers, it took a week to establish “[releasable] to [Combined Forces Odyssey Dawn].”⁹⁸ This is a perfect example of the obstacles that must be overcome before integrating with allied air forces—especially those not included in “Five Eyes.”

In essence, realizing the chiefs’ vision will demand a change in culture, as explained in the *Department of Defense Information Enterprise Strategic Plan, 2010–2012*: Airmen from all three air forces must recognize the problem that information-sharing barriers present to effective coalition operations and need to “embrace . . . new mindsets . . . and apply new thinking to break [them] down.”⁹⁹ Certainly, airmen by themselves cannot change governing agreements and policies, but the three air forces can advocate modification. Although the DOD has issued guidance specifying the need to remove barriers to effective information sharing, Colonel Vogelhut cautions that it is “difficult and time consuming work, which does not support rapid modifications.”¹⁰⁰ Changing cultures, mind-sets, and—eventually—policies will take time, much like the time necessary to build the friendships that General Breedlove discusses above. However, because of declining budgets, the effective delivery of airpower in the new strategic environment will increasingly depend on our ability to command and control operations efficiently and share sensitive information within an assembled coalition.

Conclusion

But there are also unknown unknowns—the ones we don't know we don't know.

—Secretary of Defense Donald Rumsfeld, 2002

The rapid call received by airpower to intervene in Libya is likely a harbinger of future conflicts. According to an interim update to the 2008 French white paper on defense, globalization has brought us into a period of “strategic uncertainty.”¹⁰¹ The French white paper called it an “uncertain, less predictable world,” characterized by the “rapid spread of all kinds of crises.”¹⁰² According to Mr. Hammond, the future security environment is “unpredictable [and] and volatile”; moreover, “no country, not even the United States, can hope to tackle successfully all the threats we face in common, by acting alone.”¹⁰³ This echoes what Eisenhower and Macmillan jointly declared a half century ago: “It is not within the capacity of each nation acting alone to make itself fully secure. Only collective measures will suffice. . . . If the free nations are steadfast, and if they utilize their resources in harmonious cooperation the totalitarian menace that now confronts them will in good time recede.”¹⁰⁴

Operations in Libya proved successful—and coalition partners should take pride in airpower’s accomplishments—but, as Pixar cofounder Ed Catmull often says, “Success hides problems.”¹⁰⁵ Strategic engagement among the three air forces demands addressing the hindrances to seamless coalition operations with the same entrepreneurial spirit found in successful Silicon Valley companies. This “new thinking” is essential. In an era of declining resources and a geostrategic pivoting of the United States’ focus toward Asia, more will be expected of Alliance partners, and—more than ever—we will need to operate as an integrated team.

To meet the challenges of this new strategic environment, the road map for building partnership capacity underscores the importance of

dynamic partnerships as emphasis shifts from the US military's performing tasks to building that capacity.¹⁰⁶ In the same spirit of cooperation witnessed after the Second World War, airmen can use the Libyan experience to further the chiefs' vision of an increased level of interdependence. The Libyan operation proved that we are following the right vector, but difficult work remains. We need to face the "strategic uncertainty"—or the unknown unknowns—together, led by the motivated and capable airmen from the US Air Force, the Armée de l'air, and the Royal Air Force. ✪

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