

AIR POWER

SPRING 2015 - Volume 62, Number 1
WWW.AFHISTORICALFOUNDATION.ORG

History



Call For Papers

Violent Skies: The Air War Over Vietnam

A Symposium Proposed for October 2015

Four military service historical foundations—the Air Force Historical Foundation, the Army Historical Foundation, the Marine Corps Heritage Foundation, and the Naval Historical Foundation—recognize that a half century has passed since the United States became militarily engaged in Southeast Asia, and hope to sponsor a series of conferences involving scholars and veterans, aimed at exploring aspects and consequences of what once was known as America's Longest War.



For the first conference in the series, since all military services employed their combat aircraft capabilities in that conflict, the leaders of the four nonprofit organizations agree that the air war over Southeast Asia offers a compelling joint topic for reflective examination and discussion. The intent is to host a symposium on this subject in the national capital region on Thursday and Friday, October 15 and 16, 2015, potentially extending into Saturday, October 17. Other stakeholder organizations will be approached to join as co-sponsors of this event.

The organizers of the symposium envision plenary and concurrent sessions to accommodate a wide variety of topics and issues. Panel participants will be allotted 20 minutes to present their research or discuss their experiences. A panel chair will be assigned to provide commentary and moderate discussion. Commenters from academia, veterans, Vietnamese émigrés, and scholars from the region may be invited to provide additional insights.

Panel/Paper proposals may employ both chronological and topical approaches: Examples of chronological subjects can include: U.S. air support in the early years; The Gulf of Tonkin Resolution and American escalation; the Rolling Thunder campaign; Tet and its aftermath; concluding combat operations to include aerial mining and Linebacker operations; and evacuation operations in 1975.

Topical proposals could include political and military leadership and decision making; recognition of individual service and sacrifice; joint service coordination; organizational command infrastructures; the rules of engagement; aircraft and armament capabilities; close air support; air mobility; airlift and logistical support; search and rescue; aeromedical evacuation; air-to-air combat; air defense challenges; air interdiction efforts; the prisoner of war experience; media coverage and public opinion; basing at sea and on land; training and advisory missions; air reconnaissance and intelligence operations; South Vietnamese/allied nation/other organizations (eg. CIA) air operations; ethical and legal considerations; and environmental impact.

Those proposing a symposium presentation shall submit a 250 to 400 word paper abstract and a curriculum vitae /or short autobiography to Dr. David F. Winkler of the Naval Historical Foundation (dwin-kler@navyhistory.org) not later than April 30, 2015. Panel proposals will be welcomed with a panel objective statement added to the submission of paper abstracts and C.V./bios.



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I would like to thank the leadership of the Air Force Historical Foundation for the trust they have shown in naming me editor of *Air Power History*. Although I have been working with the magazine since 1993, I feel honored by the new title. I also want to thank my predecessor, Jack Neufeld, for his guidance and willingness to remain as Editor Emeritus.

I would very much like to continue the trend of producing a quality publication, so please, all of you, keep submitting the terrific articles that have marked the last twenty years. We can't keep our readers happy without your help.

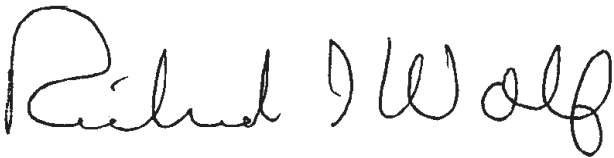
We also would like to put in a plug for the Fall 2015 Symposium, which has a Call for Papers on the inside front cover. Be sure to look it over and put it on your calendar.

This issue contains four articles for your consideration. Our prolific British contributor, A.D. Harvey, has produced another fine piece, this time on the state of British military air transport at the start of World War II. This is followed by another repeat author, Darrell Dvorak, and his article on Col. Cliff Heflin and his "Carpetbaggers" in World War II. Our third article is by a first-time contributor, Trevor Albertson, and is exploration of Gen. Curtis E. LeMay and his nuclear policy in the 1950s. Our last article is by Scott Martin, and discusses the contributions of intelligence to nuclear operations, both before and after the nuclear weapon transfer incident in 2007. Some of these may stimulate comments, so feel free to email those letters to the editor.

Of course, we have our usual complement of fine book reviews, twenty this time (covering twenty-one books) ably edited by Scott Willey. Be sure to look at page 61 to see if there is a book you would like to review, and contact Scott.

This issue marks a new era of the "History Mystery," which is no longer being edited by Robert Dorr. Long-time contributor Dan Simonsen has taken over the task, and it is not going to be centered on aircraft technology, but on air power history in general. Be sure to take a look at page 64.

Finally, feel free to email me at the address listed on page 2, if you have comments or suggestions. I will read them all, and adopt those things I find helpful. Be sure to look at the President's Message on pages 4 and 5, where you will find the Annual Report. The bottom line is, we can use your help, so don't hang back. Contact us with your ideas, we are open to suggestions. And let me know how you like this initial effort.



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From the President

Dear Members:

Annual Report to the Membership

As always, let me thank you for the part each of you has played in the history and legacy of *Air Power* across the decades, and for your generous contributions to the Foundation. Without your support we could not survive. We are deeply grateful. My purpose in writing you is to inform you of our activities of this past year, where we stand financially, and where we intend to take the Foundation in 2015.



Activities

We conducted two important events this past year, produced a unique publication, and updated an old one for a new printing. Numerous updates have been to our electronic communications and website as well. Our most important communication to you concerns this year's celebration of the Foundation's 60th Anniversary. We paid homage to the history of aviation with a July 9th gala at the Army and Navy Country Club in Arlington, Virginia, featuring our honored guest the legendary Mr. Bob Hoover, the "pilot's pilot." Bob regaled us with great stories of early aviation, and his unique experiences in World War II and as a test pilot during the formative years of our Air Force. Guests in attendance were also treated to the initial distribution of our 60th Anniversary Commemorative edition of *Air Power History*, sure to be a collector's item in the future. This commemorative edition features articles from the near and far past, as well as some notable writings from senior leaders, historians of note, and *Air Power* enthusiasts.

On October 8th, we honored our 2014 award winners. In a beautiful ceremony at the Air Force Memorial, we presented the 2014 Doolittle Award to the 19th Airlift Wing, Little Rock AFB, Arkansas, for their superlative record in World War II, Korea, and the more recent conflicts. Later that evening at the Awards Banquet we presented the Holley Award for a lifetime of documenting history to Colonel Walter J. Boyne, USAF (Ret.). Our most prestigious General Carl A. Spaatz Award was presented to General Lloyd "Fig" Newton, USAF (Ret.) for a lifetime of making Air Force history. We also recognized several individuals who had been selected as standouts in historical writing. We were graced at the dinner by the presence of five of the original Tuskegee Airmen.

As noted, we took the opportunity of our 60th anniversary to issue a special edition of *Air Power History*, which featured a collection of *Air Power History* articles spanning the full historical range of conflicts and challenges. Writings by multiple Air Forces chiefs of staff were included. If you haven't already received a copy, please contact us by phone or email: 301.736.1959 – www.afhistoricalfoundation.org. Our very popular *The Air Force* coffee table book has just been reprinted again, which helps promote awareness of the Foundation. We have copies of the original 2002 version available at the office at reduced pricing.

You might have noticed that we have been actively working various electronic means of outreach to inform our membership and to attract new members. One of the most popular of these is our daily "This Day in Air Force History" email, which is disseminated to approximately 400 recipients. Short recaps of historical events are delivered in an easy to read format, which many find useful as conversation starters or speech introductions. Most recently we have added pictures to enhance the presentation. Please advise us if you would like to be added to the list. A number of changes have been made to changes to the Foundation web page. We are now publishing the list of books that are available for review, which has stimulated great interest in this valuable Foundation service. A "Wall of Memory" has been added to permit members and others to post a memorial in honor of a loved one, wingman, or group for a small donation.

Financial Report

The Foundation continues to struggle financially. We have done much in the past several years to reduce costs and increase revenues, but the loss of the Air Force contract for printing and distributing 3,800 copies of *Air Power History* each edition is still very problematic for us. Additionally, the concurrent defense industry belt tightening due to sequestration could not have come at a worse time. We currently run at a loss, which we have been making up by the income generated from our investment revenues. Here is an average of our income and expenses over the past two years:

Revenues

Membership Dues	\$34,000
Member Donations	\$23,500
Events, Net	\$6,000
Sponsorships	\$17,500
Other	\$6,000
Total Revenue, Net	\$87,000

Expenses

Air Power History	\$45,000
Salaries and Taxes	\$75,000
Office and Administration	\$15,000
Communications	\$11,000
Total Expenses	\$146,000

These shortfalls are made up by drawing funds from our investment accounts, something we obviously cannot do forever. With all honest reckoning we have but two years remaining before they are depleted, and must consider closing the doors. In spite of this, we fight on with various initiatives to keep ourselves afloat (see **Future**, below). The bottom line: we need to develop new programs to increase membership, stimulate contributions from sponsors, and rekindle the Air Force relationship.

The Future

The Foundation's future depends on adoption of the financial initiatives that develop into revenues—plain and simple. On the expense side, we are taking steps to reduce salaries and the cost of producing *Air Power History*. We believe we can do both of these with no decrease in quality or output. On the revenue side we are working on several that we feel can bear fruit. First, we hope to offer an attractive corporate or organizational membership using various methodologies, providing them a valuable means of communicating their messages. We must do this in a way that enhances our own image in the process. Secondly, we have proven that we can attract sufficient support to conduct our major events profitably. We plan to expand the number of these events by incorporating so-called speaker's lunches at various venues in the DC market. We also hope to expand sponsorship of our highly successful daily emails. Finally, we continue our outreach to senior Air Force officials to stimulate their interest in exposing their ranks to the Foundation and *Air Power History*.

Speaking of *Air Power History*, we said good bye to longtime editor, Jack Neufeld. Jack retired following the winter issue after 21 years in this leadership position. We welcomed our new editor Richard Wolf, who is committed to maintaining the standard of excellence of the past and helping move us forward in serving our membership and keeping us relevant as stewards of *Air Power* legacy.

Summary

We at the Foundation are fighting hard to right the ship and put ourselves on a sustainable financial footing. We believe in the Foundation and its value both to Air Force leadership and the public at large. If I may, please allow me to restate our feelings concerning the Foundation and its primary educational service:

The Essence of AFHF and Air Power History

"When poring through the past issues, one is both amazed and comforted that virtually every aspect of the Air Force has been covered: the men, the machines, the planning, the effort, the dollars spent, the failures, the successes. Carefully researched, peer reviewed, this literature stands the test of time. Absolutely unique among the service branches, it has earned its reputation as a repository of thought. If the Air Force did not already have Air Power History and its support organization, the Air Force Historical Foundation, they would have to be invented."

Happy 2015!



Dale W. Meyerrose, Maj Gen, USAF (Ret)
President and Chairman of the Board

A Slow Start: Military Air Transport at the Beginning of the Second World War





A.D. Harvey

IT IS...A
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P erhaps the greatest leap forward in the application of air power during the Second World War was in air transport. The bombing of civilian targets during the years from 1939 to 1945 represented a progression in scale—from three figure death tolls to five figure death tolls—rather than a progression in kind from what was achieved in the First World War, and the jury is still out as to the question of strategic bombing's true contribution to Allied victory in 1945. Apart from the dropping of eight tons of food and a seventy-pound millstone for the besieged garrison at Kut in April 1916, and the attempt to fly fifteen tons of arms, ammunition and medical supplies from Jamboli in Bulgaria to what is now Tanzania in the Zeppelin L59 in November 1917, the First World War was fought without recourse to aviation as a means of transportation. The only senior officer or official to die in an air accident in that period was Lt. Gen. J. P. Michielsens, commander of the army in the Netherlands East Indies, killed in a seaplane crash on February 14, 1916, whereas during the Second World War air accidents accounted for scores of key personnel, including the head of the Polish government in exile, the German minister of armaments, three Australian cabinet ministers, a German field marshal and the commander of Japan's Combined Fleet.¹ And of course it was not just a matter of key personnel travelling by air: between February 20 and April 21, 1942, 64,844 tonnes of supplies and 35,000 men were flown into the Demynansk Pocket on the Eastern front, in 33,086 flights, this being only one of a number of similar operations carried out in World War II. Yet they were all dwarfed by the Berlin Airlift later in the decade, when 2,343,313 tons of supplies were flown into the former German capital in defiance of the Soviet blockade, in aircraft for the most part piloted by men trained during World War II.² Since then there has been no question that transport aircraft are a vital component of air power, and it seems likely that it is the one aspect of military aviation that may have the same importance and the same characteristics in the 2040s and even the 2140s as it had in the 1940s.

It is therefore something of a paradox that on the eve of World War II, air transport for military purposes was regarded as relevant only to the garrisoning of colonial territories, except in Germany where it had been taken up with enthusiasm but applied chiefly to a type of operation that was to prove barely practicable.

A policy paper written early in 1921, by Air Marshal Sir Hugh Trenchard, the Chief of Air Staff (i.e. the professional head of Britain's Royal Air Force) devoted almost a whole page out of seven to "Garrisons in Partly Civilised Countries," making reference to recent disturbances in Mesopotamia and Waziristan.³ This paper shows that even in its

early days the Royal Air Force recognized that it had other tasks besides strategic bombing, despite the importance given to the latter then and later. In fact the RAF invested significantly in aircraft types specifically intended for use in overseas garrisons, notably the Vickers Wellesley bomber and a succession of long-range flying boat types culminating in the Short Sunderland.⁴ The transport aircraft purchased between the wars by the RAF were all intended for use in the Middle East and India; they were also intended to double as bombers, and in fact the squadrons they were assigned to were typically designated as "Bomber Squadrons" during the 1920s, only becoming "Bomber Transport Squadrons" about 1930. The aircraft type in question at this time was the Vickers Victoria twin-engined biplane, which dated back to 1922. In the mid-1930s the Victoria's Napier Lion motors were replaced by Bristol Pegasus motors and the aircraft was renamed the Valentia, fifty-four being converted to Valentia standard from Victorias and twenty-eight being built as Valentias. At the outbreak of war in September 1939, the Valentia equipped three RAF squadrons, No. 30 based at Lahore, No. 70 based at Habbinye in Iraq and No. 216 based at Heliopolis just outside Cairo. Some of No. 216 squadron's Valentias were soon afterward replaced by a mono-plane type, the Bristol Bombay, which was fifty per cent faster and of which the RAF had purchased fifty-one, before apparently relegating them to storage units: in August 1940, there were twenty-one Bombays in England but only three of them had engines.⁵ The Bombay and the Valentia were the only transport aircraft in RAF service in the first months of the war, though there were also available—again mainly in storage units—a number of Handley Page Harrows, a version of an aeroplane designed to compete with the Bombay for the RAF's contract for a bomber transport; it had been ordered as a stop-gap in 1935, when the target for the expansion of Britain's bomber force had been raised from forty-one to sixty-three squadrons.⁶ The Harrow had been issued to five bomber squadrons, but by the outbreak of war had been replaced by the much superior Vickers Wellington; a hundred had been purchased but by August 1939, when the possibility was discussed of allocating them to Imperial Airways, to serve as mail planes between Egypt and Kenya and Egypt and India, only seventy-five were said to exist.⁷

Though originally designated as a heavy bomber, the Harrow never saw action as a bomber, though in December 1940, it was issued to No. 93 Squadron, pending re-equipment with Douglas DB-7s, to carry out experiments in dropping aerial mines in front of German night bombers attacking London. A number of Harrows were used to ferry personnel and equipment between aerodromes. In

Since 1990 A. D. Harvey has contributed more than a dozen articles on air warfare to publications such as *Journal of Contemporary History*, *War in History*, *RUSI Journal*, *Air Power History*, and *BBC History Magazine*. Various aspects of air warfare are also discussed in his two books *Collision of Empires: Britain in Three World Wars 1793-1945* (1992) and *Arnhem* (2001).



Handley Page Harrow.

THE ITALIAN REGIA AERONAUTICA SEEMS TO HAVE BEEN BETTER PREPARED FOR THE TRANSPORTATION NEEDS OF THE WAR.

August 1941, the fifteen currently operational represented nearly half of the RAF's strength in transport aircraft, and more than half the RAF's freight carrying capacity, but later they were fitted for casualty- evacuation duties; seven were destroyed on the ground at Evère, on January 1, 1945, when the *Luftwaffe* in its last major offensive attacked allied airbases in Belgium and the Netherlands.⁸ The Bombay, on the other hand, though celebrated as "the only aeroplane in service which was built specifically for troop transport," did see action as a bomber. While No. 216 Squadron's Valentias continued to serve in the transport role for the first six months of the fighting in North Africa, the squadron's Bombays were used to bomb targets in Libya. This was mainly in ones and twos, an attack by ten Bombays being prepared on the first day after Italy's entry into the war having been called off, but on July 14, 1940, and again on September 20, 1940, six Bombays were dispatched to raid Tobruk, dropping a total of five and one-half tons of bombs each time.⁹ Later Bombays helped supply the various staging posts across sub-Saharan Africa on the route by which replacement aircraft were ferried to Egypt from Takoradi, in what is now Ghana. In 1942, it was a Bombay that was carrying General W.H.E. Gott, the designated commander of Britain's Eighth Army in Egypt, when he was shot down: Gott was killed when the German fighter strafed the wrecked aircraft on the ground, thus making way for Gen. Bernard L. Montgomery to take over the Eighth Army and become the most famous British general of the war.

A possible advance on the Bombay had been the De Havilland Hertfordshire, the military version of the Flamingo civil airliner. The RAF ordered forty of these aircraft in 1939, but later cancelled

the order so that De Havilland could concentrate on building the Tiger Moth elementary trainer. The only Hertfordshire actually built crashed on October 23, 1940. It is a measure of how ill prepared the RAF was for long-distance warfare that in the summer of 1941, the Bombays supplying the Takoradi route were supplemented by ex-Yugoslav Air Force Savoia Marchetti S.79K bombers flown by Yugoslavs who had escaped when Germany overran their country.¹⁰ Savoia Marchetti trimotors—in this case S.83s, the civilian version of the S.79—had earlier featured in the airlift improvised by the RAF in late May 1940, to maintain squadrons in France when two S.83s of the Belgian airline Sabena, plus a Douglas DC-3 (probably a KLM machine that had escaped from the Netherlands) and five Armstrong Whitworth Ensign airliners requisitioned from the newly formed British Overseas Airways Corporation had made a supply run from Croydon airport to Merville.¹¹ Soon afterwards, two, later three, lumbering Handley Page HP 42 biplanes, formerly regarded as the last word in airliner comfort, two were pressed into service to supply, and later evacuate, RAF units in France.¹² The largest biplane ever to serve in a combat zone, and so slow that it was said to remain stationary in a strong head wind, the HP 42 must rate as one of the most unsuitable aircraft operated by a major air force in World War II.

The Italian *Regia Aeronautica* seems to have been better prepared for the transportation needs of the war. When Italy came in on Germany's side the majority of the bomber aircraft in Italy's East African empire were Caproni Ca 133 trimotors, which with a top speed of only 174 mph would have seemed negligible as a combat aircraft, except that its STOL capabilities fitted it perfectly for the small airstrips of the



Savoia Marchetti S.82.

**THE FRENCH
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IN THEIR
COLONIES**

Ethiopian highlands: though often employed on courier and liaison duties it has the distinction of being involved in World War II's best documented instance of ground troops being stopped in their tracks by air bombing, the failed attack by 10th Indian Brigade under Brigadier W. J. Slim at Galabat on November 7, 1940.¹³ It also with half a dozen of the civilian version, the Caproni Ca 148, made up the majority of aircraft assigned to the region's air transport unit.¹⁴ The Italians had also given attention to the problem of supply over what at the time were regarded as extreme distances: between July 1940 and March 1941, Savoia Marchetti S.82 bomber transports carried out 330 eighteen-hour flights from Benghazi to East Africa, carrying 1,245 troops, 525 civilians, 81 tonnes of mail, nearly 240 tonnes of other supplies, 51 dismantled Fiat C.R. 42 fighters and 15 spare engines. This was basically a wasted effort, since the British overran Mussolini's East African empire anyway, but one that no other air force of that time could have attempted.¹⁵

Curiously enough, the French seem to have given much less attention to the issue of air transport in their colonies than either Britain or Italy. Only three examples of the Potez 540 T0E, the colonial version of the Potez 540 bomber, were built and apart from a small number of standard Potez 540s retired from bomber units there were no other military landplanes stationed abroad capable of carrying substantial loads either of personnel or of freight: it was only in September 1940, after France's surrender, that the *Armée de l'Air* established its first dedicated transport units. This may have been because Algeria and also Morocco and Tunisia, which were French protectorates, were in effect included in the deployment of the aerial resources of Metropolitan France, and sub-Saharan Africa required a much lower level of military investment; the transport requirements of Vietnam and Cambodia could be more or less covered by river traffic. The French case is worth citing as it provides some sort of context for the barely adequate arrangements made by the British.

The French were however ahead of the British in the development of airborne fighting troops. Whereas the British only began to invest in parachute and glider-borne troops after the Germans had demonstrated their effectiveness in Belgium and the Netherlands in May 1940, the French established two *Troupes Aéro-Portées* in 1937, assigning to them fifteen Potez 650s (the military version of the Potez 62 airliner) purchased specifically for the purpose and six Farman 224 airliners.¹⁶ (After the fall of France and the dissolution of the *Troupes Aéro-Portées*, these aircraft formed the nucleus of the transport fleet assembled to ferry supplies to Syria during the British invasion in 1941). Italy too raised two battalions of parachute troops in 1938: but the real leaders in the field were Russia and Germany.

As early as 1931 the Russians were training parachute infantry and had established an air-landing detachment comprising about 200 men, two tankettes, and two 76mm guns to be transported in Tupolev TB-1 bombers. By 1935, Soviet officials were claiming that in one exercise 1,200 troops had landed by parachute and a further 2,500 had been flown in by aircraft and that in another exercise 1,800 had parachuted in and 5,300 had been landed by aircraft. Small parties of parachutists were dropped behind the Finnish lines in the Winter War of November 1939-March 1940, and nine brigades were air-dropped during the more or less peaceful occupation of Bessarabia in 1940.¹⁷ Later, after the German invasion of Russia, the Soviet Union made extensive use of parachute troops to reinforce sectors of the front line, though interestingly enough they seem to have lost interest in air-landing—i.e. bringing in troops in aircraft that landed in the combat zone—perhaps because their reserves of the obsolete TB-1 and TB-3 bombers used as troop transports were too exiguous to afford the heavy losses air-landing operations could involve.

Germany began to develop airborne units from 1936 onwards and, uniquely, combined this with a really large-scale expansion of air transport capacity. The initial impetus for this came from General

IT IS SOMETHING OF A MYSTERY WHY IT WAS THAT THE JU 52/3M WAS ADOPTED AS THE LUFT-WAFFE'S STANDARD TRANSPORT

Walter Wever, the Chief of Staff of the *Luftwaffe*, but the idea was taken up with enthusiasm by Hermann Göring, the head of the *Luftwaffe* but also the second most influential figure in the Nazi regime. On becoming Minister of the Interior in Prussia in January 1933, Göring had set up a special police unit, *Polizeiabteilung Wecke*, ostensibly as an anti-communist and honor guard detachment but in practice the nucleus of a private army to rival Himmler's SS: by October 1934, it was three battalions strong. In October 1935, under the designation the General Göring Regiment, it was assigned to the *Luftwaffe*. Selected personnel began parachute training some months later.¹⁸ It was of course due to Göring's political clout that both airborne troops and anti-aircraft units were part of Germany's air force, rather than part of the land army as in other countries. By 1938, the *Luftwaffe* had two parachute battalions and, in addition, the army's 22nd Infantry Division was permanently assigned to the air-landing role.¹⁹ At the same time there was a massive investment in aircraft intended for the task of carrying these troops into battle. It was later claimed by the British Royal Air Force's Director of Military Cooperation that the *Luftwaffe*, having initially equipped its bomber units with "passenger type aircraft," possessed, when these were replaced by newer types, a surplus of, "suitable types for troop carrying. . . without recourse to special manufacture and without depriving the bomber forces of front-line bombers."²⁰ In reality the 450 Junkers Ju 52/3m g3e's—the "passenger type aircraft" referred to—supplied to *Luftwaffe* bomber units by the end of September 1935, made up only a small proportion of the transport aircraft available to the *Luftwaffe* in 1939. Whereas the United Kingdom manufactured no military transport aircraft after the completion of the small contracts for Valentias and Bombays until 1943, Germany produced 1,037 in 1939, 763 in 1940 and 961 in 1941. The 1939 figure represented 12.5 percent of that year's total production of military aircraft.²¹ Almost all of these military transports were later models of the Ju 52/3m.

It is something of a mystery why it was that the Ju 52/3m was adopted as the *Luftwaffe's* standard transport and vehicle for delivering airborne troops. One of the types that replaced it in the bomber role, the Junkers Ju 86, was phased out of frontline service in 1938 and it too was a "passenger type aircraft"—in fact the only Ju 86s to see action as bombers in the Second World War were ones built as airliners and sold to South Africa; these were pressed into service as bombers in the campaign East Africa in 1940-41. Perhaps because it was more modern and therefore more like the type of aircraft in frontline service, it was relegated by the *Luftwaffe* to crew training and only utilized as a transport during the emergency airlifts at Demyansk and Stalingrad. In the Stalingrad airlift two *Gruppen* of Ju 86's normally serving with the flying schools, *K.Gr.z.b.V.21* and *K.Gr.z.b.V.22*, were employed alongside ten *Gruppen* of Ju 52/3m, forty-two Ju 86s being lost as compared to 266 Ju 52/3ms.²² Hungary which had acquired sixty-six Ju

86K bombers and Sweden, which had acquired fifty-five, also used the type as a transport when it became obsolete as a bomber.²³ It seems unlikely that in its selection as the *Luftwaffe's* principal transport plane the Ju 52/3m received any preference on account of its most celebrated pre-war exploit, the ferrying of over 13,000 Moroccan troops and 270 tons of equipment across the Straits of Gibraltar between July 28 and October 11, 1936, in the opening phase of the Spanish Civil War.²⁴ The ten aircraft used were not military, but airliners belonging to *Lufthansa* (stripped of their seats) and operated by *Lufthansa* crews. This pioneer airlift was chiefly unusual for the short distances involved (basically a hop across the Straits requiring forty minutes flying time) and for the fact that it was extended over nearly eleven weeks. During the best week of the airlift, August 10-16, 1936, 2,853 troops and eight tons of equipment were carried: the year before the Russians had transported 1,800 paratroops and 5,800 other troops in an exercise of which the duration in unrecorded but which is unlikely to have lasted as long as two weeks.²⁵ Bearing in mind the short distances involved in the Spanish airlift, and the fact that the Moroccan troops were crammed into the aircraft thirty-five at a time, with nowhere to sit but the floor, even the RAF might have been able to do as well, if it had been necessary: in May 1932, during a Kurdish uprising in Northern Iraq, Victorias of No. 70 Squadron RAF moved 1,596 personnel but also carried out thirty-nine bombing and six reconnaissance missions, mostly involving flights of several hours.²⁶

The fact that the *Luftwaffe* had more dedicated transport aircraft than all the other major air forces put together is a striking example of what can perhaps be called the *asymmetry* of air forces, as regards equipment, in 1939. One might assume that one major air force would have approximately the same percentage of aircraft deployed for a particular role as any other major air force, but this is not the case. In 1940, the *Luftwaffe* deployed slightly more twin-engine bombers than single-seat fighters, and the Italian *Regia Aeronautica* considerably more bombers than fighters. The French *Armée de l'Air*, caught in the throes of re-equipping, fielded relatively few bombers in May 1940, but in any case the re-equipment programme in force till the month before (Plan V) envisaged 1,081 fighters but only 876 bombers. On the other hand the British Royal Air Force's scheme M, due to be achieved by the end of March 1940, envisaged 1,352 bombers and only 640 fighters.²⁷ Again both the *Luftwaffe* and the *Armée de l'Air* assigned short-range reconnaissance/army co-operation aircraft to corps and armoured divisions (also, in the French army, to cavalry divisions), but the French units (*groupes*) had twice as many aircraft as the German *Staffeln* and were to a great extent newly equipped with the Potez 63.11 which was forty mph faster than the Henschel Hs 126 equipping German *Nahaufklärungstaffeln*, and carried more machine guns and a heavier bomb-load.²⁸ Neither the Potez 63.11 (formidable only in the absence of aerial opposition) nor



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the Henschel Hs 126 fared at all well against enemy fighters, and the *Regia Aeronautica* had an equally useless variation from the norm in possessing a strong force of seaplanes and flying boats deployed as maritime bombers. The *Luftwaffe's* uniquely powerful transport arm differed from other equipment asymmetries only in that it can probably be attributed not to the deliberations of staff committees but to the conception and ambition of a single man, or at most two men: Hermann Göring, but also possibly Erhard Milch, Göring's No. 2 at the Air Ministry. The official designation of the *Luftwaffe's* transport units, incidentally, was as bomber units "for special purposes"—*zur besonderen Verwendung*—e.g. *Kampfgeschwader z.b.V.1* consisted of four *Kampfgruppen z.b.V.s*. *Zur besonderen Verwendung* was frequently used by the Nazis for organizations whose purpose was still under consideration.

Developments in Germany had not of course passed unnoticed in Britain.²⁹ There was however no discussion of whether Britain should follow the example of Germany (and Russia, France and Italy) and invest, if only on a small scale, in developing airborne forces: consequently there is no official record of why it was decided not to bother. A book entitled *Britain's Wonderful Fighting Forces* by World War One veteran Captain Ellison Hawks, published on the eve of the German airborne assault on the Netherlands and clearly written with the full co-operation of the army, RAF and the Royal Navy, provides a clue. A photograph of sixteen soldiers in a Bristol Bombay, most of them looking nervously out of the windows over their shoulders, has a caption explaining that troop carrying operations were of special value in guerilla warfare in country in which normal transport could not operate. On the previous page there is a brief discussion of the use of parachute troops where it was argued:³⁰

To be successful, such an operation would require to be carried out on a large scale. . . it is unlikely that the large number of machines required for the operation would be unmolested by enemy aircraft. Even if the troop carriers succeeded in releasing the men with their parachutes, the men would undoubtedly be fired upon while floating defencelessly to the

ground. Immediate attack on the survivors would prevent the parachutists from becoming organized when they reached the ground. In a war in which strong opposing air forces were engaged, the troop carriers, if used as bombers, would do far more effective damage than the few troops they could successfully and securely drop behind the enemy lines.

This analysis was by no means lacking in prescience; in particular Hawks's skepticism regarding the effectiveness of parachute troops in the first few minutes after landing had additional justification in that whereas British parachute troops later used a harness that enabled the parachute to be steered to some extent, German parachutists had their parachutes attached to the middle of their back and had no control over it whatsoever, and were therefore quite likely to land widely separated; moreover, whereas British parachutists later jumped with their weapons in a bag dangling below their feet, and only had to worry about finding a particular colleague if they had part of a weapon like a three-inch mortar or a tripod-mounted machine gun that was dropped in separate parts with different members of its operating team, German parachutists jumped only with an automatic pistol, their rifles being dropped in containers separately and perhaps some distance away, or in a tree. There is in fact no record of how many German parachutists were killed or captured before they ever found their weapons and the other men of their unit, though it was probably a significant number: but the whole issue is a good illustration of how the British military tended to hamper itself with conservative margins while the German military preferred to think in terms of what might be risked for a decisive object.

In April and May 1940, the German airborne forces risked and, more or less, won. On April 9, 1940, in the first phase of the Nazi assault on Denmark and Norway, a *Luftwaffe* parachute platoon seized Aalborg aerodrome in Northern Denmark while two other platoons descended to seize the Vordingborg Bridge between Falster and Zealand. Two *Luftwaffe* parachute companies seized Fornebu aerodrome near Oslo, with troops of *Infanterieregiment 342* being landed shortly after-



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wards. Another parachute company seized Sola airfield outside Stavanger, with Ju 52/3ms carrying troops of *Infanterieregiment 193* beginning to touch down within ten minutes of the parachutists establishing control of the airfield perimeter.³¹ The Danes, taken by surprise, can hardly be said to have put up a struggle; the Norwegians resisted gallantly but the fighting during the subsequent weeks was dominated by the fact that the Germans, in securing the airfields, had secured command of the air.

A comparable success was achieved in Belgium on May 10, 1940, when glider-borne troops seized the fortress of Eben Emael and three bridges across the Albert Canal, thus clearing the way for a full scale invasion of Belgium by ground troops. A simultaneous attempt to achieve instantaneous victory over the Netherlands by a combination of parachute assault, air-landing, and invasion across the country's eastern border came close to disaster. The attempt to seize the Dutch Royal Family with fifty parachutists and a company of *Infanterieregiment 16* air-landed in Heinkel He 59 seaplanes (normally used by air sea rescue) was foiled, and attacks by parachutists on airfields in the neighbourhood of Rotterdam were thrown back by the Dutch army: even when these airfields were captured Rotterdam itself held out till after the capitulation of the Dutch army on May 14. Parachutists succeeded in seizing a vital bridge in Dordrecht, only to be driven off by the Dutch. Great things had been expected of the squadron of Henschel Hs 126 reconnaissance aircraft attached to the parachute force, but this suffered heavy losses, including its commander, in the first hours of the assault.³² It is probably not too much to say that the airborne assault was saved by the advance of ground troops from the east. Over 200 of the 450 Ju 52/3ms employed were shot down or destroyed on the ground, often with the loss of those on board; for example of thirty-six Ju 52/3ms of *K. Gr. z.b.V. 12* landing at Ypenburg early on the morning of May 10, 1940, thirteen crash landed with the loss of 206 out of 209 lives.³³ The Luftwaffe also lost ninety-five of the bomber and fighter aircraft assigned to support the attack on the Netherlands.³⁴

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The huge losses of Ju 52/3ms on May 10—equivalent to total *Luftwaffe* combat losses on the worst *three* days of the Battle of Britain—prompt some attempt at explanation. Despite German attacks on Dutch airbases, forty-eight *Luchtvaartafdeling* Fokker D.XX1 and Fokker G.1a fighters and Northrop DB 8A attack aircraft acting as interceptors were in action on May 10 but only a few of the thirty German aircraft claimed destroyed in air combat were Ju 52/3ms.³⁵ The Dutch also had anti-aircraft guns—eight-four relatively modern 75 mm, thirty-nine elderly 60 mm, seven 100 mm and 232 quick-firing 20 and 40 mm—though the British assistant air attaché at the Hague reported afterwards, “The heavy A.A. gun fire was frightfully inaccurate and I very much doubt that any of the German machines were brought down by it.”³⁶ Actually more than two thirds of the 46 German twin-engined bombers lost over the Netherlands must have been brought down by anti-aircraft fire, as they were not claimed by Dutch pilots and were flying too high to have been affected by small arms fire from infantry units.³⁷ Most of the anti-aircraft guns were not in the vicinity of German attempts to land airborne troops however, but were stationed near key targets like Amsterdam or in the vicinity of the eastern border. A number of Ju 52/3ms were destroyed by bombs dropped by *Luchtvaartafdeling* Fokker T.Vs at Ockenburg, and Waalhaven.³⁸ Others no doubt were caught up in the fighting on the perimeter of the landing fields—the British assistant air attaché at the Hague was told that fourteen had been captured intact, so it is likely that others were captured in a wrecked condition.³⁹ But perhaps as many as 150 fell victim to middle-distance fire from Dutch infantry: in the last moments of their landing approach, while touching down, and while taxiing to a suitable place clear of the main runways in order to discharge their loads, these aircraft were almost ludicrously vulnerable to machine gun fire.

The RAF's Group Captain R.V. Goddard grasped the main point (if not the precise details) when he wrote in September 1940, “the operation of

landing troops by air proved to be so costly that it is doubtful whether the same tactics could be employed again where there is any substantial air force opposition.”⁴⁰ In December 1940 Goddard, by now appointed the RAF’s Director of Military Co-operation, laid it down as a principle that “the landing of air transport aeroplanes (probably in our case, chiefly modern bombers) in a defended enemy territory has proved to be and is likely to continue to be highly wasteful [and] can hardly be adopted for large scale operations” and that parachute landings were such an inefficient and costly method of employing aeroplanes and deploying troops that “until aircraft, pilots and trained parachutists are superabundant,” their use should be confined to “minor operations.”⁴¹ On the other hand Goddard anticipated that “major airborne forces can, in suitable conditions, be carried and landed safely and compactly by towed gliders.”⁴² In the event the hope of training 500 parachutists and 360 glider pilots by the spring of 1941, was thwarted by the lack of resources, including a shortage of Armstrong

Whitworth Whitley bombers (the only aircraft type currently in production that could be used for transporting troops) which were still required by bomber command.⁴³

The Germans of course were less cautious, losing another 151 Ju 52/3ms, with many of the troops on board, in the otherwise successful attack on Crete in May 1941. Thereafter, if we discount the large scale employment of airborne troops by the British and Americans in Burma, Normandy and the southern Netherlands in 1944, all of which operations were of questionable strategic value, air transport may be seen to have finally come into its own in the more mundane role of ferrying supplies and to a lesser extent passengers between airfields some distance from the enemy’s guns. In 1940 only the *Luftwaffe* would have been capable of carrying out this task on any significant scale, though this was clearly not what Göring had in mind.⁴⁴ It may not have been altogether a paradox that of the biggest airlifts of the war it was a German one, that at Stalingrad, that was the biggest failure. ■

NOTES

1. For a first attempt at listing all the senior officers killed in air crashes in World War Two see A.D. Harvey, *Collision of Empires: Britain in Three World Wars 1793-1945* (London 1994, pbk edition) p. 642-3. For the Kut airlift see Walter Raleigh and H.A. Jones, *The War in the Air* (7 vols. Oxford 1922-34) vol. 5, p. 278-9. For the attempt to fly Zeppelin L59 to south-east Africa see Dietrich Engberding, “Die ‘Ostafrikafahrt’ des Marineluftschiffes L59”, in Walter von Eberhardt ed. *Unser Luftstreitkräfte 1914-18: ein Denkmal deutschen Heldentums* (Berlin 1930) p. 345-56 and Douglas H. Robinson, *The Zeppelin in Combat: a History of the German Naval Airship Division* (Henley-on-Thames edit. 1971) p.284-96
2. Fritz Morzik, *Die deutschen Transportflieger im Zweiten Weltkrieg* (Frankfurt 1966) p. 145 gives details of the Demyansk airlift, and see *Ibid.*, p. 160 for the Stalingrad airlift. The aerial supply of Imphal between April 18 and June 30, 1944 probably had more decisive results than any comparable operation on the Eastern Front: see F. S. Woodburn Kirby, *The War Against Japan* (5 vols. London 1957-69) vol. 3 p. 327. On the other hand the airlift of 650,000 tons of supplies from Assam to China, Dec. 1, 1943 – Aug. 31, 1945 may have contributed very little to the defeat of Japan: Frank H. Heck, “Airline to China” in Wesley Frank Craven and James Lea Cate, *The Army Air Forces in World War II* (7 vols. Chicago 1948-58) vol. 7 p. 114-51 at p. 151.
3. The National Archives, Kew London AIR 5/552 memo by Sir Hugh Trenchard, “The Part of Air Force of the Future in Imperial Defence,” March 1921, p. 6-7.
4. For long-range flying boats see A.D. Harvey, “Floatplanes, Flying Boats and Oceanic Warfare, 1939-45”, *Air Power History* vol. 57, no. 4 (Winter 2010) p. 4-19, at p. 7-8.
5. The National Archives AIR 2/7338, “Present Situation in Respect of the Development of Parachute Training,” August 12, 1940, p. 3.
6. C. H. Barnes, *Handley Page Aircraft: since 1907* (London 1976) p. 372. The Harrow was similar in appearance to the Bombay but even more ungainly,

being thirteen feet longer.

7. The National Archives, AVIA 8/185, “Meeting at Ariel House on 11th August, 1939, to discuss loan of service aeroplanes to Imperial Airways for carrying mail,” p. 1-2.
8. The National Archives, AIR 20/2426, “Organization of Air Transport Facilities,” Aug. 21, 1941, Appendix A; Barnes, *Handley Page Aircraft* p. 378.
9. The National Archives, AIR 27/133, Operation Record Book of No. 216 Squadron R.A.F., cf. Eric Sargent *The Royal Air Force* (London n. d. but circa 1942, 2nd edit.) p. 325.
10. James J. Halley, *The Squadrons of the Royal Air Force & Commonwealth 1918-1988* (Tonbridge 1988) p. 143, cf. The National Archives AIR 27/903, Operations Record Book of No. 117 Squadron R. A. F.
11. Oliver Tapper, *Armstrong Whitworth Aircraft: since 1913* (London 1973) p. 247. One of the Ensigns was shot up on the ground by a German fighter and thus achieved the distinction of being the largest aeroplane destroyed by enemy action during the first half of the war.
12. Barnes, *Handley Page Aircraft*, p. 325.
13. Ronald Lewin, *Slim: the Standard Bearer: a Biography of Field-Marshal the Viscount Slim* (London 1990) p. 66-7, Christopher F. Shores, *Dust Clouds in the Middle East: the Air War for East Africa, Iraq, Syria, Iran and Madagascar, 1940-42* (London 1996) p. 76.
14. Giuseppe Santoro, *L’Aeronautica Italiana nella Seconda Guerra Mondiale* (2 vols. Rome 1957) vol. 2 p. 146. The June 1940 establishment of the *Regia Aeronautica* in East Africa was 84 Ca 133, 42 Savoia Marchetti S.81 and twelve Savoia Marchetti S.79s in bomber units and nine Savoia Marchetti S.73s, nine Ca 133s and six Ca 148s operated only as transports.
15. Santoro, *L’Aeronautica Italiana* vol. 2 p. 191. In 1939 a prototype S.82 had flown 8,033 miles non-stop in a closed circuit. In May 1941, 21 Boeing B-17Ds flew the 2,404 miles from Hamilton Field, near San Francisco to Hickham Field in the Hawaiian Islands but they were not carrying significant amounts of

freight. Despite the boost to civilian air traffic given by the vast distances of the continental U.S., at the beginning of 1941 the U.S. Army Air Corps's transport fleet consisted of fourteen single engine Bellanca C-27s and eighteen Douglas C-33s (the military version of the DC-2): when the Japanese moved against the Aleutian Islands in June 1942, the U.S. War Department had to requisition 46 airliners from eleven airlines to rush men and equipment to Alaska: Brian Garfield, *The Thousand Mile War: World War II in Alaska and the Aleutians*, (London 2004 edit.) p. 112.

16. Pierre Dumollard, *Avions Potez Type 62 et 65* (Paris 2003) and, on the internet, www.traditions-air.fr.

17. Peter Harclerode, *Wings of War: Airborne Warfare 1918-1945* (London, 2005) p. 22-28.

18. Franz Kurowski, *The History of the Fallschirmpanzerkorps Hermann Göring: Soldiers of the Reichsmarschall* (Winnipeg 1995) p. 1-5, 15 cf. Chris Ellis, *7th Flieger Division: Student's Fallschirmjäger Elite* (Hersham 2002) p. 7.

19. Harclerode, *Wings of War* p. 37.

20. The National Archives, AIR 32/2 "Note on Employment of Airborne Troops," by Air Commodore R. V. Goddard, 2 Sept 1940, p.1.

21. *Statistical Digest of the War* (London 1951) p. 152, table 29, Charles Webster and Noble Frankland, *The Strategic Air Offensive Against Germany* (4 vols. London 1961) vol. 4 p. 496, appendix 49 xxiii. Besides 450 Ju 52/3m g3e bombers, the *Luftwaffe's* initial re-equipment included 372 Dornier Do 11 bombers and 282 similar but more powerful Dornier Do 23s. Though originally designed as freight aircraft, these were not generally employed in the transport role when they were replaced as bombers.

22. Fritz Morzik, *Die deutschen Transportflieger im Zweiten Weltkrieg* (Frankfurt 1966) p. 161. Heinz J. Nowarra, *Junkers Ju 52: Aircraft and Legend* (Yeovil 1987) p. 147 gives the figure for Ju 52/3ms lost at Stalingrad as 286.

23. György Punka, Gyula Sárhida, *Magyar Sasok: A Magyar Királyi Honvéd Légierő 1920-45* (Budapest c. 2007) p. 40-41. Lennart Andersson, *Svenska Flygplan: den svenska flygindustrins historia* (Stockholm 1990) p. 181. For the employment of obsolete bombers as air transport generally, see A.D. Harvey, "The Medium Bomber in the Second World War," forthcoming.

24. Raymond L. Proctor, *Hitler's Luftwaffe in the Spanish War* (Westport 1983) p. 22-31.

25. Harclerode, *Wings of War* p. 27.

26. The National Archives AIR 27/613 'Operations Record book of No. 70 Squadron RAF' Harclerode, *Wings of War* p. 18. cites the movement by air of the 1st battalion Northamptonshire Regiment from Egypt to Iraq in six days in 1932; this involved two squadrons, Nos. 70 and 216, and represented about the average for personnel movement over a comparable period by the Vickers Victorias in the Middle East.

27. Patrick Façon, *L'Armée de l'Air dans la Tourmente: La Bataille de France 1939-40* (Paris 2005 edit.) p. 82, H. Montgomery Hyde, *British Air Policy Between the Wars: 1918-1939* (London 1976) p. 517-8, Appendix VII. Incidentally, whereas the French planned a force of fewer than one hundred four-engined heavy bombers, and the Italians possibly the same, and the Germans had no immediate plans for anything larger than the Junkers Ju 88, Britain's Scheme L envisaged 600 medium bombers and 752 heavy bombers (eventually Stirlings, Halifaxes and Manchesteres), and scheme M, adopted after Munich was for no medium bombers, only heavy bombers.

28. R. P. Guy Bougerol, *Ceux Qu'on n'a jamais vus...* (Grenoble 1943) p. 7-8, Heinz J. Nowarra, *Nahaufklärer 1910-1945: die Augen des Heers* (Stuttgart 1981) p. 61-2. The Henschel Hs 126 had one fixed and one manually aimed machine gun, a bombload of 100 lb and a top speed of 221 m.p.h., the Potez 63.11 had three (sometimes up to seven) forward firing machine guns, one (sometimes three) fixed and one manually operated machine gun firing to the rear, a bombload of 440 lb and a top speed of 264 m.p.h.

29. The National Archives AIR 2/3897, "Formation of Parachute Troops in Germany: report from British Air Attaché, Berlin," 1938; WO 190/811, "Note on parachute units in the German Defence Forces," May 19, 1939.

30. Ellison Hawks, *Britain's Wonderful Fighting Forces* (London n.d.) p. 135-6. Hawks, a prolific writer of books popularizing science and technology, had served as an Assistant Provost Marshal in England for the greater part of World War One but his employment between 1921 and 1935 as advertising manager of the company making Meccano (in the U.S. known as "erector sets") and editorship of *Meccano Magazine* had brought him considerable prestige: Meccano had a major vogue between the wars and the rising generation of R.A.F. officers had literally been brought up on it.

31. Harclerode, *Wings of War* p. 40-43.

32. Hermann Götzel, *Generaloberst Kurt Student und seine Fallschirmjäger: die Erinnerungen des Generaloberst Kurt Student* (Freiberg 1980) p. 126.

33. Nowarra, *Junkers Ju 52*, p. 79.

34. Wim Schoenmaker, Thijs Postma, *Mei 1940: die verdediging van het Nederlands luchtruim* (Amsterdam 1985) p. 69.

35. *Ibid.* p. 42.

36. F. J. Molenaar, *De Luchtverdediging in die Meidagen 1940* (2 vols. Hague 1970) vol 2. p. 567, 576, 645, 926, cf. the National Archives, AIR 35/326 "Report by Squadron Leader A.A. Adams, Assistant Air Attache on the German invasion of Holland, May 1940," p. 3.

37. Cf. Schoenmaker, Postma, *Mei 1940* p. 42, 69.

38. *Ibid.*, p. 47.

39. The National Archives, AIR 35/326, p. 7.

40. The National Archives, AIR 32/2 "Note on the Employment of Airborne Troops," by Group Captain R.V. Goddard D. D. Plans (M.C.) i.e. Deputy Director Plans (Military Co-operation), 2 Sept. 1940.

41. The National Archives, AIR 20/4301 "Provision of Airborne Forces – Air Ministry Aspect," by R.V. Goddard (by now promoted to Air Commodore, the equivalent of Brigadier General), December 23, 1940, p. 3.

42. *Ibid.*

43. The National Archives, AIR 39/38, "Airborne Forces – Policy," minutes of meeting under chairmanship of Deputy Chief of Air Staff, December 11, 1940. Earlier version of the Whitley could only carry eight troops however, and the Whitley V only ten, as compared to eighteen to twenty four in the Douglas DC-3.

44. In practice the physical extent of Nazi Germany's conquests meant that the Germans were at least as dependent on regular long-distance air traffic as the Allies: the distance between Crete and the north of Norway was much the same as that between New York and San Francisco and the distance between Biarritz and Stalingrad not much less. In 1941 alone three Junkers Ju 52/3m had to force land in neutral Sweden during courier flights between Finland and Norway: Bo Widfeldt, Rolph Wegmann, *Nödlanding: främmande flyg i Sverige under andra världskriget* (Nässjö 1998), p. 189-90.

USAF SPECIAL OPERATIONS HERITAGE: COLONEL C



CLIFF HEFLIN AND HIS WWII “CARPETBAGGERS”



Darrell F. Dvorak

(Overleaf) Packing containers of supplies at OSS facility.

(Right) Modified B-24 taking off from Harrington.

(All photos courtesy of the 801st/492nd Bomb Group Association.)

"Since World War II, insurgency and terrorism have become the dominant forms of conflict – a trend likely to continue into the foreseeable future."¹

World War II marked a turning point in unconventional warfare. As unconventional threats have grown over the past seventy years, more than 100 countries around the globe now claim to have at least one military special operations unit to combat them. And even though the United States has employed some form of unconventional warfare since the American Revolution, World War II was also a turning point for U.S. special operations:

Prior to the outbreak of war neither Britain nor the United States had any coherent concept of special operations or any consistent plans to develop organizations or formations for its conduct... The absence of prewar ideas and concepts would ultimately prove to be an impediment to neither Britain nor America's ability to successfully – independently and jointly – conceive, develop, and utilize an extensive range of specialist formations during the course of the war.²

Some of those "specialist formations" are well remembered, including such iconic units as the Navy frogmen and Army Rangers. But even air power history buffs would be hard-pressed to name any special operations forces of the Army Air Forces (AAF) in World War II.

Fortunately, today's U.S. Air Force Special Operations Command (AFSOC) recognizes its heritage, and its website acknowledges a particular 3,000-man AAF Bombardment Group, nicknamed the "Carpetbaggers," that operated in Europe October 1943–September 1944. The Carpetbaggers primarily served as the air arm of the U.S. Office of Strategic Services (OSS), forerunner of today's Central Intelligence Agency. OSS's mission was to assist the 1944 Allied invasions of Europe by fostering the growth of guerilla forces to conduct unconventional warfare behind German lines. To achieve that mission required the Carpetbaggers' unique air power, and that role earned the Group a Presidential Unit Citation for "extraordinary heroism in action against an armed enemy," an achievement that today would earn an individual airman the Air Force Cross.

Yet for seventy years virtually every learned book about the Allied invasions has overlooked Carpetbagger contributions. But thanks to declassification of AAF and OSS records beginning in the 1980s, and many years of effort by a handful of researchers, considerable information about the little-known story of the Carpetbaggers is now available.³

As outlined in the timeline (opposite page), formation of the Carpetbaggers can be traced back to



Germany's *blitzkrieg* defeat of western European countries that culminated in France's six-week defeat in June 1940. This triggered several high-level decisions by Britain and the U.S. that played out over several years, beginning with British Prime Minister Winston Churchill's famous vow to "Set Europe ablaze!" by means of clandestine warfare in occupied Europe. Those operations were to be led by an unprecedented secret organization designated the Special Operations Executive (SOE).

Then, as British efforts were unfolding, U.S. President Franklin D. Roosevelt (FDR), prompted by presidential advisor William J. ("Wild Bill") Donovan, decided to create a forerunner of OSS months before the U.S. declared war on the Axis powers.⁴ Importantly, FDR's decision impacted the highest levels of U.S. military strategy: OSS would soon report to the newly-formed Joint Chiefs of Staff (JCS).

The third key decision was made by General Henry "Hap" Arnold, Commanding General of the AAF and member of the new JCS. Arnold agreed to provide OSS with a dedicated bomber unit when an AAF squadron became available that was not needed for strategic bombing. In October 1943, that turned out to be the 22nd Antisubmarine Squadron.

From December 1941 to October 1943, the 22nd Antisubmarine Squadron of the AAF Antisubmarine Command hunted enemy submarines on the U.S. west and east coasts and later in the Bay of Biscay off northwest France. For most of that period, the unit flew Lockheed A-29 Hudson light bombers, which had limited range and could carry only four depth charges. Then in March 1943, the AAF decided that, "Due to the experience of pilots it is planned to give [the 22nd] a high priority in transition and assignment of B-24s..."⁵ and in May 1943, the 22nd began flying the Consolidated B-24 Liberator very long range, heavy bomber.

B-24s had been available to Britain as early as 1940, but they were committed to RAF's strategic bombing mission until mid-1942, when limited numbers were allocated to anti-submarine operations. The B-24's range enabled the Allies to finally

WORLD WAR II WAS ... A TURNING POINT FOR U.S. SPECIAL OPERATIONS

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June 1940 France surrenders six weeks after German invasion; occupation of France begins in the north and along the Atlantic coast. Churchill elected British Prime Minister.

July 1940 British SOE is founded.

May 1941 British Royal Air Force (RAF) drops first SOE agent into France.

July 1941 FDR appoints Donovan to create the nation's first foreign intelligence capability, the Office of Coordinator of Information (OCI).

December 1941 Pearl Harbor is bombed; U.S. declares war on the Axis powers.

February 1942 First RAF Special Duties Squadron (SDS) is assigned as the air arm of SOE.

June 1942 OCI is reorganized as OSS reporting to the newly-formed JCS.

June 1943 Donovan asks JCS for a dedicated AAF bomber squadron but is rejected on the basis that it is a decision for theatre commanders to make.

September 1943 General Arnold approves assigning two AAF squadrons to OSS.

October 1943 JCS approves OSS operations plan for intelligence, espionage, disinformation, subversion, and sabotage. Lt. Gen. Jacob Devers, commanding general of the European Theatre of Operations, gives final approval for assigning two AAF squadrons to OSS in a new project codenamed Operation Carpetbagger.

close the deadly "Atlantic Air Gap," 300 miles east-west and 600 miles north-south, where German U-boats had been operating free from the reach of Allied air patrols.⁶ Among other impacts, the decisive turn-around in the anti-sub campaign ensured that Allied troops, munitions and other supplies would be available to mount the invasions of Europe.⁷

But the 22nd Squadron only flew their B-24s against U-boats for a few months because the AAF and the U.S. Navy finally settled their lengthy jurisdictional conflict about which branch would control antisubmarine operations: naval air forces would be solely responsible for offshore patrols and protection of shipping, and the AAF would be solely responsible for long-range strike aircraft operating from onshore bases.

As a result, the 22nd Squadron, along with the entire AAF Antisubmarine Command, ended their assignments in early October 1943. The AAF now had on its hands several B-24 squadrons in England that were not trained for strategic bombing, the primary mission of Eighth Air Force. Instead of flying in close formation at high altitudes, with navigation primarily the responsibility of the lead planes, anti-sub aircraft typically flew alone at low altitudes and conducted their own navigation. Moreover,

... it is the attack itself that distinguishes antisubmarine flying most sharply from all other types. To be effective the depth bombs had to be laid within 20 feet of the submarine's pressure hull, and the aircraft was forced to drop close to the water, often to a scant 50 feet above the waves, in order to place them accurately.⁸

Although 22nd Squadron crews were not qualified for strategic bombing, they would prove to be very well-qualified for their next assignment, which their top officers learned about at an October 1943 meeting at an RAF base northwest of London.

OSS agents and Carpetbagger bombardier inside a B-24.



January 1944 Carpetbagger missions begin from Tempsford airfield. 24 B-24s are operational, but due to overcrowding an average of only 6 operate in any 24-hour period. Lt. Gen. Carl Spaatz is appointed CO of U.S. Strategic Air Forces in Europe; Lt. Gen. James Doolittle is appointed CO of Eighth Air Force in Europe and Pacific.

February 1944 Gen. Dwight Eisenhower is appointed Supreme Allied Commander, Supreme Headquarters Allied Expeditionary Force (SHAEPF). SHAEPF assumes direct operational control of SOE and OSS, which are combined as Special Force Headquarters. Carpetbagger missions begin from Alconbury airfield, home base for Eighth Air Force Pathfinders. Thirty-eight B-24s are operational, but an average of only twelve can operate in any 24-hour period. Doolittle secures Watton airfield as an exclusive Carpetbagger base. Heflin inspects Watton and says, "We're not going to fly one damn operational mission out of this base, not in this condition."¹⁶ Carpetbaggers are reassigned to Eighth Air Force Composite Command under Brigadier General Edmund Hill.

March 1944 Missions continue from Alconbury and Watton. Eighth Air Force procures RAF Harrington training base to be the Carpetbaggers' permanent, exclusive base; operations begin at the end of the month. Carpetbaggers are designated as the 801st Bombardment Group (Heavy) (Provisional), with Heflin as CO. The Group will be re-designated again in August 1944 as the 492nd BG.¹⁷

April 1944 During a press conference while in exile, French General Charles de Gaulle praises British support of the French Resistance, implying that U.S. support is inadequate. JCS cables Eisenhower urging increased U.S. support of the Resistance.

May 1944 Eisenhower directs Spaatz to allocate Carpetbaggers an additional twenty-five aircraft and related crews.

* * *

Winning the war in the European theatre would ultimately require an Allied land invasion of what Germany described as *Fortress Europe*, whose most prominent feature was an *Atlantic Wall* of coastal fortifications stretching from Finland to Spain backed up by the proven might of German armed forces. In May 1943, the Allies had agreed to invade across the English Channel, and one piece of their strategy would be codenamed Operation Carpetbagger.⁹

22nd officers in attendance at this meeting were Commanding Officer Lt. Col. Clifford J. Heflin; Operations Officer Maj. Robert B. Fish; Engineering Officer Capt. Oliver B. Akers; and Intelligence Officer Lt. Robert D. Sullivan. They met with Col. Joseph Haskell, OSS Chief of Special Operations; Maj. J.W. Brooks, head of OSS's Air Transportation Section; Col. C. Glenn Williamson, Intelligence Officer, Eighth Air Force Bomber Command; a Col. Oliver from Eighth Air Force headquarters; and Group Captain [Colonel] Edward H. Fielden, RAF Special Duties Squadrons (SDS), the air arm of SOE.

After being sworn to secrecy, 22nd Squadron officers were briefed about their new assignment. Presumably they were only told what they needed to know, but today we know that the Allies planned to invade Western Europe via two invasions of France, the first at Normandy in northwest France (Operation Overlord), and a later, supporting inva-

sion in southern France (Operation Dragoon). Among the planners' major concerns was that Allied troops would be vulnerable to the entrenched German army during an invasion's initial phases, from immediately prior to landing until significant inland penetration of the full weight of Allied forces.¹⁰ So the Allies concluded that "to bolster the assault forces and weaken the enemy's defenses... [they would primarily employ] airpower, deception and clandestine warfare."¹¹

"Airpower" meant clearing French skies of Luftwaffe aircraft and attacking German ground forces and France's transportation infrastructure. "Deception" primarily meant misleading German forces to focus on Pas de Calais, France as the Allies' likely invasion point. And "clandestine warfare" meant "sabotage and guerrilla warfare operations [behind German lines] to harass, disrupt and divert German forces... [with the] French resistance movement... responsible for the major portion of these operations."¹²

But when France surrendered in June 1940, there was no French resistance movement, so SOE slowly began working to help create one. This required identifying, organizing, training and supplying French civilians willing to put their lives on the line. In turn, to do so effectively and efficiently required dedicated aircraft and crews because they "...could reach farther, travel faster, were more flexible, more reliable and more covert than all other means..."¹³ SOE finally began acquiring an air arm in February 1942.¹⁴

By October 1943, OSS had finally received all AAF approvals to acquire its dedicated air arm, so integration of their operations began almost immediately. As later described by Fish:

*... the OSS would designate the targets, package the arms, ammunition and other supplies into drop-pable containers, train agents and saboteurs to be parachuted behind German lines, and provide for the required communications with the reception parties in German occupied areas...[the Carpetbaggers] would be responsible for providing and training air-crews, providing aircraft, providing for special modifications of the aircraft, and planning and conducting the air operations required for each mission.*¹⁵

These roles were patterned after what SOE and SDS had pioneered, so for the next two months the Carpetbaggers trained with SDS at their Tempsford airfield northwest of London. Training included flying combat missions with British crews in SDS aircraft because the B-24 modifications would not be completed until late December 1943. On January 4, 1944, Heflin piloted the first Carpetbagger B-24 mission to drop supplies to the French Resistance, but operational progress was slow during the January – March period. As summarized in the timeline at above left, this was primarily due to lack of a dedicated, quality air base and significant manpower and skill shortages. But in the April – June period, the pace of operations, and the scope of Heflin's command, greatly expanded.

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June 1940 German military begins occupying French north and west regions; designated the Occupied Zone, it includes Paris. A twelve-mile wide zone along the entire Atlantic coast restricts civilian entry and is designated the Forbidden Zone. The non-occupied southern region, designated the Free Zone, is governed by the new, collaborationist Vichy government.

December 1940 First publication of French clandestine leaflet seeking to rally active resistance.

June 1941 Germany invades the Soviet Union ("Operation Barbarossa"), causing French communists to begin organizing resistance groups throughout France.

November 1942 In response to the Allied invasion of North Africa ("Operation Torch"), German military occupies France's Free Zone, spurring further growth of the Resistance.

January 1943 Vichy regime creates the *Milice*, a paramilitary force to support German attacks on Resistance groups and to round up Jews for deportation.

February 1943 Vichy government issues Obligatory Labor Service law requiring all French men ages twenty to twenty-two to work two years in Germany, triggering mass flight of youths to remote regions and further growth of Resistance manpower.

June 1943 German military launches widespread arrests and executions of Resistance leaders, leading SOE to switch from building centralized Resistance group to building independent "circuits," each having direct communication with London.

GUERRILLAS ARE MOST EFFECTIVE WHEN ABLE TO OPERATE WITH OUTSIDE SUPPORT

In late March the Carpetbaggers were assigned to Harrington airfield, a first class base that boasted three runways and four large hangars, dramatically improving flight operations (and morale); and Heflin assumed command of all base operations in addition to his Group responsibilities. Then, at the end of May, the Carpetbaggers began receiving two additional squadrons and aircraft which expanded its capabilities to seventy-two crews operating sixty-four B-24s. As one result, because SOE had created far more Resistance groups than OSS and the Carpetbaggers soon had far more cargo capacity than SDS, the Carpetbaggers became an air arm for SOE as well.¹⁸

European resistance movements gradually emerged in several German-occupied countries, including Norway, Denmark, Belgium, Holland and Yugoslavia, as well as in France. They went by various names, but in today's parlance they were *guerrillas*, characterized by:

*...the use of hit and run tactics by an armed group directed primarily against a government and its security forces... [who] rely on ambush and rapid movement... lack front lines and large-scale, set piece battles... usually limit their operations to a well-recognized war zone... seek to physically defeat or at least wear down the enemy... [and] resort to guerrilla tactics for one reason only: they are too weak to employ conventional methods.*¹⁹

Importantly, "Guerrillas are most effective when able to operate with outside support – especially with conventional army units... [and] guerrillas greatly benefit from foreign funding, arms, training and safe havens. No other factor correlates so closely with [guerrilla] success..."²⁰

Among the several European resistance movements, this paper focuses on the French Resistance because France would be the Allies' invasion doorway into Europe and therefore its "resisters" were by far the principal theatre of OSS/Carpetbagger operations.²¹ The timeline at left summarizes initial developments that spurred creation of the French Resistance.

Although Allied planners hoped for significant contributions to their invasion from the Resistance, they realized they were plunging into difficult waters:

*The Resistance had many significant weaknesses. It was always subject to German penetration. It was inadequately armed; in many cases totally unarmed. Lines of authority tended to be unclear. Communication within [circuits] was poor, between [circuits] almost non-existent. It was mistrusted by the bulk of the population, as most French people wanted no trouble with the Germans and feared the consequences of stirring them up... The Resistance had assets... most of all, it was behind enemy lines. It could provide intelligence of the most accurate kind...it could sabotage rail lines, bridges and the like, and it could provide an underground army in the German rear areas that might be able to delay the movement of German forces toward the [Normandy] battle.*²²

The Allied strategy was to build up the Resistance so that it could be an effective force by D-Day. But until then, the Allies worked to keep Resistance actions low key so as to not cause movement of additional German forces into France.

Underlying the emerging Resistance were rivalries among political interests, primarily between the disciplined communists and half a dozen other groups. In this milieu, exiled French General Charles de Gaulle, who later would become Prime Minister of France and then President, was a controversial figure. Churchill and FDR distrusted his political ambitions, and de Gaulle had little use for them or, at first, the French Resistance. But over time, de Gaulle worked to become the inevitable leader of post-war France and came to recognize the political value of harnessing the Resistance to himself. He appointed French General Pierre Koenig as commander of the French Forces of the Interior (FFI), reporting to SHAEF. FFI first consisted of the Free French Forces in exile but added Resistance forces en route to liberating France, reaching more than 200,000 members by fall 1944.²³

* * *

Allied aid to European resistance groups took many forms, tangible and intangible. OSS provided funding and more than 400 essential supplies such as munitions, equipment, food, clothing and medicine. To efficiently source and deliver these supplies to resisters, OSS operated a large collection, packing and distribution facility in a town close to Harrington codenamed Area H. This facility pro-



French resisters with containers.

OSS ALSO SUPPLIED AGENTS AND MILITARY PERSONNEL WHO PARACHUTED INTO OCCUPIED EUROPE TO ORGANIZE, TRAIN, AND FIGHT WITH RESISTERS

duced two types of steel *containers* that could weigh up to 400 pounds, one for small items (e.g., pistols, grenades) and one for large items (e.g., rifles, bazookas); and specialty *packages* of “currency, radio equipment, medicine... and other (items) too delicate or valuable to be dropped with heavy, bulky supplies.”²⁴ Area H rigged the containers and packages with parachutes and then trucked them to Harrington.

OSS also supplied agents and military personnel who parachuted into occupied Europe to organize, train, and fight with resisters, and coordinated resistance efforts with the needs of Allied armies. The Carpetbaggers transported five principal groups into European countries:

OSS/SOE agents: primarily two-man teams that included a wireless transmitter (W/T) operator to exchange coded messages with OSS’s London headquarters. They organized resisters into “circuits,” a general zone of action and stock-piled supplies.

“Sussex” teams: fifty-three two-man teams dropped January – September 1944 to gather tactical military intelligence.

“Jedburgh” teams: ninety-three three-man teams, in uniform, composed of at least one officer, one man fluent in French, and a W/T operator; dropped beginning the eve of D-Day. Their duties varied, including liaison with circuits and gathering military intelligence.

OSS Operational Groups (OGs): composed of four officers and thirty non-commissioned officers in uniform, first dropped in late July 1944, to coordinate resistance actions with the Allied invasion forces.

Inter-Allied Missions: twenty-five teams composed of SOE, OSS and French agents numbering up to twenty-five members that undertook widely-varied missions.

Carpetbagger crews were not privy to the identities or missions of their passengers, so they anony-

mously referred to their male passengers as “Joes” and female passengers as “Josephines.”²⁵

A vital intangible aid to resisters were psychological warfare leaflets dropped in large bundles nicknamed “nickels” that served to inform civilians about Allied military progress, encourage resistance, counter German propaganda, and undermine German morale. Carpetbagger B-24s regularly dropped nickels at targeted locations on their return flights to Harrington, and there was an Eighth Air Force squadron entirely dedicated to the effort.²⁶

* * *

Because of their special role, Carpetbagger B-24 operations were unique among AAF bomber units as each mission:

Was planned in a thirty-six-hour cycle coordinated with OSS, SOE, SDS, the targeted Resistance circuits, and Eighth Air Force. This complexity required that Heflin have “full authority to accept or reject missions for the Carpetbaggers. No other group officer in the Eighth Air Force had such full control over his operations.”²⁷

Was shrouded in secrecy to protect the aircraft and the location of agents and circuits. “The evasion of [German] detectors and defenses was the most important consideration in mission planning and flying the mission;” base security was “far more tight than at conventional air bases; and the details of each sortie were kept classified, sometimes for many years afterward.”²⁸

Required precise navigation to a small patch of land in occupied Europe; to arrive at a specific pre-arranged time; exchange coded signals to confirm the identity of the Resistance reception group; drop its cargo in a matter of minutes; and navigate a precise route back to base.

A typical flight plan was to fly at 2,000 feet while crossing the English Channel in order to avoid German coastal radar, then climb to 7,000 – 8,000 feet to avoid German coastal flak, and then descend to a few thousand feet to dampen the sound of the aircraft over land. Approaching the drop zone upwind, wings were extended to half flaps (to slow down while simultaneously increasing lift and lowering stall speed), and then descend to 600 feet to drop Joes and 400 feet to drop containers and packages, both at speeds of 130 mph, slightly more than the B-24’s 123 mph stall speed. Low speeds improved accuracy and protected agents and supplies from damage upon landing, but made the B-24 more difficult to maneuver.

Because of the unique of low altitude operations, missions were almost exclusively flown at night and usually with some degree of moonlight to improve visibility. On average, the twenty-eight day “moon period” cycle limited missions to seventeen days each month.

The Carpetbaggers first flew B-24Ds, which by

Carpetbagger B-24 Missions 1944³⁴

	Missions Completed	Drop Zones Supplied	Containers Dropped	Packages Dropped	Personnel Dropped
Jan-Mar	102	60	815	586	6
Apr	155	90	972	630	9
May	216	151	1,536	814	47
Jun	184	107	1,937	948	53
July	424	579	5,043	1,540	69
Aug	329	179	3,842	2,206	222
Sep	<u>350</u>	<u>165</u>	<u>4,061</u>	<u>2,688</u>	<u>235</u>
Totals	1,760	1,331	18,206	9,412	641

Source: Carpetbagger B-24 Mission Reports, the 801st/492nd Organization.

CARPET-BAGGER OPERATIONS IN 1944 EVOLVED IN THREE PHASES

1943, were considered obsolete for strategic bombing but had a plexiglass nose that enabled a better view of the drop zone. The B-24 had good speed, range and load capacity, but the unique Carpetbagger mission required considerable modification. Among the most important:²⁹

- Removal of all guns except top and rear turrets; replacement of the belly turret with a metal shroud with a forty-eight inch hole through which agents and supplies would be dropped; and installation of a wooden floor, handrails, dispatch signal lights, parachute static lines, etc.
- Installation of special signal equipment for navigation to and communications with resistance reception groups on the ground.
- Installation of blister windows to enable the pilot and co-pilot to see the ground ahead.
- Addition of blackout curtains, gunfire deflectors, and engine flame dampeners to reduce visibility to German night fighters and antiaircraft batteries.
- Painting the entire aircraft black (at first matte, later glossy), making it less visible to radar.

Instead of the standard ten-man B-24 crew, Carpetbagger crews numbered eight, including pilot, co-pilot, navigator, bombardier, dispatcher (who assisted the bombardier in dropping cargo), radio operator, flight engineer/top turret-gunner, and tail-gunner. It was said that the most important crew members were the navigator and bombardier. Indeed, in one of Heflin's mission reports, he wrote, "*Beautiful piece of work by navigator and bombardier in navigating to & from target by [dead reckoning] and map reading.*"³⁰

Depending on visibility and other conditions, Carpetbagger crews employed one or more of several navigation methods to locate a drop zone, including dead reckoning (deduction based on ground speed, time, wind direction, and known starting point), radio (radio and radar aids), and celestial (positions of sun, stars, planets). But on calm, moon-lit nights, they usually relied on pilotage (visual observation of prominent landmarks such as rivers, lakes and mountains).³¹ Resistance reception parties would illuminate the drop zone with torches, flashlights and even bonfires.

Round trip flights from England to most drop zones in France averaged about seven hours. Heflin was later quoted by his officers describing the dangers:

*This work is harder than bombing – trickier. You're not following a formation – you're on your own. It takes a lot of training and flying ability to hit a drop zone right on the nose... What gets to me is crossing the [English] Channel in fog or cloud, on instruments, knowing that the stuff around you is lousy with airplanes but not able to see a thing. When you are dealing with flak or fighters you have so much to do that you haven't time to be scared. When you're waiting for a collision in the overcast, there isn't a thing to do but sit and sweat.*³²

Carpetbagger operations in 1944 evolved in three phases: a slow start in January – March due to lack of a dedicated airfield, limited numbers of aircraft and crews, and bad weather; then a steady expansion of operations in April – June as early problems were resolved, weather improved, and the June 6 invasion of Normandy gained a beach hold; and finally, peak operations in July – September due to the late July Allied breakout from Normandy (Operation Cobra), the August 15 supporting invasion of Southern France (Operation Dragoon), the August 25 liberation of Paris, and the September liberation of the rest of France. In June, Carpetbagger B-24 missions exceeded SDS drop missions for the first time, 347 to 124. Then, in the July – September period, Carpetbaggers missions outpaced SDS missions 1,107 to 440.³³ The junior partner had grown up.

This improved performance came at significant cost. For the eleven-month period December 1943 through October 1944, the Carpetbaggers lost twenty-two aircraft, including eight to German night fighters, seven to German flak, five to crashes in the dark, one to friendly fire and one unknown cause. These resulted in crew losses of ninety-five deaths, thirty-nine prisoners of war, thirty-six evaders, and one officer who joined the Resistance until France was liberated.³⁵

With the initial success of the Normandy invasion, OSS believed that selected, massive daylight supply drops to the Resistance might be feasible. Eighth Air Force agreed to undertake four such



BY MID-SEPTEMBER 1944, THE NECESSITY FOR NIGHT-TIME OPERATIONS HAD RECEDED, AND THE CARPET-BAGGERS UNDERTOOK THEIR FIRST DAYLIGHT DROPS

Eighth Air Force Drops to French Resistance, 1944

	Codename	B-17s	Containers
Jun 25	Zebra	180	2,000
Jul 14	Cadillac	319	3,700
Aug 1	Buick	193	2,281
Sep 9	Grassy	68	180

Source: World War II 8th AAF Combat Chronology, Eighth Air Force Historical Society.

operations from June to September involving hundreds of B-17 bombers (see chart above).

Except for Operation Cadillac on July 14, the author has not located reports as to the success of these operations. Unfortunately, Cadillac starkly exposed the risks of mass daylight drops as "... the Luftwaffe, well aware of the operation, repeatedly strafed and bombed the drop site and firebombed the neighboring village, preventing the [resisters] from collecting even half the containers;" and ten days later, 200 SS troops attacked the neighboring village, Vassieux-en-Vercors, destroying it and massacring 326 resisters and 130 other civilians.³⁶

By mid-September 1944, the necessity for night-time operations had receded, and the Carpetbaggers undertook their first daylight drops on September 14, with four planes each dropping twelve containers and ten packages to a single drop zone.

* * *

During July–September 1944, the Carpet-

baggers undertook a new mission to extract agents, downed Allied airmen, and other important personnel from behind German lines in France. OSS had considered and rejected several unusual aerial extraction methods,³⁷ and SDS had been landing Westland Lysanders behind German lines as early as February 1942, but the Lysander could hold only three to four passengers, so much greater carrying capacity was needed.

At an April 1944 meeting with Doolittle to discuss extraction options, it was decided that SDS would begin employing converted Lockheed Hudson light bombers, which could carry up to eight to ten passengers, and the Carpetbaggers would employ the Douglas C-47 Skytrain troop transport, which was fifty percent heavier than the Hudson and could carry up to thirty passengers.³⁸ As a transport and unlike the Hudson, the C-47 was defenseless, without armor, guns, or self-sealing fuel tanks. Its only protection was to fly at night.

But C-47 operations would be significantly delayed because all C-47s being shipped to England were already committed to transport Army airborne units in the French invasions, likely several months away. So Doolittle gave the Carpetbaggers a C-47 assigned to him (and three more were finally assigned in late August). Training quickly began May 1, because the only major modification required was to attach a 100 gallon fuselage tank that increased fuel capacity to over 900 gallons, sufficient for the 1,000 mile roundtrip to France. Typically, Heflin took the lead preparing for this new mission and in May piloted Doolittle's C-47 for more than thirteen night hours.



Heflin plotting missions.

The most pressing issue was to determine the minimum distances for safe takeoffs and landings from unimproved turf for a loaded C-47, which had an empty weight of more than 18,000 pounds. Loading the C-47 with eighteen men, Heflin practiced take-offs and landings on grass fields – illuminated only by flashlights – to establish the minimum distances required for safe operation. Meanwhile, OSS told its agents in France to look for suitable landing areas and, when these were identified, arranged for aerial reconnaissance to take pictures of them to be used in planning the C-47 missions. These missions came to be nicknamed “Dakota” after the RAF designation for the C-47.

Yet, perhaps due to the priority of their B-24 operations, the Carpetbaggers’ first Dakota mission would not be flown until July. Its significance was highlighted by the stature of the crew: Heflin was the pilot and his co-pilot, navigator and bombardier were several of his top officers.

On the night of July 6, Doolittle’s C-47 took off from Harrington carrying eleven Joes and forty packages of supplies, heading for a circuit northwest of Lyon, France along a route still considered to be a German night fighter belt.³⁹ The flight was able to fly much of the trip at an altitude of 7,000 feet, which put them above an undercast that concealed them from German forces on the ground. The crew landed in a mountainous region on a half-harvested wheat field and unloaded their cargo to the assembled resisters. But the time required for the return flight did not include enough hours of darkness, so the crew was trapped behind German lines. The resisters camouflaged the C-47 with uprooted trees and then led the crew to a building where they were fed, sheltered and celebrated by the Resistance.

The next night suffered adverse weather that prevented departure until the night of July 8. The return flight carried ten passengers: a downed Carpetbagger officer; three downed RAF airmen; a French couple who were to receive sabotage training in England; two British army soldiers who had been rescued from German captivity; a French

agent; and an SOE officer.⁴⁰ It also carried two German souvenirs snatched by the resisters and proudly bestowed on the crew: a Nazi banner and a Luger pistol.

This pioneering Dakota mission generated considerable interest at the highest levels of OSS and AAF. On July 13, Heflin met with Col. David K.E. Bruce, Chief of OSS London, and Gerry Miller, Chief of OSS Special Operations Branch, to discuss the mission. Then the next day Heflin had lunch with Spaatz, several of his top staff, and Bruce again, who recorded the event in his war diary:

*July 14: Lunched today Gen Spaatz’s house w/ Spaatz, General MacDonald (sic), General Anderson, Sally Bagby, General Curtis and Colonel Heflin. They were all very much interested in Heflin’s account of his recent Dakota trip.*⁴¹

The mission also captured the interest of the other Carpetbagger pilots: “All of our squadron commanders were eager to get into the act and fly such missions. It was a challenge to all of our red blooded American pilots to get into these intriguing operations.”⁴² More than fifty years later, Heflin’s Dakota mission would be listed in *U.S. Air Force: A Complete History*, published in 2006 by the Air Force Historical Foundation.

Thirty-four more C-47 missions to France were flown during August – September, the last two months of Carpetbagger operations. In total, those missions extracted 227 Allied personnel, inserted seventy-six, and delivered forty packages, two Jeeps and fifty-two tons of supplies.⁴³ Judged by their original goal, these missions were another major success.

* * *

The Allies’ goal for the Resistance was to “harass, disrupt and divert” German forces entrenched against the June and August 1944 invasions of France. In the seventy years since, there have been widely diverse opinions about the value of SOE/OSS and Resistance efforts. There is no easy way to fairly define and measure that value, so the author instead offers conclusions from several historians, all since 2001:

*Having French Resistance networks on the ground was an additional bonus for the Allied planners. Not only was the Resistance a source of important intelligence about local German forces, but also the widespread acts of sabotage compelled the diversion of hundreds of thousands of troops to secondary military activities such as guarding railway lines, searching houses, and the like... Finally, of course, when the landings actually occurred, these small French units... mounted damaging attacks upon bridges, roads, and, above all, telegraph poles and wires, forcing the Germans to make more use of radio signals [that the Allies could intercept and decrypt].*⁴⁴

The achievement of the Resistance in delaying the Das Reich Division [German 22nd SS Panzer

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Dakota crew with Nazi souvenirs. L-R Heflin, co-pilot Wilmer Stapel with Luger in his belt, navigator Edward Tresemer, bombardier Charles Teer, radio operator Albert Krasevac.

L-R British King George VI, Heflin, Robert Fish, Queen Elizabeth

Division] was one of its greatest contributions in the battle for Normandy... destroying Das Reich's fuel dumps before they even started, sabotaging rolling stock, blowing railway lines, and organizing sequences of small ambushes... Altogether, it took the Das Reich Division seventeen days to reach the [Normandy] front, 14 days more than expected.⁴⁵

Preparing for the August 14, 1944 Operation Dragoon invasion of southern France led by General Alexander Patch's Seventh Army, OSS resistance networks delivered "more than eight thousand reports on enemy troop concentrations, airfields, convoy routes, roadblocks, rail yards, coastal defenses, minefields, beach obstacles, submarine pens, anti-aircraft gun emplacements, searchlights, and even dummy defenses [to fool AAF bombers]." Army Col. William Quinn, Patch's senior intelligence officer, later said, "We knew everything about that beach and where every German was. And we clobbered them." The 94,000 Allied soldiers who landed "suffered fewer than five hundred casualties and captured 57,000 Axis prisoners in the next two weeks."⁴⁶

Typical was an operation in which US troops, [French resisters], and [Jedburgh] Team Bruce cooperated in assaulting a column of 1,500 troops making its way from Montargis to Auxerre... When the fighting stopped, only a handful of the enemy had survived and the resistance had captured a large cache of arms, ammunition, and fuel." In support of an American tank battalion, "Team Bruce had its [resisters] blow up one bridge after another, some to protect the Americans' flank and some to cut off retreat by elements of the Wehrmacht that had been trapped.⁴⁷

The year 1944 represented the zenith of the use of specialist formations as a direct ancillary to conventional Allied strategy... From the summer of 1944 onward, the distinct acceleration in the activities of [resistance] movements in support of major Allied offensives resulted in a concomitant increase in the application of special forces to harness, control and aid these indigenous elements.⁴⁸

... one can offer three incontrovertible propositions about the... role of the Resistance: if there had been no Resistance, France would still have been liberated; ... the Liberation would have cost the Allies significantly higher casualties; [and] if the Allies had had more faith in the potential of the Resistance, its contribution to saving Allied lives could have been greater.⁴⁹

* * *

In September 1944, France was declared liberated; OSS recalled its detachment from Harrington; Carpetbagger missions in support of the Resistance ended; and Carpetbagger personnel received awards from Koenig and Doolittle. Then in October, the 492nd was reassigned from Eighth Air Force Composite Command to U.S. Strategic Air Forces in Europe and began training for night bombing missions; Heflin was relieved of command and assigned to the War Department in Washington, D.C.; and Fish assumed command of the 492nd. Thus, the 492nd continued, but Operation Carpetbagger was officially over.

OSS was disbanded in September 1945, but within two years was reborn as the U.S. Central Intelligence Agency. In November 2013, a bill was introduced in the U.S. House of Representatives to award the Congressional Gold Medal to "members of the Office of Strategic Services (OSS) in recognition of their superior service and major contributions during World War II."⁵⁰ The bill notes that "The present-day Special Operations Forces trace their lineage to the OSS... The 801st/492nd Bombardment Group (Carpetbaggers) was a progenitor of the Air Force Special Operations Command." But the Carpetbaggers are not included in the award.

In addition to AFSOC's website, the Carpetbaggers are remembered by a privately-operated Carpetbagger Aviation Museum in Harrington (www.harringtonmuseum.org.uk); a small exhibit at the National Museum of the U.S. Air Force at Wright-Patterson Air Force Base; and several small monu-



Heflin receiving awards
from French Gen. Koenig.

ments in France and at the U.S. Air Force Academy. In fall of 1993, fiftieth anniversary invasion memorials were held in England and France, and "a special service was held at the Arc de Triomphe in Paris for the Carpetbaggers, the only non-French servicemen so honored."⁵¹ Carpetbagger veterans today support a large Carpetbagger website (www.801492.org), a monthly newsletter and annual reunions. Along with selected other World War II veterans, several Carpetbaggers recently received overdue awards of the French Legion of Honor.

Unlike other AAF Bombardment Groups in World War II, the Carpetbaggers measured their success by avoiding German forces, delivering operators and supplies to European guerrillas, and extracting Allied personnel from behind enemy lines. For their last several months of operation, their missions far exceeded those of SDS and were essential to the successes of both OSS and SOE. When historians analyze the role of special operations in World War II, the Carpetbaggers may warrant at least a paragraph, if not share an entire chapter with OSS, SOE and SDS.⁵²

* * *

When relieved of his Carpetbagger command on October 22, 1944, Heflin had been CO of the Carpetbaggers for twelve months. In that period, he turned twenty-nine years old and was promoted to full Colonel, which his family recalls briefly made him the youngest AAF Colonel in 1944. From all accounts, his men respected his leadership, not least his practice of being the first to pilot new missions, including the first air drop of supplies, the first air drop of Joes, the first air drops to two circuits in one mission, and of course the first Dakota mission. Heflin completed at least one mission every month during January – September 1944, including fourteen B-24 missions totaling 106 flight hours in dropping seventy packages, 123 containers and nineteen operators; and three C-47 missions totaling thirty-three flight hours in delivering forty packages, 9700 pounds of supplies, and eighteen operators, and extracting twenty-one Allied personnel.⁵³ On October 27, 1944, the director of the Office of Strategic Services, General William Donovan wrote to General Arnold requesting that Heflin be made available to assess the requirements for Carpetbagger-type operations in the China-Burma-India and Southeast Asian theaters, but Heflin was already back in the States being interviewed for his next assignment.⁵⁴

Heflin's Officer Efficiency Report for his this period, prepared by General Hill and concurred with by General Doolittle, rated him "Superior," the highest rating.⁵⁵ Among Heflin's AAF awards were the Legion of Merit, the Distinguished Flying Cross with one oak leaf cluster, and the Air Medal with one oak leaf cluster. He was also awarded France's highest award, the *Ordre National de la Légion d'honneur* ("National Order of the Legion of Honor"), and the *Croix de Guerre* ("Cross of War") with palm, both presented to him by General Koenig at a ceremony in Paris.

Ten years after Heflin's early death in 1980, several surviving Carpetbaggers recalled his leadership:

...a big, robust, quiet officer – unless provoked;...a tough, duck huntin', deer shootin', poker playin', cigar smokin' two fisted man's man;... From the very beginning,...Heflin was truly in command...he expected his men to achieve superiority and we did;...a superb pilot...his [operational] vigil... led to the success of our mission;... the unit success was because of the leadership and personality of Colonel Heflin and Bob Fish;⁵⁶ ... Heflin was my pilot [on my first mission into France]. I will always remember how relaxed he was. On the other hand, I was scared to death."⁵⁷

Two vignettes about Heflin are telling: Early in 1944, a stateside AAF Captain who had worked with Heflin early in the war learned that Heflin was CO of a Bomb Group and immediately asked for a transfer to Heflin's unit. The transfer was approved, causing the Captain's current CO to complain, "When a lowly Captain can override the wishes of a Colonel the Army Air Force (sic) is going to hell!"⁵⁸ And when a Marine officer complained to Heflin

that Carpetbagger enlisted men were not saluting him, Heflin replied that they didn't salute him either; "*We may not have saluted [Heflin], but we sure as hell did respect him.*"⁵⁹

A few primary and secondary sources that describe Heflin's Carpetbagger service are now available, but he never contributed to these accounts because only one was written while he was alive.⁶⁰ Heflin never publicly commented about this period of his air force career, an unfortunate pattern throughout his life.

Perhaps of most historical importance, Heflin's Carpetbagger accomplishments led immediately to

his selection as the senior AAF commanding officer for the Manhattan Project to develop the atomic bombs. Among his contributions to that Project's success, he was responsible for transforming the science of atomic bombs into practical, effective weapons and organizing the 509th Composite Group that would fly the atomic bomb missions. This story is presented in two articles by this author that were recently published by *Air Power History*.⁶¹

At Heflin's 1968 retirement from the Air Force, his Carpetbagger and Manhattan Project commands were cited in awarding him the Distinguished Service Medal. ■

NOTES

1. Max Boot, *Invisible Armies: An Epic History of Guerrilla Warfare From Ancient Times to the Present*, (New York: Liveright Publishing Corporation, 2013.) p. xx.
2. Andrew L. Hargreaves, *Special Operations in World War II: British and American Irregular Warfare*, (Norman Okla.: University of Oklahoma Press, 2013), p. 270.
3. The two men most responsible for documenting Carpetbagger history were the late Ben Parnell, who published the first account in 1985, and the late Thomas L. Ensminger, whose 15 years of research resulted in three books and the creation of the 801st/492nd Organization and website.
4. Donovan, who was awarded the Congressional Medal of Honor in World War I, lived a storied military career that cannot be adequately described in this brief paper. An associate once described Donovan as "the sort of guy who thought nothing of parachuting into France, blowing up a bridge, pissing in the *Luftwaffe* gas tanks, then dancing on the roof of the St. Regis hotel with a German spy." See Persico, *op. cit.*, endnote 46, p. 166.
5. Assistant Chief of Air Staff, Intelligence, Historical Division, "Reference History: The AAF Antisubmarine Command." (April 1945): Appendix 4, pp. 294-295.
6. As a measure of the B-24's impact, the flight records of Lt. Col. Clifford J. Heflin, commanding officer of the 22nd Squadron, are revealing. They reveal that his longest A-29 mission was seven hours, and most were considerably shorter, whereas his longest B-24 mission was almost twelve hours. Heflin's career flight records are in the author's possession.
7. See John F. O'Connell, "Closing of the North Atlantic Air Gap: Where Did All the British Liberators Go?" *Air Power History*, (Summer, 2012): pp. 32-43.
8. T.R. Parker, "Narrative History of the Carpetbagger Project, Inception to 30 June 1944." History Section, Eighth Air Force. (undated): p. 156. IRIS Number 00219169, United States Air Force Historical Research Agency, Maxwell AFB, Alabama.
9. "Carpetbagger" was originally the codename for the project that assigned the 22nd and 4th Squadrons to work with OSS, but quickly became the Group's nickname.
10. The Germans had fifty-five army divisions in France. The Allies planned to eventually land fifty divisions, but on the first day they could only land five partially-equipped divisions.
11. Major Bernard V. Moore II, "The Secret Air War Over France: USAAF Special Operations Units in the French Campaign of 1944." *School of Advanced Airpower Studies: Air University* (May 1992): p. 5. Of interest, Moore served as Chief, U.S. Special Operations Command, Special Operations Support Teams, National Capitol Region, Crystal City, Virginia.
12. *Ibid.*, pp. 1-5.
13. *Ibid.*, p.10.
14. SOE's principal aircraft were the Handley Page Halifax heavy bomber; the Westland Lysander single-engine, tactical reconnaissance aircraft; and the Lockheed Hudson light bomber.
15. Colonel Robert W. Fish, "Memories of the 801st/492nd Bombardment Group." *U.S. Air Force Special Operations Command: AFSOC Heritage Reading Room* (1990): p. 5.
16. Thomas L. Ensminger, *Spies, Supplies and Moonlit Skies, Vol. I*, Version 2.0a. (801st/492nd Organization, 2009.) p. 60.
17. There were several re-designations of the Carpetbagger Group and its squadrons; the 801st/492nd Bomb Group squadrons were 36/856, 850/857, 406/858, and 786/859. Considerable historical confusion was created because an original 492nd Bomb Group of the 8th AF was disbanded on August 7, 1944, and then one week later on August 13 the 801st was re-designated as the 492nd.
18. This important fact has been overlooked in virtually every account of SOE. But M.R.D. Foot, a former SOE operative who became SOE's official historian, pointed out that "...there were many fields in which OSS and SOE worked as one single organization...SOE drew largely on American stores, *above all on American aircraft...*," [emphasis added] William J.M. Mackenzie, M.R.D. Foot, *The Secret History of SOE: Special Operations Executive 1944-1945*, (London: Little Brown Book Group, 2002.) p. 393.
19. Boot, pp. xxii-xxiv.
20. *Ibid.*, p. 566.
21. French resisters have been called by several different names, including patriots, partisans, underground, resistants, and Maquis; the latter name originally only referred to resisters from France's Ain region.
22. Stephen E. Ambrose, *D-Day June 6, 1944: The Climactic Battle of World War II*, (New York: Simon & Shuster, 1994), pp. 99-100.
23. Matthew Cobb, *The Resistance: The French Fight*

Against the Nazis, (New York: Pocket Books, 2003), p. 276.

24. Parker, pp. 20-25. Among unusual supplies were booby traps camouflaged to resemble lumps of coal, rocks and manure.

25. There is ample public information now available for most of these groups, and after the war several operatives went on to storied careers in related fields. Several "Josephines" were celebrated after the war, including Sonya Butt, Phyllis Latour, Nancy Wake, Violette Szabo, and Marguerite D.F. Knight. Szabo was captured, tortured and executed at Germany's Ravensbruck concentration camp.

26. The other Eighth AF squadron was based at Cheddington, England. Some historians have confused it as being a Carpetbagger squadron because of mirror re-designations between the two: the Cheddington squadron was originally 858, then re-designated 406, whereas the Carpetbagger squadron was originally 406, then re-designated 858.

27. Major Harris G. Warren, "Special Operations: AAF Aid to European Resistance Movements, 1943-1945," *Combined Arms Research Library: Digital Library* (June 1947): p. 172.

28. Moore, p. 41.

29. Ben Parnell, *Air Commandos: The Saga of the Carpetbaggers of World War II*, (New York: ibooks, inc., 2004,) pp. 14-17.

30. Heflin Mission Report dated March 3, 1944, in possession of the author, courtesy of Thomas L. Ensminger and the 801st/492nd Organization.

31. Fish, p. 6.

32. Parnell, p. xv.

33. Thomas L. Ensminger, *Spies, Supplies and Moonlit Skies: Volume III: Rain of Agents*, (801st/492nd Organization, 2011), p. 15, based on OSS War Diary, (College Park, National Archives and Records Administration), RG 226, Microfilm Roll 10, Volume 13 "Miscellaneous."

34. All missions referenced in this paper were completed. There were a considerable number of incomplete missions due to lost aircraft, adverse weather at the drop zone, incorrect password from the Resistance reception, missing Resistance reception, missed coordinates, and aircraft technical problems.

35. Several Carpetbagger airmen survived imprisonment at the notorious Buchenwald POW camp. Also, Carpetbagger Lt. John Mead was shot down over France on May 5, 1944, fought with the Resistance until late August, and finally returned to England in November.

36. Cobb, pp. 252-254.

37. OSS considered very early helicopters; a device that enabled landing and re-launching a very light plane; and modification of aircraft equipment that could snatch mail and cargo packages. (College Park, National Archives and Records Administration) RG 226, M1642, Roll 35, Frame 1274, OSS interoffice memo 12 January 44.

38. Fish, p. 172.

39. There are several accounts of the first Dakota mission. See "History of the 850th Bombardment Squadron (H): 11 October 1943 to 30 September 1944," pp. 127-137, courtesy of the 801st/492nd Organization.

40. Ensminger, *Vol. III*, p. 43.

41. David K.E. Bruce, *OSS Against the Reich: The World War II Diaries of David K.E. Bruce*, (Kent Ohio: Kent State University Press, 1991), p. 109. At the time, Bruce was Chief of OSS London; Spaatz was Commanding General, U.S. Strategic Air Forces in Europe;

Gerald E. Miller, was Chief of OSS Special Operations Branch; Brigadier General George C. McDonald was Director of Intelligence; Major General Frederick L. Anderson was Deputy Commander, Operations; Captain Sarah ("Sally") Bagby was Aide-de-Camp to Spaatz; and Brigadier General Edward P. Curtis was Chief of Staff.

42. Fish, p. 173.

43. Carpetbagger C-47 Mission Reports, courtesy of Thomas L. Ensminger and the 801st/492nd Organization.

44. Paul Kennedy, *Engineers of Victory: The Problem Solvers Who Turned the Tide in the Second World War*, (New York: Random House, 2013), pp. 259-260.

45. Antony Beevor, *D-Day: The Battle For Normandy*, (New York: Viking Penguin Group, 2009), p.166.

46. Douglas Waller, *Wild Bill Donovan: The Spy-master Who Created the OSS and Modern American Espionage*, (New York: FP Division, Simon & Shuster, 2011), p. 265.

47. Randall B. Woods, *Shadow Warrior: William Egan Colby and the CIA*, (New York: Basic Books, 2013), p. 49

48. Hargreaves, pp. 273-274.

49. Julian Jackson, *France: The Dark Years 1940-1944*, (New York: Oxford University Press, 2003), p. 557.

50. The medal is awarded to those "who have performed an achievement that has an impact on American history and culture that is likely to be recognized as a major achievement in the recipient's field long after the achievement." First awarded in 1776, medal recipients number little more than 150 across very diverse professions. U.S. Air Force personnel who have received the medal include Generals Billy Mitchell and Ira Eaker, The Tuskegee Airmen, and the Women Air Force Service Pilots.

51. Beachbell Echo, March, 2008, Vol. 23 No. 1, Station 125 APO 558, Flixton A.B., 446th Bomb Group Association, Ashton (MD).

52. Of interest, Heflin and the Carpetbaggers earned brief mention in two celebrated books about World War II: *Is Paris Burning?: How Paris Miraculously Escaped Adolph Hitler's Sentence of Death in August 1944*, by Larry Collins and Dominique Lapierre, first published in 1965 and which sold almost 10 million copies in thirty languages; and *Masters of the Air: America's Bomber Boys Who Fought the Air War Against Nazi Germany*, by Donald L. Miller, first published in 2006. Neither prompted military historians to pick up the Carpetbagger story.

53. Heflin Mission Reports 1944 in possession of the author, courtesy of the 801st/492nd Organization.

54. Heflin military records in possession of the author.

55. Officer Efficiency Report: Heflin, Clifford J. (Cheddington, England: U.S. Army Air Forces, January-June 1944). Heflin's papers contain no OER for the July-December 1944 period, likely because he was between assignments.

56. Parnell, pp. 168-170, 177.

57. Fish, p. 176.

58. Ensminger, Vol. II, p. 96.

59. Parnell, p. 178.

60. Warren, 32-50.

61. The author's two papers are "The Other Atomic Bomb Commander: Col. Cliff Heflin and his 'Special' 216th AAF Base Unit," *Air Power History*, Volume 59 Number 4 (Winter 2012), and "The First Atomic Bomb Mission: Trinity B-29 Operations Three Weeks Before Hiroshima," *Air Power History*, Volume 60 Number 4 (Winter 2013).

READY FOR THE WORST: PREEMPTION, PREVENTION AND AMERICAN NUCLEAR POLICY





Trevor D. Albertson

(Overleaf) Twin rows of B-47s line the runways in Morocco.

LEMAY LEFT LITTLE DOUBT AS TO HIS BELIEF THAT ATTACKING FIRST IN A WAR, SPECIFICALLY A NUCLEAR WAR, WAS WARRANTED AND NECESSARY

Between October 1948 and July 1957, General Curtis E. LeMay served as the commander of the Strategic Air Command (SAC), the United States' airborne nuclear force. As commander of this force, LeMay was responsible for deterring any potential Soviet attack on the United States. If deterrence failed and the Soviets attacked, LeMay and SAC were charged to respond with a nuclear attack on the Soviet Union. This scheme served as the basis of deterrence and retaliation, the essential military policy of the United States for the duration of the Cold War. LeMay, however, had no desire in waiting to respond; he wanted to attack first if he believed a Soviet assault was imminent. LeMay argued for the adoption of such a policy, carrying this argument across many years and multiple venues, despite a national policy of deterrence and retaliation. Evidence of this desire can be found in LeMay's statements during his command of SAC. Ranging from public and classified speaking appearances to written correspondence, LeMay left little doubt as to his belief that attacking first in a war, specifically a nuclear war, was warranted and necessary.

Though cast as a warmonger in the years following his time at SAC, the historical record reveals a more complex man. His statements also render a seemingly honest concern for national survival and self-defense in the nuclear age. Today it may be hard to fathom the fear of a surprise nuclear assault that pervaded military thinking of the early Cold War, but at the time LeMay was making these proclamations, this fear was real and legitimate. Few, if any, effective defenses against a nuclear attack existed; this left preemptive attack—military action taken under a belief that an enemy attack is shortly pending, and preventive war—war predicated upon a belief that enemy action could occur at a future but yet undefined date, as perhaps the only effective options available.

In his book, *Counsels of War*, Cold War historian Gregg Herken noted that, "the topic of preventive war—meaning an unprovoked attack by the United States on the Soviet Union—had been discreetly discussed in some government and military circles since the advent of the atomic bomb."¹ According to Herken, the possibility of undertaking a preventive war had been considered by members of Congress, the Truman Administration, and Paul Nitze.² These considerations, however, did not proceed past the discussion stage. Herken reported that, "in every case, the alternative of preventive war was finally rejected by civilian and military leaders alike as inimical to the nation's principles, and contrary to the popular will."³ Similarly, by 1950, the Joint Chiefs of Staff (JCS) had made clear

that the execution of a preventive war against the Soviet Union was "not politically feasible under our system to do so or to state that we will do so."⁴ This decision was further clarified by President Truman, who removed Secretary of the Navy, Francis Matthews, following Matthews' urging "that the United States become the first 'aggressors for peace.'"⁵ Herken stated that Truman believed "the American people would never tolerate the use of the bomb for 'aggressive purposes.'"⁶

In historian Peter J. Roman's article "Curtis LeMay and the Origins of NATO Atomic Targeting," appearing in the *Journal of Strategic Studies*, Roman argued that during "SAC's formative period (1948-1952)"... "LeMay's effective bureaucratic politicking enabled his doctrinal vision to become reality."⁷ Roman went on to explain that, "LeMay's conception of SAC rested firmly on an unflinching commitment to the decisiveness of strategic airpower as evidenced by World War II."⁸ Roman pointed out that, in the Cold War, "given SAC's mission, the Soviet threat, and American reliance on atomic weapons, LeMay quickly decided to build an organization which could execute its war plans immediately, massively, and under the direction of one central command."⁹

LeMay, however, also needed a *modus operandi* by which he could best prepare his command for war. While preventive war had been specifically removed by Truman and the military from the range of possible courses of action available to the American defense establishment, preemptive war had not been ruled out. Though no documentation is available to definitively prove that political policymakers in Washington had specifically approved the possibility of a preemptive strike, the issue would be taken up by LeMay prior to and following the edicts of the Truman administration and the JCS.

No Surprises—Except His Own

As early as 1946, prior to his command of SAC, elements of LeMay's philosophical approach to preemption were evident in his public statements—thinking which held at its core the principle of surprise. In a *New York Times* article published on July 19, 1946, LeMay noted that, "the long-range bomber, flying over the polar region, made the industrial heart of any country in the world vulnerable to complete surprise and destruction."¹⁰ The *Times* article would go on to quote LeMay stating that, "These bombers...might carry atomic bombs, or the atomic bomb itself as a guided missile might effect the destruction before any declaration of war."¹¹ LeMay's proposition that an attack could arrive before a formal war declaration, and amid surprise, leaves one

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Gen. Curtis E. LeMay.

**LEMAY
CONTINUED
TO STRESS
THE VALUE
OF SURPRISE
IN ASSOCIA-
TION WITH
STRATEGIC
BOMBING**

with little room but to see the hypothetical attack as one of preemptive or, at worst, preventive war.

Upon his arrival at SAC in the Fall of 1948, LeMay continued to stress the value of surprise in association with strategic bombing, a function of the United States military that LeMay held squarely in his control as commander of SAC. In a speech to Omaha Post Number One* on December 14, 1948, LeMay laid out what he saw as the future of strategic bombing. LeMay informed his audience that, "In order to crush any nation's will to fight—we must reach and destroy its political and economic centers—including its industrial areas—ports—railways and other means of transportation. That has always been the purpose of both strategy and tactics. And that purpose remains."¹² LeMay went on to point out what he saw as the principles of war influencing his thinking, concluded his remarks with the statement: "As ex-service people you are all familiar with the principles of war. Strategic bombardment enables us to exploit these principles to the full—particularly the principles of *mass* and *surprise*—by attacks on selected targets (emphasis added)."¹³ The question that naturally comes is why was LeMay so fascinated with the concept of surprise? The answer

*The record is unclear as to exactly what organization this was. In all likelihood, based upon the name of the organization and the nature of LeMay's remarks that day, it was likely a veterans' organization, perhaps the American Legion or Veterans of Foreign Wars.

to this question becomes clear in his correspondence and statements that followed.

No Ambiguity

A 1949 letter from LeMay to Air Force Chief of Staff Hoyt Vandenberg leaves little room for ambiguity as to why LeMay was so enamored with the concept of surprise, and also directly exposes LeMay's opinion on preemptive and preventive war. Now declassified, LeMay's formerly Top Secret letter specifically addresses the issues of preemptive and preventive war as a response to a potential threat posed by the Soviet Union to SAC's ability to respond when required. The letter shows that there was discussion among some of the most senior leaders in the Air Force of a first strike against the Soviet Union, even in the period following the test of the first Soviet atomic bomb. Sent to Vandenberg on December 12th, LeMay's letter was a response to one sent by Vandenberg the preceding October. LeMay wrote that Vandenberg had, in his October letter, "stressed the importance of accelerating our readiness to conduct effective atomic warfare."¹⁴ In his December reply, LeMay noted that "our readiness in this regard will depend materially upon our ability to avoid or absorb the effects of enemy attempts to immobilize our atomic striking force before it can be committed to combat."¹⁵ LeMay continued: ¹⁶

I further realize that the magnitude of the problem of improving our means of coping with such attempts is so great, considering the limited resources available to meet all USAF commitments, that the possibilities of achieving an adequate overall solution in the near future are extremely limited.

What LeMay referred to was the dilemma that SAC and United States faced in countering the Soviet threat, in being prevented or impeded in launching a nuclear strike against the Soviets. Specifically, LeMay worried that "the information available to us indicates that the U.S.S.R. has the capability of penetrating all Strategic Air Command stations to the extent required to immobilize through sabotage the combat units based thereon."¹⁷ Such a chilling assessment, coming from a respected commander of one of the Air Force's Major Commands (MAJCOM)—let alone the nation's primary nuclear command—would likely have had an impact upon the decision making process, and this may very well have been LeMay's intent in phrasing the letter as he did. But this danger also left LeMay an opening to propose his solution to the problem. LeMay offered to Vandenberg "to leave one further thought with you that applies to the overall defense problem"¹⁸ because "No matter how much active defense we provide for ourselves, it is unlikely that we can prevent the Soviets from attaining a measure of success in any attacks against our striking force."¹⁹ LeMay continued: ²⁰

The size of our striking force is so closely tailored to fit the task with which it is charged that we have lit-

The B-36 was the mainstay of Strategic Air Command in its early years due to its long range, but its slow speed prompted its replacement by jet aircraft.



tle or no margin of safety within which we can absorb the effects of a successful enemy attack. Under these circumstances, it would appear economical and logical to adopt the objective of completely avoiding enemy attack against our strategic force by destroying his atomic force before it can attack ours (emphasis added).

As this record shows, LeMay advocated some form of first-strike to the Chief of Staff of the Air Force. Whether he is suggesting it be either preemptive or preventive is a distinction addressed by LeMay in the lines that followed. Expanding upon his statement about launching a first strike, LeMay wrote:²¹

Assuming that as a democracy we are not prepared to wage a preventive war, this course of action poses two most difficult requirements:

An intelligence system which can locate the vulnerable elements of the Soviet striking force and forewarn us when attack by that force is imminent, and

Agreement at top governmental level that when such information is received the Strategic Air Command will be directed to attack.

1950 Commanders Conference

The concerns raised about preemptive strikes against the Soviet Union that LeMay argued before Vandenberg in his December 12th letter were again aired by LeMay in 1950, this time in a forum officially known as a "Commanders Conference," a periodic meeting of the Air Force's senior staff and MAJCOM leaders. The conferences served as a coordinating meeting, whereby policy guidance could be given by senior military and civilian officials within

the Air Force to those commanders whose responsibility it would be to carry that policy out. Commanders Conferences also served as a roundtable for airing grievances and proposing new ideas about Air Force doctrine, strategy, and operations. That spring LeMay would take full advantage of the opportunity afforded him. On April 26, 1950, LeMay took center stage and prepared to make his point. Turning over the initial presentation to one of his subordinates, Brigadier General Montgomery, an explanation of SAC's role in a nuclear war followed.²² What trailed Montgomery's presentation would serve to further illuminate the issues raised by LeMay in his December 12, 1949, letter to Vandenberg concerning a preemptive strategy. Offering thoughts on SAC's nuclear role and some of the weaknesses he saw in the ability of the command to perform its mission, LeMay turned to "the future."²³ He began by indicating that "Vandenberg has raised the point that our loss of monopoly in atomic weapons has serious implications on our plans for national security. I would like to tell you how severely it affects the Strategic Air Command mission."²⁴ Clearly, the Soviet acquisition of nuclear weapons would have a significant impact upon SAC's plans, and that reality would be a driver in the shaping of future operations and plans at SAC; LeMay would exploit the issue, using it as an opportunity to further his advocacy of a preemptive strike policy. But as he had done in his December 12th letter to Vandenberg, LeMay first needed to appropriately set the stage for making his argument about the necessity of a preemptive policy. Doing so, LeMay noted that,²⁵

As the Soviet stockpile grows and their capability to deliver that stockpile grows, there comes a time when the entire picture changes radically. It is about this

LEMAY ADVOCATED SOME FORM OF FIRST- STRIKE TO THE CHIEF OF STAFF OF THE AIR FORCE

period and what we must do about it that I would like to say a few words.

LeMay then argued that, once the Soviets had amassed the number of weapons needed to launch a sufficiently large enough nuclear strike against the United States, the United States²⁶

will no longer have military superiority as we know it today. The enemy, even though possessing fewer bombs than we may have, will have enough either to destroy our striking force or the major cities of this country or both.

Building upon this argument, LeMay pointed out that the Air Force's plans for the air defense of the nation against such an attack would be limited in utility, and that "the proposed air defense can only reduce the damage inflicted upon us. It certainly cannot eliminate all of the damage to us by a long shot."²⁷ But LeMay had a plan in mind.

LeMay then turned to a report released by the Joint Chiefs, citing an argument which held that, once relative nuclear parity had been reached, the nation that initiated a nuclear strike, under conditions of surprise, would likely benefit greatly in a war.²⁸ This was the logic behind LeMay's belief in the necessity for preemptive action in the case of an impending Soviet attack upon the United States. In citing the Joint Chiefs' report, LeMay had established the logical imperative for preemption before the group of officials whose support he would need for the strategy he desired. LeMay continued: "In other words, unless we take steps now that are not presently programmed, we are pretty apt to lose the next war. In my mind, we now face a basic change in our concept."²⁹ The change that LeMay would propose, in this Top Secret forum of peers and superiors, mirrored the sentiments he had shared with Vandenberg in his December 12th, 1949, letter. Now with Air Force Chief of Staff Vandenberg, Secretary of the Air Force Finletter and others assembled before him, LeMay again made his beliefs about preemption known. Summing up, LeMay argued that the changes he sought required that, "We must not only plan to destroy the enemy industrial power but we must be capable at the same time of destroying his force before it destroys us."³⁰

Interestingly, LeMay went on to willingly expose critical problems in pursuing preemption as a possible solution to the Soviet threat. He eventually stated that: "We are a long way from possessing the capability of destroying the Soviet striking force."³¹ From there LeMay continued, pointing out that, "As General Cabell stated, there is so little intelligence available on that force today as to its size and location that it is not possible to estimate what we can do about it."³² Having just undercut his own argument for preemption, LeMay anticipated a resolution, telling those assembled that, "However, from our experience in building an atomic striking force, we know that sensitive spots do exist which, if attacked, would drastically reduce the striking power."³³ According to LeMay, "As a matter of fact,

we believe that a well-planned attack based on sound intelligence might well eliminate that threat. Not only am I thinking of aircraft, but I am thinking of sites like Able, Baker, and Charlie."³⁴ LeMay then brought up the next problem, stating that, "In addition to our intelligence shortcomings today, too small a portion of our striking force has sufficient range to enable us to strike promptly from this country without deploying to forward bases."³⁵ Though LeMay had introduced some curious and acute issues that related to the question of preemption, he was undeterred. LeMay offered that regardless of "weaknesses on our part, I am convinced that we have no alternative. We must achieve the capability of destroying the enemy's long-range striking force."³⁶ In his conclusion LeMay stated, "I believe that our national leaders must be impressed with the need for taking the following specific steps:"³⁷ arguing in the final item for these leaders to "re-examine present policies which imply that we must absorb the first atomic blow."³⁸ In LeMay's mind, there was no sense in waiting to be the recipient of a nuclear attack.

LeMay's advocacy for a policy of preemptive attack in his comments during the April 1950 Commanders Conference is certain in its meaning. Having expressed similar thoughts to Vandenberg in his December 1949 letter, it is highly likely that LeMay's recounting of comparable ideas at the Commanders Conference implies some degree of acceptance by Vandenberg of the concepts proposed by LeMay. If Vandenberg had any concerns about LeMay's ability to appropriately carry out set national policy objectives in light of his comments at the Commanders Conference—namely deterrence and retaliation—he surely would have relieved him of his command. Instead, LeMay's subsequent continued command of SAC and Vandenberg's seeming continued confidence in him indicates a degree of *de facto* consent to his ideas.

LeMay Returns To College

In early 1954, LeMay returned to the topic of preemption, this time addressing a group at the National War College (NWC) in Washington, DC. A prestigious institution within the military, the NWC was also known for hosting speakers of great reputation to offer remarks on topics at the strategic and conceptual level. During a lecture on January 28th, LeMay proceeded to explain how SAC planned to carry out a nuclear war in a contemporary context, "as opposed to future trends and requirements."³⁹ As LeMay saw it, "too many people are dealing with the future without having an accurate understanding or appreciation of the present forces and the problems that face us today."⁴⁰

LeMay noted that, "Obviously we won't have the time to build a bombing force to fight the next war."⁴¹ Instead,⁴²

We will have to fight with what we have the day the war starts. And we cannot expect Russia will leave our aircraft factories unmolested to build something

The propeller-driven KC-97 simply could not keep up with jet aircraft and was phased out as the 1950s wore on.



THE PLANES AND WEAPONS THAT WERE PREPARED TO FIGHT ON THE FIRST DAY OF THE WAR WOULD BE THE ONLY FORCE THE UNITED STATES WOULD BE ABLE TO FIELD

after the war begins. I certainly don't intend to leave the Russian industry undisturbed.

LeMay's point meant that the planes and weapons that were prepared to fight on the first day of the war would be the only force the United States would be able to field. There would be no time to mobilize the rest of the military or civilian industry to support the attack. LeMay's subsequent statements also make it clear that he had no intention of allowing a Soviet attack upon the United States. Instead, as LeMay would reveal, the Joint Chiefs had placed an emphasis on the ability to carry out a strike that could save the United States from a Soviet nuclear attack. LeMay explained that SAC's mission ⁴³

embraces three principal tasks: the blunting or Bravo task, which is to destroy the Soviet atomic forces on the ground (emphasis added); the retardation task, to prevent the massing and launching of Soviet military forces; and the destruction task, to systematically destroy the Soviet war-sustaining resources.

LeMay observed that, "The Joint Chiefs of Staff have assigned the blunting task the highest priority,"⁴⁴ meaning that preemption of the Soviet nuclear forces was LeMay and SAC's primary mission. This was an important distinction.

Moreover, LeMay admitted that the blunting, or preemptive mission, was not the only task assigned to SAC, but was SAC's "most difficult task."⁴⁵ At the prompting of a questioner following his speech, LeMay offered some details on the blunting mission and why it was regarded as particularly difficult: "You said your first task was to destroy the enemy's atomic capabilities on the ground. Can you discuss a little more in detail your possible success in that line?"⁴⁶ the questioner asked. LeMay responded by reminding the questioner that, "I also

said that was our most difficult task,"⁴⁷ adding: "We think the best chance of preventing attacks on this country is to get those airplanes on the ground before they take off."⁴⁸ LeMay proceeded in his answer with great candor, explaining that "A specific answer to your question is impossible. I don't know how we are going to do it."⁴⁹ Yet, in response to a further question, LeMay explained that he did not believe⁵⁰

the Russians can destroy our Air Force on the ground. We have given it a lot of thought. We have run tests continually over the weekends or in the middle of the night, at awkward times, to see how we can disperse. We think we are going to have some time. I just cannot visualize a complete surprise.

Perhaps the reason LeMay could not envision being completely surprised is because he intended a surprise of his own. The issue would be further addressed the following year.

The Quantico Conference

The most demonstrative example of LeMay's advocacy for a policy of preemptive attack against the Soviet Union took place in July 1955, at a gathering of senior political, defense and military officials in Virginia. The meeting was the Joint Secretaries' Conference, and it took place at the Marine Corps Base at Quantico. The conference was convened on July 14. On the third day of the conference LeMay was the opening speaker. According to a document from the conference, attendees scheduled to be present included, in addition to some of the most senior officers of each of the military services and the various service secretaries: Director of Central Intelligence, Allen Dulles; Secretary of the Treasury, George Humphrey; Secretary of Defense, Charles Wilson; AEC Chairman, Lewis Strauss; Assistant to the President, Fred Seaton;

Special Assistant to the President, Nelson Rockefeller; and the Vice President of the United States, Richard M. Nixon.⁵¹

The Quantico Conference had implications for resolving some key questions about potential dissonance between American declared policy and actual policy toward nuclear war, and certainly about LeMay's stance on preemption. Anything LeMay said in his speech would be directly known to some of the most senior figures in government; if there was disapproval of the things LeMay said concerning preemption, he could have, and likely would have been disciplined and removed from his position as commander of SAC, essentially ending his military career. None of these things happened.

LeMay began his address by assuring the audience that SAC was "fully capable of inflicting decisive damage to an aggressor nation during the present time period if its force is properly utilized."⁵² LeMay continued,⁵³

SAC has the potential to launch a predominately intercontinental attack of 180 atomic and thermonuclear strike aircraft within 12 hours of alert and to launch additional strikes each 12 hours until at the end of 48 hours a total of 880 strike aircraft will have been dispatched.

The most salient aspect of LeMay's remarks was not the details of the concept, but the conditions under which he preferred to carry it out. He told the audience that, "I cannot over-emphasize the importance of striking enemy air battle objectives at the earliest possible time,"⁵⁴ meaning that his "principal concern"⁵⁵ was "to deny promptly and decisively the ability of [of] the enemy to conduct nuclear war against the U.S."⁵⁶ In effect, this was a call for the preemptive destruction of Soviet assets capable of attacking the United States. Going further, LeMay sought to make clear his views on preemption, and in support offered a new definition of the concept of aggression. LeMay cited "a thought introduced by Ambassador Henry Cabot Lodge on a visit to my headquarters last January,"⁵⁷ where Lodge had "suggested that the word 'aggression' be redefined and accepted by the United Nations."⁵⁸ LeMay continued: "The new definition should, in my opinion, recognize that we are now living in an age when it can no longer be an issue of morality that a nation must receive the first physical blow before it can respond with force; (emphasis added)"⁵⁹ ... "In fact, the first blow can now signal the end of a conflict rather than the beginning."⁶⁰ LeMay's next statement would leave no doubt as to whom he thought should strike the first blow:⁶¹

Therefore certain enemy actions short of war should constitute sufficient threat to the non-aggressor nation that it would be justified in launching direct attack at least on enemy strategic air power to forestall its own disaster.

Citing an article from the publication, "The Review

of Politics," LeMay concluded with ⁶²

I share the philosophy contained in an article entitled 'Courage or Perdition?'... 'Only one thing is worse than nuclear war-defeat in nuclear war... We are forced to look hard at the 14th fact of the atomic age, which, perhaps, is the most ominous of all: That in an atomic conflict the force which plans to strike second may never strike at all (emphasis added).'

The Quantico Joint Secretaries Conference provides some of the most clear and compelling evidence as to LeMay's belief in and advocacy of a policy of preemptive nuclear war. That LeMay made these statements before the audience he did also indicates his confidence in such a policy, and a belief that those in senior government leadership positions would have found his ideas at least palatable. To a certain degree, history has shown LeMay to be correct, given his continued command of SAC and subsequent positional promotion to Air Force Vice Chief of Staff two years later.

On Departure

Though the Joint Secretaries Conference provided some of the most compelling evidence concerning LeMay's beliefs about a policy of nuclear preemption, they were not his final strong and clear remarks on the issue. In 1956 and 1957 LeMay spoke at two events that afforded him the opportunity to further elaborate on the topic, and he did so with sharp, muscular language. LeMay's statements in these forums created bookends to his remarks on the topic of preemption while in command of SAC.

In January 1956 LeMay attended a conference at Wright-Patterson Air Force Base near Dayton, Ohio. As had been the case at the National War College and the Quantico conference, LeMay used the forum to advocate for a nuclear strategy of preemption. A now declassified document from the meeting reveals that LeMay told those assembled that, "another situation has developed that should cause us some concern. It is that the Russians will continue to talk peace, and there are too many people that believe them."⁶³ It seems certain LeMay did not, and he wanted to be able to assuage his fears. Going further, LeMay recounted "Nine Basic Points On Which We All Agree"... "The Prevention of Aggression"... "The Air Power Battle"... "The Destruction of the Enemy Offensive"... "The Offensive Force"... "Defense after Offense"... "Intercontinental Capability"... "Centralized Control"... "The Principle of Security," and... "The Principle of Economy of Force."⁶⁴

According to LeMay, "The Air Power Battle"⁶⁵ held that "The first requirement of our Air Force is to win both phases of the Air Power Battle — the deterrent phase and the combat phase... There can be no doubt — at such time as Russian forces have the ascendancy over our forces, and it is to her advantage to attack us, she will attack."⁶⁶ Accordingly, LeMay believed that, "We must have

By the late 1950s, the B-52 and the KC-135 were the mainstays of Strategic Air Command.



IN THE PUBLIC MIND ... DETERRENCE IS ROOTED IN FEAR OF NUCLEAR DEVASTATION OF POPULATION CENTERS

such a force in being that for Russia to attack the United States would mean committing national suicide.”⁶⁷ In the next item, “The Destruction of the Enemy Offensive,” LeMay argued “We all know that the best way to destroy an enemy air offensive force is to attack it in its most vulnerable situation — on the ground before it is launched.”⁶⁸ Put another way, the best way to defeat the Soviet threat was through preemptive attack, not deterrence and retaliation. LeMay went on to point out that, “we should provide as good a defense as can be afforded after the requirements of the offensive force are satisfied,”⁶⁹ and that this “offensive force should have a predominantly intercontinental capability.”⁷⁰ LeMay wanted to be ready for the worst.

Similarly, on May 21, 1957, a little more than a month before his departure as commander of SAC, LeMay paid a visit to Patrick Air Force Base, Florida, just outside Cocoa Beach on the Atlantic coast. There LeMay delivered what was to be one of his last major addresses as the chief of SAC, and his audience on that day was the Air Force Scientific Advisory Board. LeMay noted that he had been requested “to discuss the Operational Side of Air Offense,”⁷¹ also the title of his talk. LeMay argued that the “objective of our national defense policy is deterrence,”⁷² yet, to this LeMay offered a caveat: “In the public mind — both ours and the Soviets — deterrence is rooted in fear of nuclear devastation of population centers.”⁷³ LeMay went on to note that, “However, in the professional military mind — again, both ours and the Soviets,”⁷⁴ “deterrence is measured in terms of ability to destroy the enemy’s means of long-range delivery of nuclear weapons.”⁷⁵ Put differently, deterrence was actually grounded in the ability to preempt an enemy’s nuclear force. LeMay then informed the conference-goers that, “The Joint Chiefs of Staff have directed SAC to destroy, as a matter of first priority, ‘the Soviet capa-

bility to launch weapons of mass destruction against areas or forces vital to the United States and allied war effort”... “In my view, our deterrent strength resides primarily in our recognized capability to win the Air Power Battle”... “Unless and until the Air Power Battle is won, there is no hope of successful operation by major surface forces. This requires, of course, a successful strategic air offensive.”⁷⁶ For LeMay, this meant destroying the Soviet’s ability to attack the United States, and that meant attacking the Soviets first, an enduring theme during his time at SAC.

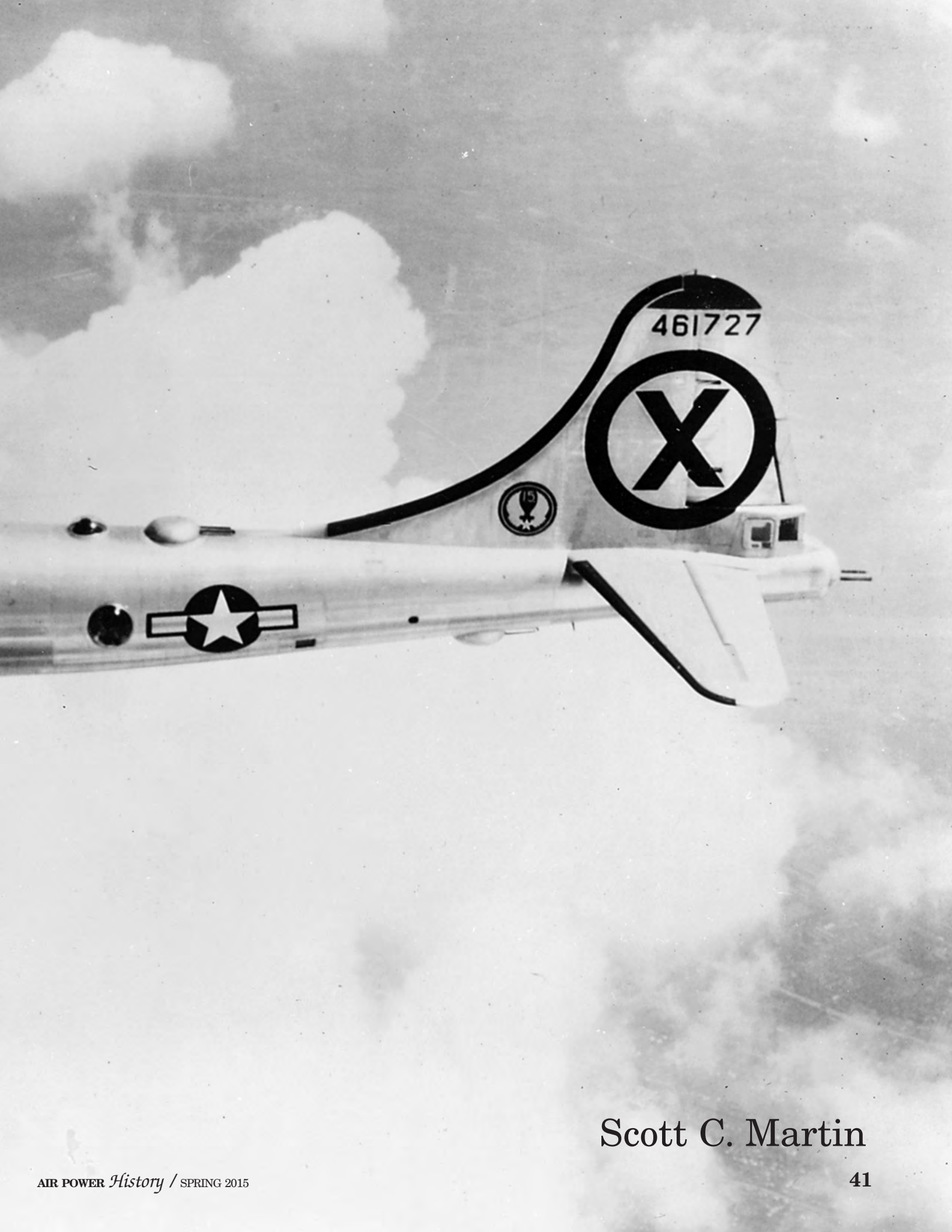
Fear Himself

LeMay’s remarks concerning preemptive war provide evidence that he disagreed with declared American nuclear policy, namely reliance upon deterrence and retaliation for holding the Soviet Union at bay across a spectrum of potential scenarios and levels of tension. While LeMay did argue for a policy of first-strike, he only did so in the context of one being threatened against the United States, a distinction that calls into question at least some of the argument that LeMay was interested in blindly launching an unprovoked preventive nuclear war against the Soviet Union. His statements also bring to light the sense of fear that must have pervaded his thinking, a fear that the United States could be devastatingly attacked, all the while possessing some wherewithal to preclude such from happening. Having been witness to the destruction of many of Japan’s major cities by American bombers during World War II—destruction LeMay himself had leveled as commander of American strategic air forces in the Pacific, he was all too aware of the power of strategic bombing. It was almost as though LeMay had come to fear himself—and what a strategic air force was capable of doing. ■

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2. *Ibid.*, 94-95.
3. *Ibid.*, 95.
4. *Ibid.*
5. *Ibid.*
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7. Peter J. Roman, *Curtis LeMay and the Origins of NATO Atomic Targeting*, *Journal of Strategic Studies*, (March, 1993), 46.
8. Roman, 48.
9. Roman, 49.
10. John Stuart, "Army, Navy Differ on Future Defense," *New York Times*, July 19, 1946, via New York Times Website, www.nytimes.com
11. *Ibid.*
12. Library of Congress, Manuscript Reading Room, The Papers of Curtis E. LeMay, Box B-95 (or simply Box 95), "Speech by Lt. Gen. LeMay, Omaha, Nebraska, December Meeting of Omaha Post Number One, December 14, 1948".
13. *Ibid.* Italics added by this author.
14. Library of Congress, Manuscript Reading Room, Papers of Curtis E. LeMay, Box B-195 (B-3111), Letter from LeMay to Vandenberg, dated December 12, 1949.
15. *Ibid.*
16. *Ibid.*
17. *Ibid.*
18. *Ibid.*
19. *Ibid.*
20. *Ibid.* Italics added by this author.
21. *Ibid.*
22. "Commanders Conference", 25-27 April, 1950, page 203. Record stored at: NARA, Record Group 341, RG 341, Headquarters U.S. Air Force, Office of the Chief of Staff, Vice Chief of Staff Executive Service Division, General Files 1950-1953, box 1. This record was accessed through George Washington University's National Security Archive online document site. The web address for this document, at the time of access in September, 2008, was: www.gwu.edu/~nsarchiv/nuke-vault/special/doc03b.pdf
23. *Ibid.*, page 224.
24. *Ibid.*
25. *Ibid.*, page 225.
26. *Ibid.*
27. *Ibid.*, page 225-226.
28. *Ibid.*, page 226-227.
29. *Ibid.*, page 227.
30. *Ibid.*
31. *Ibid.*
32. *Ibid.*
33. *Ibid.*
34. *Ibid.*, pages 227-228. With regard to LeMay's reference to sites "Able, Baker, and Charlie", although the source document does not make clear to exactly what sites LeMay was referring, it is likely that he was referring to US nuclear weapons storage sites as a comparison to similar such sites in the Soviet Union.
35. *Ibid.*, page 228.
36. *Ibid.*
37. *Ibid.*, p. 230.
38. *Ibid.*, p. 231.
39. Library of Congress, Manuscript Reading Room, Papers of Curtis E. LeMay, Box B-204, Speech by General LeMay Presented at the National War College, January 28, 1954, p. 1.
40. *Ibid.*
41. *Ibid.*, p. 4.
42. *Ibid.*
43. *Ibid.*, p. 5.
44. *Ibid.*
45. *Ibid.*
46. *Ibid.*, p. 1 of Question Period.
47. *Ibid.*
48. *Ibid.*
49. *Ibid.*, pp. 1-2 of Question Period.
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51. Dwight D. Eisenhower Presidential Library, Papers of Chester R. Davis-Assistant Secretary of Army-1955 to 1956, Box 3, materials from the 1955 Secretaries' Conference. The materials referenced for this citation were the "Agenda, Saturday 16 July" and the Program for the conference, which included a directory of attendees, their lodging location, and phone extension. The directory of names was used to determine who was in attendance at the conference.
52. Library of Congress, Manuscript Reading Room, Papers of Curtis E. LeMay, Box B-205, Remarks by General Curtis E. LeMay at Quantico, July 15, 1955, page 1 of speech.
53. *Ibid.*, pp. 4-5.
54. *Ibid.*, p. 19.
55. *Ibid.*
56. *Ibid.*, pp. 19-20. The word "of" was mistakenly typed twice into LeMay's script.
57. *Ibid.*, p. 22.
58. *Ibid.*, p. 22.
59. *Ibid.*
60. *Ibid.*, pp. 22-23.
61. *Ibid.*, p. 23.
62. *Ibid.*, pp. 23-24.
63. Library of Congress, Manuscript Reading Room, Papers of Curtis E. LeMay, Box B-205, Remarks, General Curtis E. LeMay at Commander's Conference, Wright Patterson AFB, January 1956, page 2.
64. *Ibid.*, pp. 2-4.
65. *Ibid.*, p. 3.
66. *Ibid.*
67. *Ibid.*
68. *Ibid.*
69. *Ibid.*, p. 4.
70. *Ibid.*
71. Library of Congress, Manuscript Reading Room, Papers of Curtis E. LeMay, Box B-206 (Box apparently contains items for boxes B-206 and B-207, but is here listed as box B-206. This particular document also bears the marking B-60725 in the upper right-hand corner of the cover), Remarks by General Curtis E. LeMay to The USAF Scientific Advisory Board, Patrick AFB, Fla., May 21, 1957, page 1 (page number not listed on first page).
72. *Ibid.*, p. 2.
73. *Ibid.*
74. *Ibid.*
75. *Ibid.*
76. *Ibid.*, p. 3.

Air Force Intelligence Support to Nuclear Operations: Pre and Post-Incident





Scott C. Martin

(Overleaf) The RB-29 was a mainstay of reconnaissance during SAC's early years.

**AT ITS CORE,
THE AF
INTEL-
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COMMUNITY
SERVES THE
PRIMARY
PURPOSE OF
BRINGING
THE ADVER-
SARY TO THE
PLANNING
TABLE**

The Incident.¹ You only need say that phrase to anyone who worked in the Air Force nuclear enterprise and they know exactly what you mean. *The Incident* refers to the infamous weapons transfer sortie from Minot AFB to Barksdale AFB in August 2007, where instead of an inert Air Launched Cruise Missile (ALCM), the plane flew with a real ALCM. The resulting fallout from these events sent shockwaves throughout the Air Force. While only a small portion of the Air Force had direct involvement with *The Incident*, any command, any base, any Air Force Specialty Code (AFSC) that could claim the remotest involvement with the nuclear mission found itself in the midst of internal and external reviews of how it supported the nuclear mission in the past and how it could improve that support in the future.

For the Air Force Intelligence Community (AFIC), *The Incident* did see some changes, but not to the degree seen in other AFSCs. At its core, the AFIC serves the primary purpose of bringing the adversary to the planning table. This purpose requires taking intelligence and tailoring that product to fit the spectrum of Air Force missions, from counterinsurgency operations, to mobility support for a Non-Combatant Evacuation to supporting the Air Force's nuclear deterrence mission.

Yet, to understand how AFIC currently supports the Air Force nuclear enterprise, it is key to establish how the AFIC supported the nuclear enterprise in the past and how that support evolved over time. To that end, this article will educate the reader on how the AFIC supported nuclear operations by offering a baseline definition for intelligence and using that definition to explain how the AFIC fulfilled that role from the start of the Cold War, through the Post-Cold War/"Pre-Incident" years and how the AFIC continues its support to the nuclear enterprise in the "Post-Incident" Air Force.

Baseline Definition

Joint Publication 1-02 defines intelligence as "the product resulting from the collection, processing, integration, evaluation, analysis, and interpretation of available information concerning foreign nations, hostile or potentially hostile forces or elements, or areas of actual or potential operations."² This updated definition of intelligence still holds the same general meaning as this definition from the 1954 Clark Task Force: "[that which] deals with all the things that should be known in advance of initiating a course of action."³ The shared meaning of

both definitions: making an adversary known and bringing that information to help the Air Force fulfill its mission. Within the definition of intelligence, there exist key subsets (referred to in modern doctrine as functional competencies). As with the definition of intelligence, the names evolved over time, but four functional competencies categorize Air Force intelligence support, to include how the AFIC supported nuclear operations: Analysis, Collection, Targeting, Integration.⁴

Cold War

The requirement that Air Force intelligence had to support the nuclear mission goes all the way to the very foundations of the U.S. Air Force as a separate military branch. Shortly after its creation, the Air Force assumed control of Strategic Air Command (SAC), which encapsulated the assets and manpower involved with America's airborne strategic forces (primarily the B-29 bomber).⁵ SAC's mission gained further impetus as events in Europe required the U.S. to be ready to use its nuclear arsenal at moment's notice, as the U.S. sought to counter the ambitions of the Soviet Union in Europe and the Middle East.⁶ By the end of the 1949, SAC not only needed to respond to USSR actions overseas, but also had to be ready to defend the U.S. mainland, as the Soviet Union became the second nuclear power.

As the Soviet Union emerged as the primary adversary, theUSIC, to include the Air Force, focused much of its intelligence analysis capability towards understanding and countering the USSR. As one of the four functional competencies, analysis calls for: "the conversion of processed information into finished intelligence through the integration, evaluation...and interpretation of all source data and the preparation of intelligence products in support of known or anticipated user requirements."⁷ All levels of intelligence professionals perform intelligence analysis. For the Air Force Intelligence professionals supporting the nuclear mission, detailed analysis of adversary capabilities and assessments of intentions reigned paramount for effective nuclear deterrence and operations.

However, while intelligence analysis supporting SAC and the nuclear mission appeared to have a clear mission focus in nuclear deterrence/operations and a primary adversary in the USSR, it did not make the job any easier. The establishment of the modernUSIC in 1947 did not resolve the long-standing bureaucratic infighting over intelligence.⁸ Post-

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The jet-powered RB-47 filled the reconnaissance role for a short time, until more specialized aircraft were available.

POST-1947, CONTINUED INFIGHTING HINDERED INTELLIGENCE EFFORTS

1947, continued infighting hindered intelligence efforts, as the Air Force refused to work with analysts from the State Department or the Central Intelligence Agency (CIA) on intelligence estimates for national leadership, as each organization felt that their facts and assessments trumped the other organizations.⁹

Yet, the challenges facing AFIC did not end with internal struggles. The Soviet Union, a close ally only a few years prior, remained a major mystery.¹⁰ The Soviet enigma proved especially problematic regarding its nuclear program. The U.S. knew that it would not hold its nuclear monopoly for long, but the question was “when would the Soviets get the bomb?” After the U.S. tested the bomb in 1945, many analysts figured that the Soviets would get the bomb eventually, meaning “within 5 years or so.”¹¹ However, the “5-year” refrain appeared to be a common trait among the USIC, much to the consternation of several government officials.¹² For the most part, the USIC, even in 1948, still held that the Soviets would not get the bomb until the early to mid-1950s at the earliest. The Air Force didn’t share that assessment, figuring that the USSR could obtain nuclear status earlier, but even they expressed shock when a SAC reconnaissance plane detected the first radioactive particles coming from the USSR in 1949, signaling an end to the U.S. nuclear monopoly.¹³

In the 1950s, the Air Force led the charge, stating that the Soviet build-up of nuclear weapons at a massive level, putting the U.S. in danger of falling far behind in the nuclear arms race.¹⁴ With the launch of Sputnik in 1957, the Air Force claimed to have its proof of a certifiable “missile gap.”¹⁵ Yet, the Air Force assessment conflicted with other intelligence organizations. In particular, the CIA took umbrage with the Air Force as it came to the opposite conclusion that while the Soviet Union might have been the first to launch rockets into space, there was hardly a “missile gap” in favor of the Russians.¹⁶ Despite this, the Air Force assessments still held sway over a number of powerful political leaders in Washington, D.C., thus helping it in the

all-important budget wars. Even when President Kennedy debunked the “missile gap” assessment, he still held firm to strengthening the American nuclear deterrent, which remained a goal of SAC and the Air Force.

The Air Force IC, along with their counterparts, continued to score various successes and failures in analysis of Soviet actions during the Cold War. Air Force analysts worked with their IC counterparts to provide President Kennedy an accurate picture of the situation in Cuba in 1962, giving him the key intelligence needed to help thwart the ambitions of the USSR and prevent a nuclear war at the same time.¹⁷ By the same token, Air Force intelligence experienced the same intelligence malaise that nearly led to a potentially dangerous misreading of the Soviet Union during ABLE ARCHER 83, which proved problematic due to the confidence that the USIC had in assessing Soviet NC2 capabilities and intentions.¹⁸ Still, Air Force intelligence could measure its overall success by noting that even when caught off-guard or surprised, the U.S. and the USSR did not go to nuclear war.

However, for effective analysis, the analysts needed information to analyze. Thus, the requirement to collect that intelligence leads to the second functional competency for intelligence, collections. In modern doctrine, collections (more often referred to as Intelligence, Surveillance and Reconnaissance (ISR)) “...synchronizes and integrates the planning and operations of sensors, assets, processing, exploitation and dissemination (PED) in direct support of current and future operations”¹⁹ In the late 1940s, SAC, in addition to overseeing the nuclear capable bombers, also maintained airborne reconnaissance to enhance their nuclear operations.

When the Air Force assumed control of SAC, it possessed two strategic reconnaissance groups to provide that required intelligence. Converted World War II airframes such as the RB-17 and RB-29 served as the first Air Force Imagery Intelligence (IMINT) and Signals Intelligence (SIGINT) platforms.²⁰ Later on, more converted bombers, the RB-36 and RB-47, added to the reconnaissance fleet of SAC. These planes flew along the border of, or in some cases, directly into the Soviet Union to collect intelligence.²¹ It would be a SAC aircraft (converted B-29) flying along the Eastern border of the Soviet Union in 1949 that would collect the first radioactive particles that told the world that the U.S. was no longer the sole nuclear power.²²

Eventually, newer aircraft specially designed for intelligence collection entered the SAC fleet. The U-2, an IMINT aircraft which could overfly all known Soviet fighter and surface-to-air missile (SAM) coverage to provide key intelligence on Soviet nuclear capabilities, joined the SAC fleet in 1957.²³ In contrast to the relationship between CIA and Air Force analysts, the CIA and the Air Force collaborative efforts enabled a successful run of U-2 missions overflying the Soviet Union. While direct overflight of the Soviet Union ended in 1960, the U-2 continued to provide critical intelligence on this key adversary. Its collections proved invaluable in Cuba,



An RC-135 reconnaissance aircraft. This aircraft became a mainstay of SAC operations in a variety of different roles.

THE AIR FORCE ALSO PLAYED A MAJOR ROLE IN THE DEVELOPMENT OF AND USE OF RECONNAISSANCE SATELLITES

where U-2 imagery showed the definitive proof of Soviet nuclear-capable missiles on the island, thus setting the stage for the Cuban Missile Crisis. Eventually, other aircraft, such as the RC-135 (SIGINT) and the SR-71 (IMINT) joined SAC's arsenal. While SAC reconnaissance aircraft did not carry armaments, they often found themselves in the cross-hairs of many nations' guns. More than seventy personnel lost their lives supporting reconnaissance missions tied in to nuclear deterrence missions.²⁴ In many cases, the nature of those missions could not be revealed to the next of kin, with some missions remaining classified today.

In addition to "air-breathing" assets, the Air Force also played a major role in the development and use of reconnaissance satellites. With the dawn of the Space Race, the U.S. military quickly moved in to make sure of the new medium. With the development and deployment of reconnaissance satellites, the U.S. could collect on the USSR mainland with a degree of persistence and safety that manned aircraft could not provide. Through the use of space-based reconnaissance the USIC came to see that in the 1960s, the Soviets were not quite the superior juggernaut that some had previously assessed.²⁵ In the later part of the Cold War, Air Force intelligence professionals serving at a ground listening post in the Pacific collected vital SIGINT that implicated Soviet aircraft in the shootdown of KAL 007 in September 1983, giving U.S. leadership a key talking point in future negotiations with Soviet leaders.²⁶

In addition to providing key intelligence to decision makers, collections enabled Air Force intelligence professionals to support the nuclear mission through the third competency, targeting. A long-standing mantra in the Air Force is "Air Power is Targeting and Targeting is Intelligence."²⁷ The concept of targeting related to aerial bombing goes back to the earliest days of the military heavier-than-air flight. However, the advent of nuclear weapons provided a new variable. One bomb from

one plane could destroy an entire city in one single detonation.

Yet, the requirement for accurate targeting did not simply disappear with the creation of nuclear weapons. As the world's largest country, the USSR presented formidable targeting obstacles. Where were the key locations for leadership and military forces? What of the locations of newer weapons, to include the locations after 1949 of their nuclear weapons? Even when the U.S. knew production and logistical facilities that were known, how could the U.S. effectively impact them in the event of a conflict? However, nuclear weapons and their effects did alter how many viewed the overall process of targeting. Given the weapons effects and the highly centralized control of nuclear operations, some took the mantra of "close counts" to mean that if we destroy whole cities, why bother with precise targeting? Service specific targeting and detailed training, a significant requirement for conventional operations, did not seem to have a place in nuclear operations.²⁸

As the Cold War evolved, much of the guidance would evolve, as the targets set grew to include ICBM, submarine bases and airfields, along with strategic target sets of leadership and industrial centers. However, the centralized nature of nuclear targeting meant that the vast majority of the targeting intelligence process occurred at levels far above the scope of most Air Force intelligence airmen. Yet, the Air Force IC provided major contributions to the nuclear enterprise. SAC intelligence personnel, particularly dedicated targeteers, supplied materials such as imagery and target analysis from higher levels for the mission folders that made up the Single Integrated Operational Plan (SIOP). However, intelligence/targeteer involvement in the overall nuclear targeting process did not have as robust a level of involvement as it did in the conventional targeting process (especially in the modern day). Operational planners needed to be involved to accurately reflect the platform requirements, but intelligence, at least at the Air Force nuclear operations realm, played a far lesser role.

Up to this point, the discussions about intelligence support to Air Force nuclear operations span the entire spectrum from the highest levels of command to the airman at a bomb wing. However, the analysis, collections and targeting information can mean little without the integration functional competency. Integration is currently defined as "the application of all-source intelligence information to sustain operations..." which is also known as will also refer to as unit (Wing, Group, Squadron) support.²⁹ During World War II, it became clear to Army Air Corps commanders that the service lacked effective combat intelligence support to air operations.³⁰ Post-World War II, Air Force leadership sought to improve the quality and capability of intelligence support, establishing the first technical training school dedicated to intelligence in 1947, which in turn would allow more effective intelligence integration/support.³¹

The majority of airmen working nuclear integration served at bomber or reconnaissance wings. To support these airframes, unit-level intelligence

THE MISSION REQUIREMENTS OF THE ICBM DIFFERED FROM THE AIRCRAFT WORLD IN SEVERAL RESPECTS

personnel had to have an understanding of not only the platform they supported but also, they required an understanding of adversary threats and tactics and had to offer their crews the ability to counter those threats. Another major role they played was to translate the myriad of intelligence information into a concise, reasonable form that gave context for the operators (aircrew and missilers) and their respective missions. The targeting aspect for bombers was already pre-determined and much of the work that intelligence personnel did with the nuclear targeting centered on combat mission folder construction as part of the SIOP requirements for the tasked SAC units.

While a key point of integration/unit support focuses on direct intelligence airmen interaction with operators (aircrew/missilers), those working integration did not work in a vacuum, and there existed a structure for relaying intelligence from higher levels down to the units. Intelligence derived from Air Force personnel working at national intelligence agencies and production centers all found their way into the litany of intelligence data used and tailored by SAC intelligence airmen. Within the SAC span of control, there existed an Intelligence Directorate, led by the Deputy Director for Intelligence, oversaw all intelligence activity within the command. This individual led the 544th Intelligence Wing, based out of SAC Headquarters (Offutt AFB, Neb.). At this level, the directorate had three primary sections: Operations (INO), which provided current intelligence updates for SAC leadership as well as key information for the subordinate units, which included key products such as Order of Battle; Collections (INC), which provided intelligence collection to fulfill those requirements levied on SAC by subordinate units and higher commands; Targets (INT), which had responsibility for producing the targeting materials and gathering the required information for the Combat Mission Folders that supported the nuclear enterprise.³²

At the respective wings for SAC, the intelligence support was ultimately tailored to the wing requirements. However, most possessed the following functions: Plans and Programs supporting the wing with reports, programs, briefings; Mission Planning, which supported the mission planning requirements for the wing, to include mission studies, route analysis and briefing/debriefing requirements; Special Security Office (SSO), who conducted oversight on Sensitive Compartmentalized Information, including billets, investigations and indoctrination/debriefing; Combat Intelligence, which oversaw direct support to aircrew members with intelligence documents and also Evasion and Escape support; Order of Battle (OB) management, with a primary focus on electronic order of battle (this took information derived from higher levels, but once at the unit level, it fell to the intelligence Airmen to keep that information updated for their units); Target processing/intelligence, which oversaw CMF construction and EWO material study, computer programming, which involved system/photographic support.³³ All of these elements worked to provide

SAC crews with the best possible intelligence picture.

In the late 1950s/early 1960s, the ICBM wing entered the Air Force structure. The mission requirements of the ICBM differed from the aircraft world in several respects, especially given that the operators and support personnel would never actually cross into adversary airspace. In the event of a nuclear exchange, ICBM bases ranked high on the targeting priority lists, but the furthest that ICBM airmen deployed from home station were the most remote missile sites (a three to six hour drive). Thus, some of the threat information provided by intelligence personnel differed from the flying units. ICBM targeting processes did not call for much unit-level intelligence integration, thus, no targeting intelligence presence at the ICBM wings. ICBM crews primarily relied on intelligence support for providing the perspective for their mission, attempting to answer the "Why?" and "What's going on?" questions. Additionally, protection of the physical missile sites (Force Protection) required dedicated intelligence support, especially to account for any international security threats/attacks on the missile complexes.³⁴ With the mission requirements, intelligence support at the missile wings consisted of far fewer personnel than at the flying units, and thus, organizational structures could significantly deviate from their intelligence counterparts at flying wings.

Yet, it is tough to fully document the actions of those individuals working integration during the Cold War, given that most of the history focuses on the higher level military/government actions and those documented operations. While the reconnaissance personnel collected the raw intelligence and passed up analyzed products, the majority of those at the unit were consumers of intelligence and did not necessarily provide any new, grand information that would change the course of the Cold War. Still, the tailoring of intelligence, providing that perspective to the crews that put some context into why they either had to fly alert sorties or sitting alert away from their families, awaiting a call to launch, which fortunately, did not happen outside of exercises.

Post Cold War/Pre-Incident

By 1991, the world changed. The Warsaw Pact and the Soviet Union disintegrated. The United States looked victorious as former target areas in Eastern Europe integrated with the Western world. That apparent victory portended massive military changes within the U.S. military. Even as the USAF prepared for the nightmare scenario of nuclear war with the Soviet Union, its conventional capabilities did not remain idle. Based on the lessons learned from those conventional conflicts, more money, training, emphasis and leadership went into shoring up the USAF's conventional aspect. The "Bomber Mafia" generals of the '40s, '50s and '60s gave way to the "Fighter Mafia" generals of the '70s and '80s, as a new mind set permeated the Air Force.³⁵ The change in mindset and strategic outlook posed significant consequences for the nuclear enterprise. In

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1992, SAC dissolved, and the entire Air Force reorganized to reflect the new reality.

As for the nuclear enterprise, it did not disappear, but it found itself relegated to a less prominent position in the discussion of national security issues. United States Strategic Command (USSTRATCOM) assumed SAC's mantle of operational control of nuclear weapons, but the Air Force spread out the assets over the different commands. The nuclear bombers (B-52s, B-2s, B-1s) fell under Air Combat Command (ACC), ICBMs fell under USAF Space Command (AFSPC) and nuclear weapon storage/maintenance fell under Air Force Materiel Command (AFMC).³⁶ With the continuous alert requirement from the SAC days rescinded, bomber crews found themselves spending more flying and training time supporting conventional missions such as conventional strategic attack, interdiction and even close air support (CAS). For the ICBM units, the constant alert status did not change, but the future for AFSPC did not rest in the ICBM world, as those who started out in the ICBM world (especially the officers) immediately moved on to space mission assignments, further weakening the resident nuclear expertise.³⁷ While there remained those old "SAC Warriors" who looked back on the Cold War days with some nostalgia, the climate seemed to indicate that the conventional operations would dominate the Air Force agenda.³⁸

For intelligence professionals, it was possible to enter the Air Force in the 1990s and not once ever deal with the nuclear enterprise. Ironically, the requirement for nuclear deterrence actually increased in the post-Cold War era. The fall of the Soviet Union did not end the threat of nuclear weapons. North Korea, Pakistan, Iraq, Iran and Syria all actively pursued nuclear weapons capabilities, with Pakistan and North Korea successfully testing nuclear weapons. The last decades of the Soviet Union saw a massive degree of degradation within the national military structure, and this included oversight of its nuclear weapons. In the 1990s, the IC faced a dilemma of how to monitor Russia and its former republics as well as other known and potentially rising nuclear powers.

For the AFIC, the changes and requirements required adaptation, taking the functional competencies and applying them to meet the new reality. In conventional missions, more of the planning and execution requirements fell to the lower levels, increasing requirements on intelligence airmen. National production and collection centers still provided the overall adversary picture (capabilities and limitations, assessments, order of battle), but the end of the Cold War saw a drastic reduction in manpower, thus reducing the overall effectiveness of those centers to provide intelligence to subordinate units.³⁹ Additionally, while the focus of operations was never really as simple as it appeared during the Cold War, there was no obvious Post-Cold War adversarial focus. A seemingly unstable Russia still had its nuclear weapons. DESERT STORM brought the Middle East into even greater focus for the USAF, as the no-fly zones over Iraq in the 1990s

dominated missions and intelligence requirements. The counterinsurgency wars of the post-9/11 era only added to the emphasis on the Middle East. Concurrently, the Pacific also saw an increase in Air Force operations, as bombers made their return to Guam to monitor potential threats in East Asia. The AFIC did not lack for areas of focus in the Post-Cold War era.

All of this happened in the midst of a technological explosion and expansion of mission requirements for the collections world.⁴⁰ The U-2 and RC-135, veterans of SAC's strategic collections missions against the USSR, now found themselves at the forefront of the USAF's conventional, tactical requirements.⁴¹ The rise of space-based communication technology allowed for the creation of the Distributed Command Ground System (DCGS), which allowed for the processing, analysis and dissemination of an immeasurable amount of intelligence data, all from home-station and in near-real time (whereas PED during the Cold War could be measured in hours to days). The rise of Remote Piloted Aircraft (RPA) only added to the collections requirements levied against the AFIC. In some cases, the AFIC experienced new opportunities for advancement and excellence, and the importance of collections became more evident, especially in the counterinsurgency wars of the 2000s. However, this new collections focus did not encapsulate the Air Force nuclear enterprise. Concerns about adversary strategic Weapons of Mass Destruction (WMD) capabilities remained a priority for collection, but the strategic collection requirements did not have the same primacy seen in the Cold War, and collection managers had the unenviable job of balancing the tactical and strategic level collection requirements.

Concurrently, Air Force targeting requirements also grew. The advent of the Precision Guided Munitions (PGMs), especially for stand-off and Global Positioning System-aided munitions, required exact intelligence on target areas, to include precision coordinates and very detailed target system analyses, to include an increase in concern for collateral damage. All of this emerged at a time when the Air Force, seeking to streamline its manning in the post-Cold War world, eliminated the targeting career field and lumped targeting under general intelligence.⁴² Air Force intelligence personnel still performed the mission and met the requirements, but it was not an ideal solution.

However, increased requirements did not translate into increased guidance on how to incorporate these challenges in supporting the nuclear enterprise, especially for those airmen charged with the critical integration competency. Key intelligence regulations, such as AF 14-105, *Unit Level Intelligence*, in the Post-Cold War era hardly mention the word "nuclear" or "deterrence."⁴³ Weapons of Mass Destruction was a focus area at least mentioned in the AFIs, but the intelligence professional, unless specifically assigned to nuclear units, knew practically nothing about American capabilities. Other doctrinal documents followed the same vein, providing general recommendations but little in the way of specific guidance on post-Cold War intelligence sup-



The U-2, a quick-reaction creation of Kelly Johnson's Skunk Works at Lockheed.

THE USAF MADE REINVIGORATING THE NUCLEAR ENTERPRISE A TOP PRIORITY

port to nuclear operations. The structure for how wing-level intelligence supported specific nuclear airframes did not vary much from the SAC days (the breakout of an intelligence flight into an analysis section, targeting, security, etc.). For the ICBMs, the intelligence support of the Cold War eventually withered, and by the mid-2000s, none of the Missile Wings possessed full-time intelligence support.

Post-Incident

Everything changed after *The Incident*. The USAF made reinvigorating the nuclear enterprise a top priority.⁴⁴ The bombers and ICBM communities (operators and staff support) dug into historical archives to find old SAC regulations and nuclear guidance. The Air Force suddenly found itself having to relearn how to spell nuclear. Technical training schools, the USAF Weapons School, Air Force Professional Military Education, all now found themselves providing academics on the U.S. nuclear enterprise. Yet, the post "Incident" Air Force did not just completely revert to the SAC days. New organizations and ideas emerged in the scramble to regain confidence and surety. The Headquarters Staff created a whole new directorate (A10) to deal specifically with nuclear operations.⁴⁵ Most significantly, the Air Force decided that the nuclear assets needed to fall under a single command, to avoid many of the failings documented in the various DoD nuclear enterprise reviews, like the Schlesinger Report.⁴⁶ In August 2009, USAF Global Strike Command stood up as the newest Air Force major command (AFGSC).⁴⁷

For the IC, there was a combination of relearning the past, while building future requirements in a very different strategic landscape. All intelligence personnel within AFGSC were now required to attend an AFGSC Intelligence Formal Training Unit (IFTU) which emphasized educating analysts on the nuclear enterprise.⁴⁸ Analytical focus for AFGSC intelligence sought to incorporate a more strategic

look at the world, emphasizing analysis of a nation's nuclear strike capability. Collections experts who developed infrastructures to support the overwhelming demand for conventional operations support (RPAs and the DCGS architecture) now sought ways to apply these advancements in nuclear operations/planning. For targeting support, the conventional mind set had to readapt to a top-down approach including strategic nuclear targeting, while, not losing the tactical skills required for conventional missions.

Regarding integration, bombers did not undergo a dramatic change per se, although intelligence AFIs started to specifically reference nuclear operations (the AFGSC supplements account for this far more than the ACC supplements that directed guidance for the bombers).⁴⁹ Recommendations to reinstate direct intelligence support to the ICBM wings saw all three wings receive assigned intelligence personnel between 2010-2012. The new missile wing intelligence officer provided strategic context, force protection support, targeting analysis and education to the missile crews on what new threats could strike ICBM silos and the U.S. mainland. These changes signaled to the Air Force, and the Air Force IC especially, that nuclear operations, previously considered an obsolete mission, was back at the forefront, and that more intelligence personnel could expect increased participation in the Air Force Nuclear enterprise.

Conclusion

While the past does not always exactly predict the future, analysis of past actions can provide insight on how the future might evolve. For the AFIC, its core mission of focusing on the adversary and bringing that knowledge to planners and operators in a manner that allows for effective air operations will not change. The requirement for obtaining that intelligence to answer the unknowns and applying that knowledge for targeting and integration will not change. The general structure of the intelligence flight at the wing-level has not changed much from the SAC days and will probably remain set up in the same general structure for the foreseeable future.

Yet, the recent emphasis on the nuclear mission has impacted the AFIC. With more enlisted personnel and officers receiving a baseline knowledge of the nuclear enterprise, it can only improve the AFIC overall ability to support the nuclear mission. For integration, it is critical to have a solid working knowledge of American nuclear capabilities so that the airmen working with those units can more effectively tailor their analysis and mission planning products to meet the requirements of the nuclear enterprise. For targeting, the creation of Special Experience Identifiers (SEIs) for intelligence personnel (general intelligence analysts and the new targeteers) will rebuild a new cadre of targeting experience to produce effective combat mission folders.

However, this is not to say that the Post-



The groundbreaking SR-71. It was phased out to save money, not because it had become outmoded after thirty years.

Incident AFIC has all the answers and solved all the problems associated with supporting the nuclear enterprise. There are still challenges in trying to integrate nuclear mission requirements into the

current collections architecture. Analysis of the adversary is never easy, as seen in the Cold War and seen now. At USSTRATCOM, the Joint Intelligence and Operations Center (JIOC) seeks to evolve to meet the challenge of tailoring analysis to support the strategic operations, but the manning is nowhere near that of its 544th Intelligence Wing predecessor.⁵⁰ Additionally, AFIC personnel must maintain a balance of providing support for the nuclear mission while not losing the ability to effectively support the current tactical, conventional missions.

In the near future, the AFIC will continue to evolve so that it can effectively support the nuclear mission. By reviewing how the AFIC supported the nuclear enterprise in the past, the current and future leaders of the AFIC can use the effective practices and try to avoid the errors their predecessors faced. As technology and capabilities evolve, the AFIC can integrate those advances and improve how it supports the nuclear mission. The past does not always foretell the future, but it can help steer it, and the AFIC will need to continue maintain that balancing, learning from the past and improving the future. ■

NOTES

1. The term *The Incident* does not have a doctrinal or official beginning. However, from the author's time at Headquarters Air Force Global Strike Command (AFGSC) and at the 5th Bomb Wing (5 BW) (2010-2013), most in leadership and in key operational positions reference the events of August 30, 2007, and the subsequent fallout as such.
2. Joint Publication (JP) 1-02, *Department of Defense Dictionary or Military and Associated Terms*, June 15, 2013, p. 139.
3. Michael Warner & J. Kenneth McDonald, *U.S. Intelligence Community Reform Studies Since 1947* (Washington D.C.: Strategic Management Issues Office, Center for the Study of Intelligence, April 2005), p. 16.
4. The four functional competencies as defined in this article are based on recent definitions of intelligence core areas by Headquarters Air Force Intelligence Directorate (HAF/A2). Briefing, HAF/A2DF, Subject: 14N Career Field Management Update, Feb 2013, slide 33.
5. SAC initially stood up in 1946 as part of the Army Air Forces and officially became part of the USAF when it was created in 1947. J.C. Hopkins and Sheldon A. Goldberg, *The Development of Strategic Air Command, 1946-1986: The Fortieth Anniversary History*, (Offutt Air Force Base, Office of the Historian, Headquarters Strategic Air Command, 1986), p. 2.
6. Stephen Budiansky, *Air Power: The Men, Machines, and Ideas that Revolutionized War, from Kitty Hawk to Iraq* (New York, Penguin Books, 2004), p. 349.
7. JP 1-02, *Department of Defense Dictionary or Military Associated Terms*, p. 15.
8. During World War II, the Army Air Corps required intelligence analysis to contain facts and detailed assessments, whereas the Navy only asked for straight facts, allowing for leaders to make up their own minds

- about what it meant. Matthew Connelly, et al, "General, I Have Fought Just as Many Nuclear Wars as You Have": Forecasts, Future Scenarios, and the Politics of Armageddon" in *American Historical Review* (Oxford, England: Oxford University Press, December 2012), p. 1434.
9. *Ibid.*, p. 1436.
10. *Ibid.*, p. 1437.
11. *Ibid.*
12. *Ibid.*
13. *Ibid.*, p. 1438.
14. Michael Herman, "What Difference Did It Make?" *Intelligence and National Security* (Routledge, Taylor and Francis Group, vol 26, December 2011) p. 889.
15. *Ibid.*, p. 890.
16. *Ibid.*
17. *Ibid.*, p. 896.
18. ABLE ARCHER, the NATO Command and Control Exercise, always concerned Soviet leadership. However, the 1983 exercise generated more extra concern. Between the revelation that NATO planned to make the scenario and exercise more realistic than normal, the deployment of nuclear-capable PERSHING II missiles to Western Europe and heightened international tensions after the Soviet shootdown of KL007 in September 1983, Moscow's aging leadership was not certain that they would see 1984. As it turned out, nothing would happen and a potential conflict never materialized. Len Scott, "Intelligence and the Risk of Nuclear War: Able Archer-83 Revisited" in *Intelligence and National Security* (Routledge, Taylor and Francis Group, vol 26, No 6, December 2011), p. 769.
19. Air Force Doctrine Annex 2-0 *Global Integrated Intelligence, Surveillance and Reconnaissance Operations*, Jan. 6, 2012, p. 2.
20. Also included in the first airborne reconnais-

- sance/ISR assets were converted transports like the C-47. Chris Adams, *Inside the Cold War: A Cold Warrior's Reflections* (Maxwell AFB, Ala.: Air University Press, September, 1999), p. 64.
21. *Ibid.*, p. 65.
22. Budiansky, *Air Power: The Man, Machine & Ideas that Revolutionized War, from Kitty Hawk to Iraq*, p. 353.
23. The U-2 was designed to operate above 60,000 ft based on assessments of the Soviet Union's most capable fighter interceptor at the time (the MiG-17 was assessed to have a ceiling of only 45,000 ft). Eventually, the Soviets did develop a SAM (SA-2) that could reach the U-2, but prior to that time, the U-2 was able to directly overfly Soviet air defense capabilities. Maj Robert Stanley, "Attacking the Mobile Ballistic Missile Threat in the Post-Cold War Environment: New Rules to an Old Game" (Maxwell AFB, Ala.: Air University Press, May, 2006), p. 23.
24. Adams, *Inside the Cold War: A Cold Warrior's Reflections*, p. 64.
25. Herman, "What Difference Did It Make?", p. 890.
26. David E. Hoffman, *The Dead Hand* (New York, Doubleday, 2009), p. 21.
27. Buster C. Glosson, "Impact of Precision Weapons on Air Combat Operations," *Airpower Journal* (Maxwell AFB, Ala.: Air University Press, No. 2, Summer 1993), p. 8.
28. Robert Frank Futrell, "U.S. Army Air Force Intelligence in the Second World War," in Horst Boog, ed., *The Conduct of the Air War in the Second World War* (New York: St. Martin's Press, 1988), p. 548.
29. AF Doctrine, Annex 2, Global ISR Operations, p. 33.
30. Capt John R. Glock, "The Evolution of Air Force Targeting" *Air & Space Power Journal* (Maxwell AFB, Ala., Air University Press, November-December 2012), p. 154.
31. The first dedicated school for intelligence training started in 1947, at Keesler AFB. Eventually, the training moved from Keesler to Sheppard AFB. In 1962, the Air Force consolidated its intelligence training at Lowry AFB, where it remained until the 1990s, when it moved to its current location at Goodfellow AFB, Tex. Thomas Manning, et al. *History of Air Education and Training Command 1942-2002*. (Randolph Air Force Base, TX, Office of History and Research, Headquarters Air Education and Training Command, 2005), p. 51.
32. Strategic Air Command Regulation (SACR) 23-10, September 1, 1989, p. 10.
33. SACR 23-9, August 18, 1987, pp. 12-27.
34. Interview with Maj Douglas Pietersma, Sep. 3, 2013. Maj Pietersma was an intelligence officer at the 341 MW from 2002-2005 and later the 20 AF/A2 from 2010-2012. His insight into intelligence at the missile wings is invaluable, especially as the wings try to re-integrate intelligence back into their operations after a near decade long hiatus.
35. Colin S. Gray, *Airpower for Strategic Effect* (Maxwell AFB, Ala.: Air University Press, Feb 2012), p. 206.
36. The B-1 became a conventional-only bomber in 1995 and executed its first conventional-only mission in 1998. Dennis R. Jenkins. *B-1 Lancer: The Most Complicated Warplane Ever Developed* (New York, McGraw-Hill, 2004), p. 141.
37. James R. Schlesinger (Chairman), *Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management Phase I: Review of the Air Force Nuclear Mission*, (Washington D.C.: Department of Defense, December 2008), p. 2.
38. Lt. Col. Robert Spalding, "Culture Clash: Bomber Nuclear Operations in a Post-Cold War World", in *Air and Space Power Journal* (Maxwell AFB, Ala.: Air University Press, Winter 2009), p. 102.
39. James R. Schlesinger (Chairman), *Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management Phase II: Review of the DoD Nuclear Mission* (Washington D.C.: Department of Defense, December 2008), p. 54.
40. The term ISR (Intelligence, Reconnaissance, Surveillance) came into doctrine in the post-Cold War era. This encompassed the fact that collection assets had a more dynamic role in Air Force operations.
41. Maj. Tyler Morton, "Manned Airborne Intelligence, Surveillance and Reconnaissance. Strategic, Tactical...Both?" *Air and Space Power Journal* (Maxwell AFB, Ala.: Air University Press, November-December 2012), p. 35.
42. Capt John R. Glock. "The Evolution of Air Force Targeting", p. 168.
43. In review of the *AFI 14-105 Air Combat Command (ACC) Supplement (ACCSUP): Unit Intelligence Mission and Responsibilities*, the word nuclear appears a couple of times, but only in context of Nuclear, Biological, Chemical, with no discussion whatsoever on any intelligence requirements specific to the nuclear mission. The supplement dictated integration/unit-level support in relatively general terms. *AFI 14-105, ACCSUP, Unit Intelligence Mission and Responsibilities*, Jan. 28, 2003, (Certified Current Oct. 15, 2009).
44. Fred W. Baker III. "Air Force Officials to Establish New Nuclear Major Command," *Armed Forces Press Service*, Oct. 27, 2008.
45. Maj. Gen. Donald C. Alston, Director, *Reinvigorating the Air Force Nuclear enterprise* (Washington D.C.: HQ USAF, Oct. 24, 2008), p. 71.
46. Schlesinger, *Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management Phase I: Review of the Air Force Nuclear Mission*, p. 5.
47. The command achieved Initial Operational Capability (IOC) in August 2009. By November 2009, the ICBM wings fell under AFGSC, with the nuclear capable bomber wings joining in February 2010. The command achieved its full operational capability (FOC) in October 2010. *US Air Force Fact Sheet: Air Force Global Strike Command*.
48. Air Force Instruction (AFI) 14-202 vol 1, Air Force Global Strike Command Supplement (AFGSCSUP), *Intelligence Training*, Aug. 1, 2010, p. 2.
49. As previously noted, AFI 14-105 offered no specifics on nuclear operations/targeting. AFI 14-105 ACCSUP did not mention anything about support to the nuclear enterprise. The AFI 14-202(volumes 1, 2, 3) series superseded AFI 14-105, offering more specific, tailored guidance to intelligence personnel supporting a weapons system/airframe. The AFGSC supplements do account for nuclear operations and targeting (At least as much as can be said at the unclassified level). The AFGSC Supplement for targeting (AFI 14-117) also incorporates more provisions for nuclear targeting support within the MAJCOM. For unit-level operations for nuclear assets, reference AFI 14-202 vol 3, Air Force Global Strike Command Supplement (AFGSCSUP), *General Intelligence Rules*, Jul.1, 2010, pp. 4-5.
50. Schlesinger, *Report of the Secretary of Defense Task Force on DoD Nuclear Weapons Management Phase II: Review of the DoD Nuclear Mission* (Washington D.C.: Department of Defense, December 2008), p. 55.

102 Days of War: How Osama Bin Laden, Al Qaeda & The Taliban Survived 2001. By Yaniv Barzilai. Dulles Virginia: Potomac Books, 2013 [imprint of the University of Nebraska Press]. Maps. Notes. Bibliography. Index. Pp. xxxvi, 167. \$24.95 ISBN: 978-1-61234-533-8

102 Days of War is a relatively short but forceful examination of America's early military operations in Afghanistan following the September 11 terrorist attacks by al Qaeda. Yaniv Barzilai, a State Department diplomat and desk officer specializing in Afghanistan and Pakistan, explores the political and military decisions made between 9/11 and the December 2001 Battle of Tora Bora. Besides allowing Osama Bin Laden to escape into Pakistan, the decisions made during those first critical months after 9/11 continue to haunt America as it attempts to end its longest war in Afghanistan.

Barzilai's research included extensive interviews with members of President George W. Bush's administration, including former National Security Advisor Condoleezza Rice and former Under Secretary of Defense for Policy Douglas Feith. He also took advantage of many written sources, including memoirs from participants (including former President Bush) and unclassified information made available since 2001. The result is an insightful, but not always flattering, look at how America's leaders responded to 9/11.

In the days after 9/11, the administration attempted to respond quickly and forcefully to al Qaeda's attacks on America. As Barzilai shows, the response—though tactically successful in the unconventional use of CIA paramilitary teams and Special Operational Forces (SOF) inserted into Afghanistan—did not follow a well-defined or consistent strategy. President Bush and his senior advisors did not provide clear guidance and failed to distinguish between the competing and often contradictory objectives of overthrowing the Taliban, clearing Afghanistan of al Qaeda, and capturing or killing Osama Bin Laden. In addition, the lack of a Defense Department (DoD) operational war plan for Afghanistan and the role of Pakistan hampered the military response.

Though the initial American military operations in Afghanistan were successful in quickly overthrowing the Taliban and eliminating al Qaeda's terrorist training camps, the lack of strategic focus ultimately led to the failure at Tora Bora, the mountain refuge of Osama Bin Laden. In December 2001, fewer than 100 American and British forces allied with a number of

Afghan warlords were unable to prevent Osama Bin Laden and other al Qaeda leaders from escaping into Pakistan, possibly with the aid of Pakistani intelligence elements.

Barzilai concludes *102 Days* by discussing the successful 2011 military strike on Osama Bin Laden's compound in Abbottabad, Pakistan. He compares the direct involvement of President Obama in that raid's planning and execution with President Bush's more traditional "hands off" approach during the Battle of Tora Bora in 2001. Though his contrast of their respective leadership styles is interesting, some readers may take exception to Barzilai's conclusions, considering America's recent response to the rise of the Islamic State and perceived tensions between President Obama and senior DoD leaders. However, his overall assessment of America's military experience in Afghanistan in 2001, rings true and is a reminder that Carl Von Clausewitz's *On War* remains relevant today. As quoted by Barzilai, "No one starts a war—or rather, no one in his senses ought to do so—without first being clear in his mind what he intends to achieve by that war and how he intends to conduct it."

Maj. Jeffrey P. Joyce, USAF (Ret.)



Fabled Fifteen, The Pacific War Saga of Carrier Air Group 15. By Thomas McKelvey Cleaver. Philadelphia and Oxford: Casemate, 2014. Index. Glossary. Photographs. Bibliography. Pp. 240. \$32.95 ISBN: 978-1-61200-257-6

Thomas Cleaver has done a splendid job of bringing into focus the remarkable exploits of the pilots and aircrew of Carrier Air Group 15.

Each air group represented the total aircraft complement of an aircraft carrier. It was usually composed of at least three squadrons, including fighters, scout (dive) bombers, and torpedo bombers. The scout bombers flew long range reconnaissance from the carrier, each aircraft searching out a small arc of the threat axis. On this duty they normally carried a 500-pound armor-piercing bomb to use in the event they discovered a suitable naval target. However, their first duty was to report by radio the enemy contact and location to the home carrier or carrier group.

When an enemy naval force was located, the entire air group would be launched. Fighters provided cover for the dive bombers and the torpedo planes. Torpedo

bombers each. They were ship killers if they could achieve several hits using an "anvil" attack with small groups of torpedo bombers coming in on opposite bows of the target ship. Whichever way the target might turn, it was difficult to dodge all the torpedoes. That said, the torpedoes had to be delivered at low altitudes (100-150 feet) off the water, at low speed (100-125 knots), and at close range (1,000 yards or less) to ensure a hit. Flying a torpedo plane against a battleship or aircraft carrier was no task for the faint-hearted. Three torpedo squadrons were almost completely destroyed during the Battle of Midway in early June 1942. Torpedo bombers also served as medium- or high-altitude bombers and were equipped with the Navy Norden bombsight.

Dive bombers sacrificed range for a heavier load of ordnance during a planned attack, carrying a 1,000 pound armor-piercing bomb. Their attacks were delivered in a dive from 12-14,000 feet at a 70-degree dive angle, releasing at about 2,000 feet. Harking back to Midway again, three dive bomber squadrons set three Japanese fleet carriers on fire in a ten-minute period, and all three carriers were lost along with their air groups. A fourth carrier was also sunk later that day by U.S. dive bombers, gutting Japanese carrier-based naval aviation.

Air Group 15 participated in two major battles that helped decide the final stages of the Pacific War: the "Marianas Turkey Shoot", the aerial subset of the Battle of The Philippine Sea (June 19-20, 1944) in which the rebuilt carrier portion of the Imperial Japanese Navy Air Arm was destroyed; and the Battle of Leyte Gulf (October 17-29, 1944) that finished off the remaining major Japanese Navy surface and air assets.

The book splendidly describes the strategic and operational uses of air power at sea, and the details of air combat as experienced by fighters, dive bombers and torpedo bombers in the three extraordinary squadrons that comprised Air Group 15.

*Captain John F. O'Connell, USN (Ret),
Docent, National Air and Space Museum*



Night Hunters: The AC-130s and Their Role in U.S. Airpower. By William P. Head. College Station Texas: Texas A&M University Press, 2014. Photographs. Notes. Bibliography. Index. Pp 448. \$29.95 Paperback ISBN 978-1-62349-119-2

William Head is the 78th Air Base Wing historian at Robins Air Force Base,

Georgia. In this work, he presents us with an extensive and detailed study of the development and utilization of the AC-130 Gunship, its predecessors, and follow-on aircraft over a period of almost 50 years. He lays the story out chronologically, starting with the development of the early AC-47s, AC-119s, and then the AC-130s in their evolving iterations in the long war in Southeast Asia. He clearly shows how integral they became to overall USAF operations throughout most regions of the theater, and especially highlights their role as a key close-air-support asset, and their effective use in interdiction operations along the Ho Chi Minh Trail in Laos and Cambodia (I was a FAC in Laos in 1972 and witnessed the deadly work of the AC-130 Spectres). The North Vietnamese had a different name for the AC-130s. They called them the “Thug” and opposed them with massed guns and even SAMs. Head discusses the shootdown of several Spectres and crews in those horrific battles.

Head then tracks the further maturation of the use of the AC-130 through later conflicts. He explains the endless modification programs through which the aircraft were upgraded and improved. At times, the detail is somewhat numbing but certainly necessary to document the process. Post-Southeast Asia, the aircraft and crews were returned to the CONUS and formed into an active and reserve unit, both in Florida. Head explains how the aircraft were considered for and/or used in the Iranian hostage crisis and the Grenada operation. He shows their critical support of operations JUST CAUSE and DESERT SHIELD/STORM, again explaining their tragic losses. However, he only thinly tracks their travails as the USAF struggled through the difficult reorganizations of the 1980s and, eventually, activation of the Air Force Special Operations Command (AFSOC) as a component of the US Special Operations Command. The AC-130 force was right in the middle of those painful processes.

The story continues through the 1990s with retirement of the earliest models of the AC-130s and inactivation of the AF Reserve unit. Head explains the development, funding, and creation of the new AC-130U model; activation of another active duty unit; and utilization of the gunships in Somalia, Kosovo, and Operation ALLIED FORCE. Subsequent chapters discuss post-9/11 events and combat operations in Operations ENDURING FREEDOM and IRAQI FREEDOM. He follows with a discussion of most recent events, ongoing modifications programs, and policy challenges faced by the AC-130 community. He also discusses efforts by AFSOC to increase the size and efficacy of

their gunship fleet with the purchase of multi-mission capable C-130 aircraft and more capable sensor packages and weapons. These efforts are on-going and portend a long life for the AC-130 fleet and community.

I enjoyed reading this book but believe that theater maps and more photos of individuals and locations integral to the story would have added to it. The bibliography, though extensive, cited no references to the AC-130 unit histories. Their use and also interviews with key AC-130 community personnel would have added operational depth to this work. Bottom line: it is an illuminating and interesting read about airmen, air machines, and evolving technology—a truly important theme in USAF history.

Darrel Whitcomb, Fairfax, Virginia



The Unsubstantial Air: American Fliers in the First World War. By Samuel Hynes. New York: Farrar, Straus and Giroux, 2014. Illustrations. Notes. Bibliography. Index. Pp. 322. \$26.00 ISBN: 978-0-374-27800-7

The Unsubstantial Air tells the story of American pilots during World War I. Rather than providing a conventional military history of American's first air war, Samuel Hynes, a Marine Corps pilot during World War II, draws on his own wartime experiences to bring to life these early combat pilots. Using letters, journals, and memoirs, he explores their backgrounds, how and where they learned to fly, their impressions of Paris and London, and their first exposure to combat. The title comes from a passage in Shakespeare's *King Lear*: “Welcome, then, thou unsubstantial air that I embrace . . .”

Beginning with the Americans who volunteered to fight (and eventually fly) with the English and French after the start of World War I in 1914, Hynes chronicles the seven who helped form the famous Lafayette Escadrille, the first squadron of Americans to fly for France. Though largely forgotten today, these early pilots, such as Norman Prince, established an example for the thousands who would train as Army and Navy pilots after America entered the war in 1917. Many of the first Americans in the Lafayette Escadrille and other who followed came from well-to-do families and attended expensive colleges such as Harvard. As described by Hynes, being a pilot was often considered an “occupation for gentlemen,” and many learned to fly at private flying

clubs established at Yale and Princeton in the expectation of American involvement in the war. It was representative of an American culture and class structure long gone today.

With America's entry into the war, that gentlemen's occupation evolved as prospective pilots from other backgrounds and hometowns flooded the enlistment offices and training fields. As Hynes relates from his personal experience during World War II, “big wars bring young men together who would never meet in ordinary civilian life.” Roughnecks such as Frank Luke from Arizona trained with aristocrats from the East Coast such as Quentin Roosevelt, a son of former President Teddy Roosevelt. All were drawn to the perceived “romance” of air combat, the only lingering example of chivalry and individual combat in an industrialized war of mass death.

Hynes follows these prospective pilots through enlistment, ground and flight training, travel via troopship to England and France, and assignment to combat squadrons. Though we often equate World War I air combat with fighter (or pursuit) pilots and dogfights, Hynes does not forget the observation and bombing aspects of air combat as he relates the exhilaration, and also the terror, of flying fragile, open-cockpit airplanes over the Western Front in all kinds of weather.

The true gift of *The Unsubstantial Air* is Hynes' skill in conveying the experience of flight, from the first solo of a fledgling pilot to the confusion and horror of aerial combat. His previous books include the acclaimed *Flights of Passage*, a memoir of his service in World War II. As we commemorate the centennial of World War I and the recent passing of the last American veterans of that conflict, this book is a fitting memorial to America's first combat pilots.

Jeffrey P. Joyce, Major, USAF (Ret.)



Doctrine, Strategy and Military Culture: Military-Strategic Doctrine Development in Australia, Canada and New Zealand, 1987-2007 By Aaron P. Jackson. Ottawa: Canadian Department of National Defense, 2013. Tables, Figures, Notes, Abbreviations, Bibliography. Pp. xx, 185. ISBN: 978-1-100-54502-8
Download at <http://airforceapp.forces.gc.ca>

Some readers might question the necessity of a book-length study on the military doctrine of Australia, Canada, and New Zealand. Jackson, a doctrine offi-

cer at the Australian Defense Force Warfare Center, defends his choice by outlining the common political, social, technological, historical, and operational similarities between the countries. However, the book offers much more than a convenient grouping of often-overlooked militaries. Rather, Jackson uses an examination of Australia, Canada, and New Zealand as a lens for examining the nature, development, and significance of doctrine itself, concluding that direct relationships exist between institutional culture, an institution's preferred working environment, and doctrine formation. Although his conclusions are specific to the countries he studies, he reveals trends and provides valuable rubrics for broader study.

Jackson finds that four key elements influence formation of military doctrine in these countries: strategic policy, influential individuals, operational experience, and allied doctrine (specifically the United States and Britain). The identification of these factors may seem obvious, although his examination of each factor in turn reveals that services with a strong doctrinal culture all experienced a top-down push to bolster doctrine creation. Although the creation of doctrine from the bottom up did occur, these forms did not lead to an ongoing doctrinal culture. Furthermore, Jackson argues convincingly that doctrinal developments within services across all three countries had more in common with their corresponding services in other countries than with the other services in their own nation. For example, all the Air Forces were more likely to be doctrinally related to each other than each individual air force was likely to be related to their corresponding navies.

Possibly the most important conclusion of Jackson's work is that the armed forces in question used doctrine as a way to change their environment. Each individual service culture pursued this goal in a distinct way. Some services attempted to use doctrine to influence a conception of ideal operations, what Jackson labels a "downward focus." Other services used their doctrine to alter national strategy—an "upward focus." Some services used doctrine development as a tool for modifying their service culture—an "inward focus"—while others attempted to change their broader political context, often involving public support—an "outward focus." Jackson goes further, noticing trends within all three nations' forces. Armies tended to exhibit a "downward focus" centered on operations; Navies were primarily "upward focused"; while Air Forces typically attempted to modify their own service culture, exhibiting a strong "inward focus."

For Jackson, doctrine formation flows

from individual service cultures; thus, he asserts that the "inward focus" that marked the air forces was the result of the institutional culture and identity of the Air Force. The Air Forces are a particularly unique example of this principle in action, as their doctrine development resulted from a need to educate their officers on the principles and necessity of air power, as well as from the fear that the Air Force might be reabsorbed by the other services. Thus, doctrine formation in the air forces was simultaneously a way to unify officers behind a singular shared vision and to justify and defend their existence against perceived threats of other services.

Jackson's description of the evolution of Air Force service culture (tracing back to Douhet and Mitchell) seems somewhat simplified but, given his argument, remains useful and streamlined. Some readers might be disappointed in the casual and frequent use of terms such as "lessons learned" to describe linear thought patterns and operations evaluation. Perhaps a more critical approach to the concept of "lessons learned" and military evaluation methods would add complexity to Jackson's model of doctrine development. This is an incredibly minor point that does not detract from the overall value of the work. Jackson references as wide an array of sources as can be expected for a work dealing with recent material. A thorough mixture of primary and secondary sources lends credibility to Jackson's analysis, and he attempts to fill any gaps in the material through the use of interviews and oral history.

Although this book will of course be of tremendous use to those studying the armed forces of Canada, Australia, or New Zealand in recent and ongoing conflicts, it also illuminates trends and approaches that are of value to the study of doctrine formation in other nations. Jackson has produced a useful work that adds up to far more than the sum of its parts.

Michael W. Hankins, Kansas State Univ.



Operation Paperclip: The Secret Intelligence Program that Brought Nazi Scientists to America. By Annie Jacobsen. New York and Boston: Little, Brown and Co, 2014. Notes. Bibliography. Index. Pp. xii, 438. \$30.00 ISBN: 978-0-316-22104-7 and **The Nazis Next Door: How America Became a Safe Haven for Hitler's Men.** By Eric Lichtblau. New York: Houghton Mifflin Harcourt, 2014.

Maps. Notes. Index. Pp. 227. \$28.00 ISBN: 978-0-547-66919-9

In 1974, Clarence Lasby wrote *Project Paperclip: German Scientists and the Cold War*. It received excellent reviews but drew little attention from the public. With little cooperation from the military, Lasby documented the exploitation of Nazi advanced technology and those involved. Though labeled "scientists," few were. Most were engineers, as was Werner von Braun (a brilliant rocket engineer and manager of engineers) and his brother, Magnus. There was little screening of the "rocket experts." Though the employment of Germans in the US caused an immediate outcry of protest (led by German-American immigrant Albert Einstein), the public was assured those selected had been carefully screened and included no "ardent Nazis" or "alleged or confirmed war criminals." A reported 1,700 "scientists" were employed in the US under *Paperclip*. "Screening" was done, it seems, with clouded glasses.

Project Paperclip did not "remain the standard source" nor will *Operation Paperclip*. But Annie Jacobsen, building on Lasby's study, has accomplished a masterful job of scholarship; one of inestimable value to the historical record. Her narrative covering exploitation of the Germans is rich in detail for which she credits the Freedom of Information Act, the Nazi War Crimes Disclosure Act, and attorneys in the Justice Department's Office of Special Investigations. All this and more set the stage for *The Nazis Next Door*, which offers an abridged version of what is covered in detail in *Project Paperclip*. *The Nazis Next Door* further covers the Nazis and alleged war criminals that slipped into the US as immigrants. Some were recruited by the CIA to spy on the Soviet Union. Their service to the Third Reich served as a favorable reference, since the Nazis were indeed "ardent anti-Communists."

While *Project Paperclip* is long on scholarship, *The Nazis Next Door* is the story that should appeal to lay readers, especially young students. Lichtblau is a journalist who knows how to tell a story. In addition to revealing long-suppressed facts, he delivers truly unbelievable plots with suspense and well-drawn characters, both evil and good, the former being ardent Nazis, SS Officers, even alleged and proven war criminals. Also exposed are American military and civilian officials who lied to the American public, even destroying or altering official documents—all justified in the name of promoting "national interests."

Both books are replete with stories of

former Nazi Party members brought to the US. One example is SS General Karl Wolff, commander of all German forces in Italy and former Chief of Staff to Heinrich Himmler. Only weeks before the end of the Third Reich, he met with Allen Dulles, an American agent in Switzerland (who later headed the postwar CIA) to cut a deal. Wolff would provide his knowledge of the Soviet Union, and Dulles would see to it that the SS General would escape prosecution for war crimes.

Second only to Dr. Wernher von Braun in achieving fame and fortune in America is former Luftwaffe officer Dr. Hubertus Strughold, M.D. Once director of the Aviation Medical Research Institute in the Third Reich, he was recruited by the USAF and rose to head its School of Aviation Medicine in San Antonio, Texas. Air Force officials insist "we could not have achieved our pre-eminent position in space exploration without the contributions of the German-American." What was long held secret, however, is that he had been listed on the *Central Registry of War Criminals* for having used live prisoners in his research for the Luftwaffe.

Major General Dr. Walter Schreiber joined Dr. Strughold at the School of Aviation Medicine. A news article revealed he had approved some of the ghastly medical experiments which the Nazis performed on hopeless victims. Unable to defend the indefensible, the Air Force moved him not to West Germany, where he might have faced trial for war crimes, but to safer confines in Argentina.

At the lower end of the Nazi hierarchy were concentration camp guards, many of whom found their way into the US as immigrants, some by altering their past, others on advice from immigration officials to eliminate anything suggesting service to the Third Reich. Some were enlisted as spies and were ushered through the immigration process. A classic case is Tom Soobzokov, a Russian who served in the Waffen SS, alleged to have been a member of a death squad eliminating Jews and Communists. He became a CIA agent and FBI informant.

There are a few errors or oversights in both books. Jacobsen refers to the Messerschmitt 163 aircraft as a jet fighter, though it was rocket-powered. She also writes that "On the morning of April 11, 1945, a unit of the 104th Infantry Division . . . entered the slave tunnels at Nordhausen." Actually, it was an advance unit of the 3rd Armored Division that entered the town of Nordhausen, the underground rocket factory being a few miles away. They found hundreds of dead and dying slave laborers dumped there when they were no longer productive. This

incident is covered in horrible detail in *Spearhead In The West 1941-1945*, the division history, which Jacobsen and her researchers overlooked.

Lichtblau, as do other writers, insists on calling high-school graduate Arthur Rudolph a "rocket scientist," when he was production manager of the V2 rocket. And he accuses General Patton and the military with covering up the war crimes of the rocket underground factory. Not likely. As soon as Nordhausen and the surrounding area were secured, a reporter from *Stars And Stripes* showed up; his report, "Tunnels of Hell: 22,000 Nazi Slaves Made V2s In Deep Underground Factory," appeared on the front page on April 17, 1945. What was found at Nordhausen; the nearby Dora concentration camp; and at Mittelwerk, the underground rocket factory, was never suppressed.

I recommend both books for those who want to look at a dark chapter of World War II and its aftermath.

Robert Huddleston, a combat pilot in Europe, served briefly with Project Lusty, the Army Air Forces exploitation effort



Observers and Navigators and Other Non-Pilot Aircrew in the RFC, RNAS, and RAF. By C. G. Jefford. London: Grub Street, rev. 2nd ed. 2014. Photographs. Tables. Charts. Drawings. Annexes. Notes. Bibliography. Index. Pp. 401. \$39.99 ISBN: 978-1-84037275-5

This is a specialist's book, reissued in expanded and revised format from a work first published in 2001. Having said this, Wing Commander Jefford's work is an illuminating study of the "others" who fly in Britain's warplanes, those who wear the half-wing of navigators, observers, and other non-pilots, as opposed to what one RAF navigator acquaintance of mine referred to as the "two-wing Master Race" of rated pilots.

As such it is a sweeping historical and, indeed, sociological study of relations between aircrew from the earliest days of British aviation through the termination of navigator training in the RAF in 2011. Very, very few senior officers in the RAF have come from the ranks of navigators, a circumstance that compelled the late Air Marshal Sir John Curtiss (who contributed the foreword to the first edition of this work) to write, "The Royal Flying Corps and the Royal Air Force have good reason to be ashamed of their treatment of their non-pilot crew. 'It's a pilots air force' has been the mantra of the back-seater for

many years and, although an 'equal careers' policy for pilots and navigators was introduced in 1948, pilots have always been more equal than others." But that partnership has been of crucial significance to all air forces and naval air services. In his foreword to this second edition, Air Chief Marshal Sir Stuart Peach quite rightly notes that in his over-40 years of service, "my dominant memories are of shared risks, shared missions, and shared support."

Certainly, if one thinks back to the two-seat RFC Bristol Fighter teams of the Great War, the partnership of pilot and navigator in RAF Mosquitos of the Second World War, or the pilot-weapons officer teams in today's RAF Tornados, the strength and weakness of that partnership have been evident: When strong and mutually trusting (as C. F. Rawnsley, navigator for John "Cat's Eyes" Cunningham, noted after the Second World War), the results were formidably synergistic; when weak and characterized by suspicion or disdain, the results were corrosive and weakening.

Jefford's book is extraordinarily detailed and constitutes a fitting tribute to the various non-pilot aircrew specialties that developed in the Royal Flying Corps; Royal Naval Air Service; and, after their amalgamation to form the Royal Air Force in 1918, in that service to the present day. The book is richly illustrated, extremely detailed, and replete with references, making it more than just a *hommage* to a class of airmen. Many documents from the National Archives are cited, evidence of Jefford's extensive research; and, as well, it contains a most useful bibliography of reference works. The relationship of pilot and aircrew may have had its moments of sociological strain; but, as noted earlier, the shared partnership of the two has been—and is—crucial to the success of British air power.

A similar study for American military aircrew of the Air Force, Navy, Marines, and Coast Guard would be most useful and make an interesting companion piece to this work.

Dr. Richard P Hallion, Research Associate in Aeronautics, National Air and Space Museum



A Higher Call: An Incredible True Story of Combat and Chivalry in the War-Torn Skies of World War II. By Adam Makos with Larry Alexander. New York: The Berkley Publishing Group, 2012. Photographs. Notes. Bibliography. Pp. viii,

392. \$26.95 ISBN: 978-0-425-25286-4 (Reviewed in the Fall 2014 APH by a different reviewer with a different conclusion)

A Higher Call is an engaging tale from the European air war. It is classified as a history and biography. The historian, Adam Makos, no doubt contributed the historical parts; while the journalist, Larry Alexander, contributed the biography. Most of the "biography" comes from interviews, with the historian simply placing the personal stories in the context of the war. Alexander, using an exceptional amount of quoted dialogue, added to the story; but his sources are limited. The result is a blend of what the subject, German pilot Franz Stigler, said about his *Luftwaffe* service and what the autobiographer has added. Stigler and the American bomber pilot, Charlie Brown, both died in 2008.

The thrust of Stigler's story is that the moral compass of German pilots and the *Luftwaffe* was superior to those of the US Army Air Forces. In addition to Stigler's response to a higher call when he decided not to destroy a crippled American bomber, he enhances the character of the Germans while denigrating Americans with examples both silly and serious. As examples, *Luftwaffe* fighter pilots claim a "victory" upon destroying an enemy aircraft, Americans a "kill." Germans were ordered not to fire at an enemy in a parachute. American pilots and gunners, however, were "known" to kill the helpless enemy; and pilots were warned that American fighters would also strafe them on landing when entangled in their parachutes. Perhaps there were such incidents on both sides but these would have had to be the exception, not the practice.

One item I found especially difficult to digest has a *Luftwaffe* squadron commander declaring "the Allies weren't 'the enemy.' They were merely 'the opponent.'" Sounds like a soccer match: a game that produced an estimated 50-million deaths, the *Luftwaffe* playing a significant role.

A Higher Call is a dramatic story presented in a very attractive package with excellent photographs. Unfortunately, however, the personal stories of Franz Stigler, his fellow fighter pilots, and the *Luftwaffe* are based upon limited research and the memories and imagination of self-serving individuals. The two authors, in presenting the German pilots with higher moral character than Allied pilots, do a disservice to those who fought and died to end the rampages of the Third Reich, the *Luftwaffe* included.

Finally, Makos and Alexander ignored the inherent responsibility of historians

and journalists—and readers—to be skeptical of what people say about themselves. Paul John Eakin, in his carefully researched *Fictions in Autobiography: Studies in the Art of Self-Invention*, noted that the "materials of the past are shaped by memory and imagination to serve the needs of present consciousness."

This doesn't negate *A Higher Call* as an engrossing story fully capable (with some rewriting) of making a best seller list—as an historical novel.

Robert Huddleston, a freelance writer, served as a US Army fighter pilot in WW II



Modern Military Aircraft: The World's Great Weapons. By Thomas Newdick and Tom Cooper. London: Amber Books, 2013. Maps. Tables. Photographs. Glossary. Index. Pp. 384. \$39.95. ISBN: 978-1-78274-066-7

We all know not to judge a book by its cover, but we ought to be able to judge—or at least identify the content of—a book by its title. In the case of *Modern Military Aircraft*, we would expect it to be an "encyclopedia," a work that focuses on the roles, missions, specifications, and capabilities of a wide range of military aircraft in the post-World War II era. Flipping through the book reinforces this expectation, as the narrative is interspersed with hundreds of high-quality drawings or paintings of airplanes and helicopters, each accompanied by a brief, one-paragraph description and a list of specifications.

However, actually reading the book reveals that while it has some of the features of an encyclopedia, that is not its primary function. Perhaps the best descriptor for this book would be that it is a modified or abbreviated order of battle (OB): a document that addresses the organization, command structure, and equipment of aviation units used by various nations since the end of World War II.

The narrative is divided into two sections, one dealing with the Cold War period (1945-1989) and the second addressing 1990 to the present. Within each section, chapters discuss the forces that were deployed in specific geographic areas and/or in support of specific operations or types of mission. This is where the primary role of the book as an OB document, as opposed to its secondary role as an encyclopedia, becomes clear. For example, in a sub-chapter dealing with the 1961 Berlin Crisis, we are given complete details on the unit designations, locations, and aircraft

types for each of the U.S. Air Force squadrons and wings deployed in support of the mission, but the book discusses the capabilities of just one of the five different types of deployed aircraft.

This identity crisis—being titled as an encyclopedia while having the content of an OB document—detracts from the overall readability and value of the book; the reader opens the book expecting an encyclopedia, and it takes a while for him to realize that it is something else. It would have been easy for the authors to avoid this problem. Rather than jumping directly into their discussion of the Cold War, they could—and should—have begun with an introduction to tell the reader what the book is about and how it's structured. Chances are, if they had done so they might very well have recognized the identity crisis and avoided it by simply giving the book a more accurate title and perhaps rearranging the contents.

As an encyclopedia, *Modern Military Aircraft* does not earn high marks. The aircraft descriptions are limited, the tables of aircraft specs are presented in a font that is so small that it is barely legible, and some aircraft types appear in multiple, widely-scattered locations for no apparent reason other than to show the paint schemes of various nations that used the airplane. On the positive side, the art work is outstanding.

As an abbreviated OB, the book is far more useful. The narrative does a reasonably good job of explaining how air forces were deployed in response to world events and in many cases helped shape those events. But even here there are shortcomings. One of the most annoying is the complete absence of maps to help explain geographic issues addressed in the text. For example, a detailed discussion of the relationship between NATO's 2nd Allied Tactical Air Force (ATAF) and 4th ATAF is virtually useless without supporting maps. The book has a few large-scale maps that show international boundaries but not much else.

Other shortcomings include failures to explain terms that are probably not understood by most readers, and the occasional use of acronyms that are neither spelled out in the text nor defined in the glossary. One could also quibble over word choices, such as the statement that the "SR-71 was typical of Cold War strategic reconnaissance assets." As a one-of-a-kind platform that went far beyond the state of the art, the SR-71 could hardly be called "typical."

Modern Military Aircraft might be a reasonable addition to the library of a reader who needs a high-level OB reference source, but it cannot serve as a useful

encyclopedia of post-war military aircraft.

Lt. Col. Joseph Romito, USA (Ret.), Docent, National Air and Space Museum's Udvar-Hazy Center and National Mall Facility



Hanoi's War: An International History of the War for Peace in Vietnam. By Lien-Hang T. Nguyen. Chapel Hill NC: The University of North Carolina Press, 2012. Photographs. Glossary. Notes. Bibliography. Index. Pp xiv, 464. \$29.68 ISBN: 978-080783551-7

Part of the University of North Carolina Press's *New Cold War History Series*, this volume stands on its own as a ground-breaking political and diplomatic history. Author Lien-Hang Nguyen, associate professor of history at the University of Kentucky, utilizes previously untapped archival material from Vietnam, including records from what was formerly the government of North Vietnam, along with documentary sources from several countries. She reveals the tensions and disunity in that regime and demonstrates that real power and influence rested largely with Le Duan, the general secretary of the Central Committee of the Communist Party of Vietnam, and Le Duc Tho, whose negotiations with Dr. Henry Kissinger, President Nixon's national security advisor, were instrumental in ending U.S. military involvement in Vietnam.

Utilizing official documentation from the time and other sources shedding light on Le Duan and Lu Duc Tho, Nguyen provides a new lens, hitherto unavailable, with which to examine some of the mysteries of the "other side's" conflict and seeks to remedy the imbalance in our understanding of the war. The first scholar to be permitted access to the Vietnam ministry of foreign affairs, she explored a wealth of archival sources and conducted interviews with former participants. Nguyen's truly international history investigates the complex interplay between political developments, diplomacy, and national strategy and provides valuable insight into forces not previously explored.

At nearly every phase of the Vietnam War, all the way to the end of U.S. military involvement, the efforts of a small number of leaders within the Communist Party of Vietnam played an enormous role, influencing actions of senior U.S. officials, including negotiations in Paris and the decisions made by the president during the last part of the war. She persuasively argues that "Hanoi and Saigon were not

only active agents in their own destinies, but they heavily influenced the terms of American intervention and ultimately the outcome of the war."

Although many readers would probably welcome more discussion of the period between January 1973 and April 1975, Professor Nguyen's valuable research and analysis has opened the door to a more complete picture of this complex and perplexing time in our history.

John Q. Smith, Ph.D., Air Force Senior Historian



Killing Patton: The Strange Death of World War II's Most Audacious General. By Bill O'Reilly and Martin Dugard. New York: Henry Holt and Company, 2014. Notes. Sources. Maps. Index. Pp. 352. \$30.00 ISBN: 978-0-8050-9668-2

Bill O'Reilly has earned a reputation as an incisive anchor on his own news show and a well-known author. Martin Dugard is also an author of some renown. But they went wrong with this book by taking a premise that has been discussed more than a few times since Patton's death and adding practically nothing new to existing scholarship. The death of Patton—someone who had otherwise lived his life in the fullest sense and in the spotlight—has been somewhat difficult to accept as it appears on the surface. It is hard to believe that a great war hero and survivor of continual combat could have died in a simple and avoidable traffic accident. Because Patton was surrounded by controversy until the day he died, the book suggests that there has to be more to the circumstances of his death. This book, however, reveals little of substance to argue that Patton's death was anything more than it appears.

If this book were reduced to only the pages relating to the title subject, it might have been less than 100 pages in length. How did the authors fill the other pages? They recounted vignettes that are, at best, only tenuously connected to the thesis: the incredible survival stories of two sisters at Auschwitz in no way connected to Patton, a digression on Auschwitz itself and on Anne Frank's father, the heraldry of the German SS death's-head insignia, how Stalin placated his daughter by creating a Christmas surrogate in Grandfather Frost, an account of Churchill's negotiations with Stalin for respective spheres of influence in post-war Europe, OSS director Wild Bill Donovan's political ambitions,

and the ruthlessness of the Soviet Army's vengeance on the German people. These are perhaps important subjects for a more inclusive history of the Second World War but have little value in this book. Where the authors provide detailed accounts of tactical events related to Patton's command of the Third Army (taking Fort Driant, for example), they contribute only peripherally to the book's main thrust.

Also troubling are the grammatical errors. How did a respected publishing house let them slip through? Smoke does not go up a flu [flue]. It is not the Germany army, but the German army. And there is a problem of inconsistency. From virtually the same geographical location, on one page Patton is 3,000 miles from Washington; earlier in the book he was 4,000 miles away. Technical errors should have been avoided. The Browning Automatic Rifle (BAR) does not fire a three-inch bullet. The actual 2-1/2 inches properly refers to the entire cartridge including its bullet. Yes, its rate of fire is 450-650 rounds per minute. However, no one is firing that number, as implied in a battle scene, because the magazine holds only 20 rounds.

In contrast to the parenthetical departures throughout the book, the examples of Patton's battlefield brilliance, his abrasive personality, and his keen competitiveness (especially with British Field Marshal Montgomery), do add dimensions to Patton's complex character. Do these traits, however, intimidate or infuriate anyone so much that they want to assassinate him? That hypothesis is, of course, hinted. OSS chief Wild Bill Donovan directed assassinations during the war. Does that mean that he might have also, for reasons of personal ambition, targeted Patton? The book lightly brushes up against the possibility without actually saying it explicitly, thus highlighting another possible man with a motive. The authors use a friendly-fire attack on Patton's aircraft by a Spitfire to hint at dark intentions by the pilot. Is the culprit this time Montgomery or was it a Russian pilot with his finger on the trigger? What nefarious figure was behind the German ox-cart "attack" on Patton?

This book was anticipated with great expectations, hence my sense of disappointment. Perhaps it was never intended to become a definitive work on the circumstances of Patton's death. If its purpose is primarily to be light reading and simple entertainment, it works. *Killing Patton* is an easy read that is filled with interesting digressions—sort of like a lightweight *Herodotus' History*. Further, the plentiful maps are excellent supplements to the narrative. The book, however, is unfortu-

nately not a definitive work on Patton's death.

John Cirafici, Milford, Delaware



The Lion's Gate: on the Front Lines of the Six Day War. Steven Pressfield. New York: Sentinel/Penguin Group, 2014. Photographs, Maps, Appendices, Bibliography, Index. pp. 430. Hard cover, \$29.95 ISBN: 978-1-59523-091-1

Almost a half-century on, the astonishingly rapid victory of the Israeli Defense Force over an Arab coalition threatening the extermination of the Israeli state continues to amaze. *The Lion's Gate* is an account in the tradition of Cornelius Ryan and S. L. A. Marshall in which Pressfield looks at the war through the prism of veterans. He is forthright about his approach, cautioning at the outset that this "is not a comprehensive history of the Six Day War." Instead, based extensively on over sixty interviews, his focus "is deliberately personal, subjective, and idiosyncratic." Further, his is a "hybrid history," one that employs "techniques from a number of disciplines—from journalism and academic history, from conventional nonfiction and narrative nonfiction, and from New Journalism."

Books rooted in oral historiography are often uneven and disjointed; Pressfield's warnings might imply a similar failing in his own work. Instead, he has produced a sweeping compilation of well-chosen, and at times truly riveting, vignettes illuminating a variety of issues from combat operations to the experiences and reactions of individual airmen and soldiers (from commanders through recruits) to the war.

One fact becomes quickly clear: Israel may have swiftly won the war, but it was far from an unopposed romp. Fighting was sharp and brutal, and the often harrowing experiences of Israeli ground forces recall accounts from earlier conflicts, particularly Robert Crisp's classic *Brazen Chariots*, Belton Cooper's *Death Traps*, and Bill Close's more recent *Tank Commander*.

The accounts of preparations and execution of the air war are, alone, worth the book's price. In this post-Gulf War age of precision-guided munitions, all-aspect air-to-air missiles, electronic combat, stealth, and GPS, we have become, perhaps, somewhat complacent in our expectations of what air strikes can accomplish. The Israeli airmen who prosecuted the war's preemptive opening

air strikes were still dependent largely on the accuracy they could achieve with cannon and unguided bombs and rockets and, above all, on whether they could reach their targets before detection and, thus, catch their foes unaware. When word reached the IDF's air force command bunker in Tel Aviv, that the first seven minutes of air attack had savaged the Egyptian Air Force, its occupants erupted in joy. Planner Rafi Sivron recalled, "[Moshe] Dayan stands and embraces [Yitzhak] Rabin. Ezer [Weizman] claps the chief of staff's back. Everyone is shaking everyone else's hand. I'm standing to the side with another officer. I tell him, 'The war is over.'"

But, as Sivron himself recognized, it both was, and it wasn't. Bitter fighting took place over the next week, but Israeli ground forces did not have to worry about attack from above, and Israeli cities were unmolested by bombers and other attackers. By the end of the war, it was evident that Israeli airmen had shown they could win a war against much-better-armed and more-numerous opponents. They had given a daunting lesson on the penalty military forces face once they lose air superiority. In so doing, they established an airpower marker that has inspired air planners and tacticians ever since.

Readers seeking an integrated, authoritative history of the Six Day War should read Michael B. Oren's *Six Days of War: June 1967 and the Making of the Modern Middle East*, which Pressfield references in his bibliography. Both of these books belong on the shelves of anyone interested in the Israeli military experience.

Dr. Richard P Hallion, Research Associate in Aeronautics, National Air and Space Museum



History of Rocketry and Astronautics: AAS History Series Volume 40. By Christophe Rothmund, ed. San Diego: American Astronautical Society, 2013. Maps. Tables. Diagrams. Illustrations. Photographs. Notes. Appendices. Author Index. Pp. xii, 331. \$95.00 hard, \$75.00 soft ISBN: 978-0-87703-599-2

This book is a collection of papers from the 43rd History Symposium of the International Academy of Astronautics and the 60th International Astronautical Federation Congress that took place in South Korea in 2009. As could be expected, the editors cover a lot of ground with

essays ranging from biographical sketches of important figures in astronautics to material on lesser known (as least in Western circles) subjects such as Korean rocketry, both North and South. While the editors met their goal of providing a wide range of topics and material, the authors' inconsistent quality seriously marred an otherwise very useful work.

Since the conference took place in Korea, numerous informative and useful papers on Korean subjects resulted. Chapters 13 through 16 covered Korean rocketry from current technical developments in both North and South Korea to South Korean space policy to the development and testing of a modern version of a 15th century Korean precursor to modern rockets. These chapters were all well written and concise and added significantly to my knowledge of this important area of study. Several other chapters (Chapter 7, XLR-99 Pioneer Rocket Engine, being the most notable example) were well written. In general, however, the closer you get to the front of the volume, the worse the writing gets.

The two biographical essays (translated from Ukrainian and Japanese respectively) are so poorly done as to be almost unreadable. Most of the foreign language essays (which comprise most of the book) are awkward reading in English and often hard to understand. The topic is technical, but the issues are more grammatical than conceptual. The series editor in the forward states many essays were "lightly edited," while others required "more extensive alterations to make them intelligible to readers of American English." Plainly stated, their editing efforts failed. A number of essays, particularly from former Ukrainian authors, have such a jingoistic tone they read more like blatant propaganda rather than scholarly works. The editors state they tried to remain faithful to the author's original intent, but they did this at the expense of readability and useful presentation.

Other aspects of the book are very well done; and, while they don't offset the poor translations and authors' often overt posturing, they are helpful. Notes and references throughout are extensive and complete. There are lots of high quality and, for the most part, relevant illustrations. The equipment schematics are easy to read and clearly marked. There are plenty of tables, graphs, photographs, and schematics to support the narrative in even the worst essays.

In the final analysis there is a great deal of useful information here, but it is unfortunate the writing and editing is so poor. I can't recommend this to the casual reader—not because of the subject matter,

but because it is just too much work for too little return. For the practitioner or scholar, there is much of use here. It's just going to be a bit painful.

Golda Eldridge, Lt Col, USAF (Ret), Ed.D



A History of the Mediterranean Air War, 1940-1945: vol. 2: North African Desert, February 1942-March 1943. By Christopher Shores *et al.* London: Grubb Street, 2014. Photographs. Maps. Bibliography. Index. Pp. 736. \$50.00 ISBN: 978-1-90916612-7

This is the second of a planned multi-volume account of the air war over the Mediterranean during World War II. It covers the North African campaign from February 1942, when the Axis began their victorious advance eastward across Libya, through el Alamein (Oct 1942), to the Axis defeat in Tunisia in May 1943. The focus is on the air war fought over Tunisia and Egypt in conjunction with the British Eighth Army. This battle was waged primarily by Australian, British, South African, and a few American and French units against German and Italian units.

The book was written by an impressive group of British, Italian, Australian, American, and German authors who describe themselves as lifetime enthusiasts. They have produced a work that demonstrates considerable research and exhaustive detail. It is essentially a day-by-day account—a war diary—of the air action that gives a brief overview of the air activities and unit movements and includes many pilot names and many aircraft code letters. Allied and Axis claims (with type of aircraft, location, and time) are listed along with admitted Allied and Axis casualties. Interspersed are a number of pilot accounts of air engagements. The extensive detail and evenhandedness of the book are among its strengths.

Readers can draw a number of observations about the aerial war over North Africa. It was highly mobile with rough living conditions due to the terrain, weather, and supply problems. The overstating and misstating of claims by all air forces is clearly seen, as is the inferiority of the Hurricane and P-40 to the Bf 109. Although sustaining heavy and disproportionate losses (the book unfortunately does not give a sortie count), the Allies appear to have conducted more bombing missions on the Axis forces than the other way around. While there is a tendency to romanticize this aerial conflict seventy years after the event and in contrast to the

fighting elsewhere, there is evidence of a degree of chivalry exhibited by both sides. In another contrast to fighting in other theaters, it appears that the open terrain allowed a high proportion of pilots who crashed or bailed out to return to their own forces. And despite the overwhelming odds against them, the Axis air forces fought on to the end of the campaign, giving a very good account of themselves.

There are a number of aspects that make the work unsuitable for the casual reader. Certainly many readers would have welcomed some kind of summary (monthly or overall) of the data presented and some sort of summary and analysis of the material presented. As is, the book is a massive amalgamation of research notes along with occasional insertions of pilot accounts. There are no citations; and, while the book does include a lengthy bibliography, it is somewhat disappointing considering the extensive detail of the text. Readers will also have to deal with an unorthodox indexing system. For example, names are broken down into separate indices for British and Commonwealth, US, German, French, and Italian personnel. A minor inconvenience is the authors' failure to standardize the time (for half the year the opponents used different time); measurements (miles and kilometers); and, on occasion, place names. As might be expected for such a chronicle, the effort is largely repetitive, and the prose is anything but smooth. Finally, there is no mention of ULTRA.

In brief, I don't recommend this book for the average reader or for casual reading. Instead, it is a valuable reference source that will be seen as the standard on this topic. I look forward to the promised succeeding volumes.

Kenneth P. Werrell, Christiansburg, Virginia



Once a Fighter Pilot: The Story of Korean War Ace Lt. Gen. Charles G. "Chick" Cleveland. Warren A. Trest. Montgomery Ala.: River City Publishing, 2012. Photographs. Notes. Pp. 268. \$28.00 ISBN: 978-1-57966-091-8

Military aviation biographies and memoirs are an interesting form of literature. While those of pilots abound, those of service leaders and other senior officers are far fewer. Thus, Trest's biography of "Chick" Cleveland is a welcome addition to the literature on Air Force general officers.

Cleveland has long deserved detailed scrutiny, particularly for his early role in

the F-111 and his leadership of Air University in the early Reagan-Weinberger era. In Trest, an accomplished and distinguished historian, he has both a sympathetic and discerning biographer.

Much of the book relates to Cleveland as a Korean veteran. He shot down four MiG-15s while flying with the 4th Fighter-Interceptor Wing, claimed another two as probable, and four more as damaged. He was convinced one of the probables had not returned to its base. In 1999, fellow Sabre pilot (and ace) Dolph Overton convinced Cleveland to put in for recognition of the probable as a kill, using new information, including Russian language sources. In 2000, the American Fighter Aces Association formally recognized Cleveland as an "ace," but official recognition by the Air Force did not come until January 2008, following an Air Force Board for Correction of Military Records hearing in which Cleveland, Overton, and fellow Korean pilot Maj Gen "Boots" Blesse all testified. Thus, Cleveland officially became the fortieth Korea ace.

Trest's book covers more than Cleveland's experiences in Korea and his quest for ace status, of course. Cleveland came from an old Army family, but his childhood was far from happy and secure. He graduated from West Point and went through pilot training in the early days of the Air Force when it was transitioning from propeller-driven fighters to the newer jets.

Cleveland flew straight-wing Republic F-84 Thunderjets in England before being assigned to Korea. His British experience taught him the finer points of dogfighting, and he carried the lessons to MiG Alley, where he proved a determined and ultimately deadly fighter pilot. His combat experiences make for interesting reading, adding to accounts we already have from a number of Korean-era fighter pilots including Blesse (*Check Six*); "Gabby" Gabreski (*Gabby*); "Bud" Mahurin (*Honest John*); and, best of all, James Salter (*Gods of Tin*). Likewise, his postwar experiences during the Cold War offer a useful perspective for readers who might not remember exactly how daunting the Cold War was.

Trest's book is an excellent narration of an officer's progression to command over much of the Cold War, from the Air to the Space Age, and in a service that was rapidly transforming itself in a variety of capabilities and technologies.

One section that should have been fleshed out was a tantalizingly brief discussion of Cleveland's role in the formative era of the F-111. This troubled program, borne of Robert McNamara's misbegotten desire for commonality, caused numerous

headaches for the Air Force, failed to generate an anticipated carrier-based interceptor, and had international consequences (Britain cancelled its TSR.2 strike aircraft in large part because it was to receive F-111Ks, an aircraft ultimately abandoned). As attested by their Gulf War performances, F-111Fs and EF-111As ultimately proved very useful and significant aircraft, but the early days of the program were disastrous. Hinting that something is on the road to being a "TFX" or "F-111" have become a kind of acquisition shorthand for indicating a program is in trouble.

Another area, that Trest treats in greater detail but still begs for additional discussion, is Cleveland's role in reshaping and redirecting the Air University; establishing the Center for Aerospace Doctrine, Research, and Education (CADRE); the Gathering of Eagles heritage program; and using the Project Warrior initiative (a major aerospace education and awareness program of the 1980s Air Force that deserves its own detailed examination) to promote air-mindedness and a warrior ethos among students at Air University.

Cleveland and his wife were remarkably public-spirited citizens. During and after his time running Air University, both became fixtures of Montgomery's social, cultural, political, and philanthropic scene—one reason this memoir was issued by a publisher noted for works of local history.

Altogether, this is a most interesting work. If Cleveland was not a general officer at the very apex of the service, he was, nevertheless, very influential in his own way. His biography is not only welcome but overdue. This makes for worthwhile reading and comparison with biographies of officers of similar influence and background such as Peter B. Mersky's recent biography of RADM "Whitey" Feightner, *Whitey*, and Sheryl L. Hutchinson's biography of Maj Gen Fred J. Ascani, *Mentor Inbound*.

Dr. Richard P Hallion, Research Associate in Aeronautics, National Air and Space Museum



The Battle of the Bridges: The 504th Parachute Infantry Regiment in Operation Market Garden. By Frank van Lunteren. Philadelphia: Casemate, 2014. Maps. Illustrations. Notes. Photographs. Appendices. Bibliography. Index. Pp. 334. \$ 32.95 ISBN: 978-1-61200-232-3

Band of Brothers—both the book by

Stephen Ambrose and the mini series—made the fabled Easy Company, 506th Parachute Infantry Regiment (PIR), and, by extension, the paratroops of World War II, almost household names. These soldiers have a justly deserved reputation for fierceness and bravery seldom equaled. Their efforts in Sicily, Normandy, and Operation Market Garden showed them to be tough, disciplined fighters able and willing to take on the most difficult challenges. This book is one of a planned series covering the exploits of the 504th PIR and the 82nd Airborne Division in Northern Europe in World War II.

A Dutchman, van Lunteren has an abiding interest in the men who helped liberate his country—especially the first to find their way into his hometown, the 504th PIR. His family lived in the area discussed in the book, and his father witnessed many of the events related. Van Lunteren was initially fascinated by the story of Ted Bachenheimer, a scout and sergeant in that unit who disappeared during Operation Market Garden. As he researched Bachenheimer and his fellow paratroopers, he conceived the idea of expanding this research into a full blown history. This book is the first result.

Van Lunteren is an amateur historian who lives in Arnhem and is active in the town's historical society. He started by publishing articles on Market Garden and the 504th and eventually collected enough information to pursue a book. His methods are thorough and his research impressive. He interviewed 504th veterans, attended unit reunions, and read unpublished survivors' manuscripts. Where possible, he also interviewed veterans from other Allied and German forces involved. With all of this information, he admits his original design of a comprehensive history was unmanageable, so he decided to divide and conquer. This book covers only a portion of Market Garden; subsequent volumes will cover other aspects of the 504th's operations.

Van Lunteren's research and passion for the subject are evident throughout. From the excellent pictures, comprehensive notes, and crystal-clear maps, there is an attention to detail seldom found in the works of amateur historians. Together with the editorial staff, van Lunteren has produced a very worthwhile book.

That said it is important to recognize that this book is not the comprehensive unit history seemingly intended. Van Lunteren fails to move from individual narratives to adequately address larger issues of training, logistics, tactics, and command. Maps are one example. Individual quality is outstanding, but their coverage of unfolding events is haphazard. They focus on inci-

dents connected with individuals or groups of soldiers and don't adequately illustrate the tactical situations to better explain troop movements and tactics. There is a confusing overreliance on verbatim first-person accounts as van Lunteren jumps from one account to another with little, and sometimes no, connecting narrative. There is no real effort to reconcile conflicting perspectives of events told from these various points of view. So what we end up with is an engaging and thoroughly researched personal-level history that, despite its flaws, is well worth the reader's time. Look elsewhere for the larger ebb and flow of battle, but read this to see the soldier's-eye view of combat in Holland in 1944.

Golda Eldridge, Lt Col, USAF (Ret), EDD



Cold War Fighters: Canadian Aircraft Procurement, 1945-54. By Randall Wakelam. Vancouver: UBC Press, 2011. Photographs. Charts. Tables. Notes. Index. Pp. 192. \$32.95 paperback ISBN: 978-0-77482148-3

This is a most welcome addition both to literature on the Cold War and to aviation historiography.

The Canadian aviation industry dates to the pioneering work of Alexander Graham Bell—yes, *that* AGB—shortly after the turn of the century. Canadians served with distinction in both world wars, pioneered Arctic and "Bush" flying between the wars, and developed a number of important civil and military aircraft. In the jet age, Canadian engineers pioneered jet airliner design and the design of high-supersonic aircraft, and brought mass-produced short-takeoff-and-landing (STOL) civil and military aircraft to the world market. Lest anyone doubt the strength and capabilities of Canada's aviation industry, the chances are about 50-50 that if one flies in a regional airliner (about 100% if it is a STOL airliner), it is of Canadian design and manufacture.

Wakelam is a highly experienced pilot and acquisition officer in the Royal Canadian Air Force (now retired) who teaches military history and leadership at the Royal Military College of Canada. He puts Canadian postwar fighter aircraft acquisition under the microscope. In so doing, he furnishes a remarkably insightful and detailed account that furnishes much new information illuminating two key acquisition decisions that shaped the postwar force-structure of the RCAF: procurement of a Canadian-produced variant

of the North American F-86 Sabre, and procurement of an indigenous Canadian-developed all-weather interceptor, the so-called CF-100 Canuck (not to be confused with the North American F-100 Super Sabre, a very different airplane). Both saw extensive service with the RCAF, and Canadian Sabres even saw service with the United States Air Force and other of the world's air forces as well.

Wakelam's book is effectively a prequel to the most contentious—even incendiary—story of postwar Canadian aircraft procurement, that of the proposed Mach 2+ Avro CF-105 Arrow interceptor. The development and cancellation of this aircraft is as controversial as the cancellation of the TSR.2 in the UK. While one might wish that Wakelam had discussed this program as well, it would effectively have doubled the size of the book and resulted in a very different study. What Wakelam does is set the stage for this subsequent story by tracing the occasionally sad story of relations between the Canadian government and the Avro company before the CF-105 was even a glimmer in the engineering eye.

Readers unfamiliar with the RCAF will be surprised at how extensive its commitment was to North American air defense. This reflected a long legacy of night/all-weather combat dating to the heroic actions of RCAF pilots and fighter-navigators in wartime Beaufighter and Mosquito night-fighters confronting the Luftwaffe.

Wakelam is a fine writer, and he is able to transfer his impressive research in primary archival sources into a very readable and engaging text. A selection of tables and evocative photographs, coupled with detailed source notes, enhance what is already a very impressive work.

Recommended for anyone studying North American air defense, NATO procurement, Cold War aerospace history, and the history of Canada's aircraft industry and the RCAF.

Dr. Richard P Hallion, Research Associate in Aeronautics, National Air and Space Museum



Consolidated B-24 Liberator: Warpaint Series No. 96. By Ian White. Denbigh East UK: Warpaint Books Ltd., 2014. Maps. Tables. Diagrams. Illustrations. Photographs. Pp. 120. £25.00 paperback ISBN: none

Ian White is a noted aviation writer and historian in the UK and an Associate

Member of the Royal Aeronautical Society. There have been many books and articles written about America's most prolific combat aircraft over the last seven decades; White's effort ranks right at the top along with Al Lloyd's superb 1993 history, *Liberator: America's Global Bomber*.

Both of these books well cover the total history of the Liberator. I would probably look to Lloyd's book more for the operational history of the B-24 throughout the world, while I really enjoyed the coverage of the development and production of the many models of the Lib in White's volume.

Unquestionably, the Warpaint Series is written with the modeler in mind. But, for those who think that modeling-oriented books are a little "fluffy" when it comes to solid aerospace history, you can disavow those notions when it comes to White's work. Yes, it contains a number of color profiles of many different B-24s (and derivatives), lists of kits and decals available to the modeler, and a fold-out 1:72-scale set of plans for a number of different models of the aircraft. But, in my view, the drawings and profiles only enhance the story of the development of the many models and variations of this outstanding aircraft.

The book is quite timely, since the B-24 has been rediscovered by many people because of Laura Hillenbrand's *Unbroken* and the recent release of the movie. Now many people realize there was another heavy bomber besides the B-17. But there were also the early model LB-30, the Navy PB4Y-1 and 2, F-7 photo-reconnaissance planes, various British Liberators, and the transport derivatives. The C-87 provided a lot of airlift and VIP transport; and it is probably fair to say that early B-29 operations in China would have been impossible without using the C-109 Liberator Tankers to carry the fuel needed from India to China. White also covers the post-war airliner modifications in his thorough coverage of the aircraft.

Nearly 19,000 Liberators were built by Consolidated in San Diego and Fort Worth, Douglas in Tulsa, North American in Dallas, and—an amazing story in itself—Ford at Willow Run. Add to that the different turrets employed in the nose, top, ball, and tail positions and other modifications made at the various plants and modification centers, and you nearly need a scorecard to keep track of production. White does a quite excellent job of providing that.

The USAAF was the largest user of the Liberator, but there were also a large number of US Navy, RAF, Canadian, Australian, and South African units.

These were stationed and flown all over the globe. White provides a number of excellent, easy to read maps showing the locations of these units and well describes the contributions made to the conflict by Consolidated's product.

For a very good compendium on the design, production, and use of the venerable Liberator (and Privateer), this is a fine addition to anyone's library. For the modeler, its well reproduced photos and the descriptions and drawings are indispensable. An excellent book.

Col Scott A. Willey, USAF (Ret), Book Review Editor, and Docent, NASM's Udvar-Hazy Center



Flying Blind: The Story of a Second World War Night Fighter Pilot. By F/LT Bryan Wild and Elizabeth Halls with Joe Bamford. London: Fonthill Media, 2014. Photographs. Notes. Bibliography. Pp. 205. \$29.95 ISBN: 978-1-78155-345-9

This book is primarily Bryan Wild's wartime diary augmented by additional research by Halls and Bamford. The overall story is non-technical. It deals primarily with Wild's experiences and acquaintances made during his training and in subsequent operational postings. He tells of camp life and adventures while on leave. One is left with the impression that most of the training and operational flying were dull and routine, touched off by moments of sheer terror!

Bryan Wild joined the RAF in June 1940 when not quite 18. Over the next five years, he flew fourteen different types of aircraft and saw action over Britain, North Africa, the Mediterranean, and Germany. His memoirs capture the daily life of an ordinary RAF pilot, the thrill of flying and experiencing a new aircraft for the first time, the tension of night flying in the early days when planes were not equipped with onboard radar, the tedium of hanging around with nothing to do, the stark contrast felt with the intensity and urgency of action, the camaraderie of young men at war together, and the devastating loss of friends in combat.

The book starts with Wild's training. After nine months and 156 hours of flight time, he received his wings. The next four months were taken up by training sorties in the Hawker Hurricane and introduction to night flying.

By mid-1941, Germany's occupation of northern France allowed better access to Britain's northwestern cities. Due to

the increased losses sustained by the Luftwaffe during this period, operations shifted to night bombing. The Hurricane proved to be an ineffective night fighter, primarily due to poor visibility. Wild was transferred to a squadron operating the Boulton Paul Defiant, an ineffective day-fighter converted for night-fighter duty. Wild flew patrols and was scrambled a few times to intercept German night-bombing and minelaying aircraft, but he seldom made visual contact due to the poor Defiant performance and bad weather.

In May 1941, Ground Controlled Interception (GCI) radar became operational and was more widely available thereafter. Wild trained on twin-engine Oxford and Blenheim aircraft to prepare for Bristol Beaufighters VIFs. These were equipped with Mark VIII airborne interception radars, the first operational microwave-frequency, air-to-air radar.

Wild was transferred to the Mediterranean, where Rommel's forces, hampered by lack of supplies, equipment, and air support, were on the run. Control of the Mediterranean was vital in ensuring Allied supplies reached their armies while movement of Axis troops and supplies was prevented. Churchill believed that capture of the Dodecanese Islands in the south-eastern Aegean was needed to keep up pressure on German troops in the region. Wild was transferred to Egypt, from where the longer-range Beaufighters could best support operations in that area. Wild flew several operational night sorties to Crete, Rhodes, and Leros. With the end of the Dodecanese campaign, Wild's squadron resumed patrol, intruder, and convoy-escort duties.

In mid-1944, Wild returned to England as an instructor pilot flying the Bristol Beaufort and then was assigned to a de Havilland Mosquito outfit. These fast fighters provided very effective night-fighter cover for the British night bombing of Europe. Equipped with four cannons, four machine guns, intercept radar, a tail looking scanner, and a radar-operated homing device, his squadron's aircraft were assigned to shoot down Heinkel 111s that were air-launching V-1 bombs over the English Channel.

After the war Bryan Wild became an art teacher. Married, with two children, he died in January 2012, at age 90. His story is a social account of what RAF fliers lived through during the war years counterpoised against the horrors of combat. It is

the story of one pilot's journey from boyhood to manhood.

Frank Willingham, *Docent, National Air and Space Museum*



Death from Above: The 7th Bombardment Group in World War II. By Edward M. Young. Atglen, PA: Schiffer, 2014. Photographs. Maps. Tables. Illustrations. Appendices. Notes. Bibliography. Index. pp. 312. \$69.99 ISBN: 978-0-76434635-4

Edward Young has produced a unit history of a largely unappreciated bomb group. In so doing, he has offered up what could well be a template for all such future works. As a genre, unit histories pose problems and invariably differ widely in quality. When done well, they can offer a unique insight into a military organization at war. When done badly or indifferently (as is often the case) they often are little more than a compilation of photographs, lists of equipment and personnel, and rehashed anecdotes.

Young took the common format of a unit history and expanded and elaborated it to the point that it transcends the genre and becomes a quite substantial contribution to military aviation historiography. The book reflects the energetic and insightful approach of Young himself, a noted historian who previously has written a highly regarded history of aviation in Thailand (*Aerial Nationalism*), and a variety of other works on military affairs and the Second World War in South Asia. He has spent a lifetime researching the war because of family members who served in China and Burma and his own work as a Peace Corps volunteer in Thailand.

The title, *Death from Above*, is taken from the unit's motto, *Mors ab Alto*. Established in June 1928, the 7th Bomb Group flew Curtiss B-2 open-cockpit biplanes, progressing through the Martin B-10/B-12, Boeing B-17, and Consolidated B-24 Liberator.

The 7th fought a very hard war, from trying to stem the rising tide of Japanese supremacy during the Java campaign, through retrenchment and consolidation as part of Tenth Air Force in India, and then as a heavy bomb group flying extraordinarily long (both in range and

duration) missions against targets in Burma and Thailand. It began the war with the B-17 but really hit its stride when it reequipped with the LB-30 (an export variant of the Liberator) and then B-24s themselves.

The B-24 was far from a perfect aircraft and had a number of deficiencies: leak-prone, an unreliable electrical system, and a relatively weak structure that made it vulnerable to combat damage that its stable-mate, the B-17, could effectively shrug off. But the B-24 had tremendous range and duration, making it highly desirable for long-range raids from India into Burma and Thailand. Young details the many purposes to which the 7th was put, noting particularly its tremendous role in targeting both shipping (via mining attacks as well as direct bombing) and the railway system, especially a series of devastating bridge attacks using Azon guided bombs.

Young's book has well over 400 very-high-quality photographs, but it is far from being just a photo history of the group. His research is meticulous, and he both quotes extensively from key primary documents and reproduces some. It is thoroughly referenced, and the bibliography and source notes are themselves a major contribution to the historiography of the South Asian air war. There are a number of technical notes and digressions, and a full roster of unit missions. Frankly, there is something here for everyone: professional historian, air power aficionado, and aviation buff alike.

Although, of course, his book is a study of just one bomb group and not, per se, a history of the AAF's involvement in the South Asian air war, it constitutes a useful complementary work with the late Air Commodore Henry Probert's *The Forgotten Air Force: The Royal Air Force in the War Against Japan, 1941-1945*, another outstanding work that deserves wide readership.

Altogether, Young has done the airmen who flew with the 7th Bomb Group proud with this book, and one looks with anticipation to what his next foray into military aviation history might be.

Dr. Richard P Hallion, *Research Associate in Aeronautics, National Air and Space Museum*



Books to Review

Allison—Operation Thunderclap and the Black March: Two World War II Stories from the Unstoppable 91st Bomb Group. 240p.
Boston Pub Eds—The Medal of Honor: A History of Service Above and Beyond. 304p.
Crosley—They Gave Me a Seafire. 279p.
Curtis—Surprised at Being Alive: An Accidental Helicopter Pilot in Vietnam and Beyond. 297p.
Gledhill—The Phantom in Focus: A Navigator's Eye on Britain's Cold War Warrior. 287p.
Homan & Reilly—Black Knights: The Story of the Tuskegee Airmen. 336p.
Hunt—Melvin Laird and Nixon's Quest for a Post-Vietnam Foreign Policy 1969-1973. 31p.
McAllister—Berlin Airlift: Air Bridge to Freedom: A Photographic History of the Great Airlift. 216p.
Popravak—The Oregon Air National Guard. 127p.

PROSPECTIVE REVIEWERS

Anyone who believes he or she is qualified to substantively assess one of the new books listed above is invited to apply for a gratis copy of the book. The prospective reviewer should contact:

Col. Scott A. Willey, USAF (Ret.)
3704 Brices Ford Ct.
Fairfax, VA 22033
Tel. (703) 620-4139
e-mail: scottlin.willey@gmail.com

History Mystery Answer

The squadron was the 94th Aero Squadron. It conducted the first American operations across enemy lines on March 19, 1918, seven months and a day after it was first organized. The unit's nickname was the "Hat-in-the Ring" Squadron. Today, the 94th is still operational at Langley Air Force Base, Virginia, where the 94th Fighter Squadron flies F-22 Raptors.

The American leading ace was Capt. Eddie Rickenbacker, who led the American forces with twenty-six confirmed victories. Rickenbacker earned "Ace" status (five confirmed victories) less than seven weeks after he flew his first combat sortie. Five of his twenty-six victories were German observation balloons. Rickenbacker scored his victories while flying French built Nieuport 28 (right above) and SPAD XIII (right below) aircraft. As the United States did not have any combat ready fighter aircraft at the start of World War I, the U.S. had to rely on her allies for combat aircraft.

To learn more about Capt. Eddie Rickenbacker and the aircraft he flew, visit the National Museum of the Air Force's website: (<http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=715>).

To research all U.S. Air Force aerial victories during World War I, visit: www.afhra.af.mil/shared/media/document/AFD-090529-043.pdf for the complete official record of U.S. Air Service aerial victories.



Coming Up



Compiled by
George W. Cully

April 9-12, 2015

The **Society for Military History** will hold its annual meeting at the Renaissance Hotel in Montgomery, Alabama. This year's theme will be "Conflict and Commemoration: the Influence of War on Society." For additional information on the meeting, see the Society's website at www.smh-hq-org.

April 13-16, 2015

The **Space Foundation** will host its 31st annual Space Symposium at the Broadmoor Hotel in Colorado Springs, Colorado. For more on the schedule and agenda, see the Foundation's website at www.spacesymposium.org/.

April 15-18, 2015

The **National Council on Public History** will hold its annual meeting in Nashville, Tennessee. More information is at the Council's website at www.ncph.org.

April 16-19, 2015

The **Organization of American Historians** will conduct its annual meeting at the America's Center Renaissance Hotel in St. Louis, Missouri. More details at the Organization's website: www.oah.org.

April 24-25, 2015

The **Society for History in the Federal Government** will hold its annual meeting at the Robert C. Byrd Center for Legislative Studies in Shepherdstown, West Virginia. This year's theme is "Across the Great Divide: Historical Research in a Digital World." For meeting particulars, see the Society's website at shfg.org/shfg/events/annual-meeting/.

May 4-7, 2015

The **Association for Unmanned Vehicle Systems International** will host "Unmanned Systems 2015" at the Georgia World Congress Center in Atlanta, Georgia. For program details, see the Association's website at www.auvsi.org/events1/.

May 5-7, 2015

The **American Helicopter Society International** will host its 71st annual forum and technology display at the Virginia Beach Convention Center in Virginia Beach, Virginia. The theme of the conference is "Transforming Vertical Flight Technology." For more information see the

Society's website at www.vtol.org/events/ahs-71st-annual-forum-and-technology-display.

May 6-10, 2015

The **Council for America's Military Past** will hold its annual conference in New Orleans, Louisiana. For more details as they become available, check the Council's website at www.campjump.org/Annual%20Conferences.htm.

May 11-16, 2015

The **American Society of Aviation Artists** will open its 2015 art exhibition season with a forum to be held at the Mighty Eighth Air Force Museum located just outside Savannah in Pooler, Georgia. The exhibition will continue at the Museum through August 28. For details, visit the Society's website at www.asaa-avart.org/index.php.

May 15-16, 2015

The **National Museum of the United States Air Force** will host "Space Fest," in which the Museum and partner organizations will offer hands-on space-related activities for all ages, including special appearances by astronauts, model rocket launches, and a chance to see the Museum's new space shuttle exhibit. For more details, see the website at www.nationalmuseum.af.mil/index.asp.

May 21-23, 2015

The **Institute for the Arts and Humanities**, King's College, London, England and its same-named counterpart at the University of North Carolina at Chapel Hill will jointly host a conference entitled "Aftermath: The Cultural Legacies of WWI," at King's College. The intent is to address multiple aspects of how the First World War changed the world, including what people thought about future wars and the war's impact on science and technology. For more details, see the Institute's website at: <http://global.unc.edu/events/aftermath-the-cultural-legacies-of-wwi/#sthash.Fz57cBwv.dpuf>.

June 22-26, 2015

The **American Institute for Aeronautics and Astronautics** will host Aviation 2015, one of its signature convention events, in Dallas, Texas. This year's theme is "Pushing the Boundaries of the Imaginable: Leveraging

the Aviation Ecosystem." This gathering will be conjoined with the Institute's 22nd annual Lighter-Than-Air Systems Technology Conference. For more details, see the Institute's website at www.aiaa.org/Forums/.

June 25-26, 2015

The **Group for War and Culture Studies** will celebrate the 20th anniversary of its founding with a conference to be held at the University of Westminster in London, England. The conference theme is "the past, the present and the future of war and culture studies." For more information on the Group and its activities, see its website at www.westminster.ac.uk/war-and-culture-studies.

July 5-10, 2015

The **International Organization of Women Pilots**, better known as the **Ninety-Nines**, will hold its annual meeting at the Sheraton Munchen Arabella Park Hotel in Munich, Germany. For further details, visit the Organization website at www.ninety-nines.org/index.cfm/about_the_organization.htm.

August 16-21, 2015

The **International Committee for the History of Technology** will host its 42nd annual Symposium in Tel Aviv, Israel. The theme of this year's gathering is "The History of High-Technologies and Their Socio-Cultural Contexts." For further details, see the Committee's website at www.icohotec.org/annual-meeting-2015.html.

August 31-2 September 2015

The **American Institute for Aeronautics and Astronautics** will host a Space and Astronautics Forum and Exposition (AIAA SPACE 2015) at the Pasadena Convention Center in Pasadena, California. For details, see their website at www.aiaa.org/Forums/.

Readers are invited to submit listings of upcoming events. Please include the name of the organization, title of the event, dates and location of where it will be held, as well as contact information. Send listings to:

George W. Cully
3300 Evergreen Hill
Montgomery, AL 36106
(334) 277-2165
E-mail: warty@knology.net

Reunions

11th Bombardment Group "H" Assn Jul 8-12, 2015, Dayton, OH Contact:

Brenda Fulkerson
26611 N. Dixie Hwy, Suite 103
Perrysburg, OH 43551
419-872-5000, ext. 3154
bfulkerson@aaanwohio.com

20th Air Police May 19-22, 2015, Fairborn, OH Contact:

Gerald Dickey
8504 Catarina Place
Poland, OH 44514
330-757-1207
Greendog519@msn.com

91st Tactical Fighter Squadron Sep 24-27, 2015, Fairborn, OH Contact:

Dion Makris
7152 Hartcrest Ln,
Centerville, OH 45459
937-938-7767
phantombcde@gmail.com

95th Bomb Group May 7, 2015, Dayton/ Fairborn, OH Contact:

Meg Brackney
261 Northwood Dr,
Yellow Springs, OH 45387
937-767-2682
meggyjb@aol.com

97th Air Refueling Squadron Jun 18- 21, 2015, Dayton/Fairborn, OH Contact:

Lou Kaelin
57 Millbrook Rd,
Stafford, VA 22554
540-658-2768
lou.kaelin@verizon.net

98th Bomb Group/Wing Aug 27-30, 2015, Fairborn, OH Contact:

Dennis Posey
1780 Chasewood Park Ln,
Marietta, GA 30066
770-509-7734
dennis_posey@att.net

160th Fighter Squadron Aug 6-9, 2015, Dayton/Fairborn OH Contact:

Robert Mintz
403 Tantallon
Peachtree City, GA 30269
901-317-7379
rmintz1@comcast.net

307th Bomb Wing, B-47/KC-97 Assn Jun 4-7, 2015, Lincoln, NE Contact:

Billy Williams
5546 Enterprise Dr,
Lincoln, NE 68521
402-438-1913
jwbwdwilliams17@gmail.com

310th Bomb Wing Sep 15-18, 2015, Fairborn, OH Contact:

Neil Ray
9295 Shallow Creek Dr,
Loveland, OH 45140
513-469-1788
nmray@zoomtown.com

316th Tactical Airlift Wing Sep 21-26, 2015, Fairborn, OH Contact:

Jerry Haines
2411 South Tecumseh Rd,
Springfield, OH 45502
937-325-9306
gerald_haines@yahoo.com

366th Fighter Assn Sep 19-24, 2017, Fairborn, OH Contact:

Paul Jacobs
8853 Amarantha Ct
Reynoldsburg, OH 43068
614-866-9791
paul@jacob.net

463rd Airlifters Assn Sep 21-26, 2015, Fairborn, OH Contact:

Jerry Haines
2411 South Tecumseh Rd,
Springfield, OH 45502
937-325-9306
gerald_haines@yahoo.com

503rd Parachute Regimental Combat Team WW II 29 Jul-Aug 2, 2015, Dayton, OH Contact:

Todd Mayer
111 N Liberty St,
Delaware, OH 43015
614-256-0581
tmayer@columbus.rr.com

4477th Test & Evaluation Squadron Sep 8-11, 2016, Fairborn, OH Contact:

Ted Drake
1212 Westmont Dr,
Southlake, TX 76092
817-251-8614
teddrake@aol.com

List provided by:

Rob Bardua
National Museum of the U.S. Air Force
Public Affairs Division
1100 Spaatz Street
WPAFB, OH 45433-7102
(937) 255-1386

In Memoriam

Two members of the Tuskegee Airmen—the famed all-black contingent that flew in World War II—died on the same day. The men, lifelong friends who enlisted together, were 91.

Clarence "Buddy" Huntley Jr. (right) & Joseph Shambrey died on January 5, 2015, in their Los Angeles homes, relatives said.

Mr. Huntley and Mr. Shambrey enlisted in 1942, and went to Italy in 1944 with the 100th Fighter Squadron of the Army Air Forces' 332d Fighter Group. As mechanics, they kept the combat planes flying.

Mr. Huntley serviced P-39, P-47, and P-51 aircraft, said Huntley's nephew Craig. "The life of his pilot was in his hands, and he took that very seriously," he said.

In later life, Mr. Shambrey didn't talk much about his war service but he held barbecues that drew a lot of his Army bud-



dies, his son, Tim, said.

Mr. Shambrey (above) later worked for the Los Angeles Department of Parks and Recreation. Mr. Huntley was a skycap for more than 60 years.



Test your knowledge of air power history by trying to answer this issue's history quiz. Since the goal is to educate and not merely stump readers, you should find the multipart question challenging, but not impossible. Good luck.

Last year marked the centennial of the beginning of the First World War. World War I was the first war to also have an air war component. While the centennial of the American entry isn't until 2017, this issue's question deals with the U.S. Army's Air Service participation in the Great War.

This aero squadron has the distinction of being both the first American aero squadron to conduct operations across enemy lines during World War I



as well as being the squadron of the United States' leading ace during the War. Which squadron is it? What was its nickname? Finally, who was the ace and how many victories did he have?

Go to page 61 to learn the answers

Guidelines for Contributors

We seek quality articles—based on sound scholarship, perceptive analysis, and/or firsthand experience—which are well-written and attractively illustrated. The primary criterion is that the manuscript contributes to knowledge. Articles submitted to *Air Power History* must be original contributions and not be under consideration by any other publication at the same time. If a manuscript is under consideration by another publication, the author should clearly indicate this at the time of submission. Each submission must include an abstract—a statement of the article's theme, its historical context, major subsidiary issues, and research sources. Abstracts should not be longer than one page.

Manuscripts should be double-spaced throughout, and prepared according to the *Chicago Manual of Style* (University of Chicago Press). Use civilian dates and endnotes. Because submissions are evaluated anonymously, the author's name should appear only on the title page. Authors should provide on a separate page brief biographical details, to include institutional or professional affiliation and recent publications, for inclusion in the printed article. Pages, including those containing illustrations, diagrams or tables, should be numbered consecutively. Any figures and tables must be clearly produced ready for photographic reproduction. The source should be given below the table. Endnotes should be numbered consecutively through the article with a raised numeral corresponding to the list of notes placed at the end.

Electronic submissions are preferred. Articles should be submitted via e-mail as an attachment, in Microsoft Word. Electronic photographs and graphics should be copied to a CD and mailed if they exceed 5-8 megabytes.

There is no standard length for articles, but 4,500-5,500 words is a general guide.

Manuscripts and editorial correspondence should be sent to Richard Wolf, Editor, c/o *Air Power History*, 6022 Cromwell PL. Alexandria, VA 22315, e-mail: airpowerhistory@yahoo.com.



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