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In this issue of *Air Power History*, A.D. Harvey examines “Air Power in Perspective.” He concludes that strategic bombing during World War II is debated today primarily in terms of its ethical aspects. He also advances some fresh ideas concerning air warfare, including the assertion that the *Luftwaffe* wore out its fighters escorting bombers across the English Channel. Moreover, he asserts that the Axis did not run out of machines, but rather of men trained to operate them.

J. Norman Grim presents a biography of “Lt. Col. Clifford Werly: Barnstormer, Combat B-29 Pilot, and Pilot Extraordinaire.” Werly loved flying so much that he spent his hard-earned money to pay for flying lessons and planes. He joined the Royal Canadian Air Force to fight against the Axis, then transferred to the U.S. Army Air Corps after the attack on Pearl Harbor.

The third article, by Daniel Haulman, details the activities of the United States Air Force in Bosnia from 1992 to 1995. After the end of the Cold War, in the late 1980s, Yugoslavia became embroiled in civil wars to establish the independence of its various nationalities. The U.S. Air Force was obliged to operate under United Nations and NATO rules—not a simple task.

Forrest Marion concludes the featured articles with his account of Air Force Special Tactics Personnel. The place is Mogadishu, Somalia, and the date is October 3-4, 1993. You will enjoy reading about the several heroes who emerged from this most challenging engagement and learn how they accomplished their missions.

Scott Willey has shepherded our book reviewers to present their verdicts on some twenty books. Bob Dorr continues to challenge readers to identify the latest “History Mystery.” Rob Bardua and George Cully have compiled lists of upcoming reunions and symposia, especially for those who wish to plan ahead. We have letters, notices, news, and sadly, obituaries. Finally, be sure not to miss the President’s message (page 58) and news about the upcoming awards banquet on November 13th (page 60).



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# AIRWARFARE IN PERSPECTIVE





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A. D. Harvey

(Overleaf) Air raid damage during the London Blitz, September 10, 1940.

## STRATEGIC BOMBING'S CONTRIBUTION TO VICTORY IN THE SECOND WORLD WAR IS NOWADAYS DEBATED MAINLY IN TERMS OF ITS ETHICAL ASPECTS

In a hundred years' time it will seem as bizarre that nations once attacked one another with fleets of gasoline-engined bombers as that they once fought great battles with fleets of ships propelled by banks of men rowing to the beat of a drum – perhaps more bizarre because the fleets of petrol-engined bombers were the fashion for only thirty-five years and achieved no decisive results whereas the rowing galley was a favored weapon for more than two millennia and was the means of winning a number of victories, Salamis, Actium, Lepanto for example, that were major historical turning points.

Strategic bombing's contribution to victory in the Second World War is nowadays debated mainly in terms of its ethical aspects; the economic rationale of offering up a new four-engined bomber for every 200 houses destroyed, representing an exchange of the latest industrial technology for the least liquidizable part of the enemy's capital assets, and an expensively trained young aviator killed or captured for every two women, children, and other miscellaneous civilians killed on the ground, tends to escape scrutiny.<sup>1</sup> The objective of course was to disrupt the enemy's war-making capacity, but what is remarkable is how ill-informed the air generals in charge of strategic air warfare were with regard to what the enemy's war-making capacity consisted of and where it was to be found. In 1943, Britain's Ministry of Economic Warfare estimated that German factories possessed 981,000 machine tools; the real number was over two million – each one of them a relatively small, compact item that was incredibly strongly built except for certain key components designed to be changed easily, and therefore capable

An aerial view of Hamburg after the 1943 bombing.



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).

of surviving almost anything other than a direct hit, and a large proportion of them located in places that were never bombed.<sup>2</sup> A couple of years later, the U. S. Twentieth Air Force burned out the centers of Japanese war production without realizing that Japanese war production was already collapsing as a result of raw materials shortages.<sup>3</sup> In Vietnam, where strategic missions over the communist north involved a greater tonnage of bombs than the Eighth Air Force dropped on Germany in the world war, only eight out of ninety-one vital waterway locks and dams were targeted—and the Vietnam War shows that, even if the experience of the Second World War suggests that the winning side might be able to afford to waste resources, it is not necessarily true that wasting resources on a vast scale wins wars.<sup>4</sup>

Some scholars argue that focus on strategic bombing has resulted in an unjustified neglect of the history of air power employed tactically to support forces on the ground.<sup>5</sup> This may be true, but closer examination does not at all suggest that the tactical use of air power was necessarily more cost-effective than strategic bombing. The contribution of the *Luftwaffe* to the rout of the French Army in 1940 is often cited as the classic demonstration of *Blitzkrieg* utilizing air power and armor in combination. In the most celebrated single instance of air support for ground forces the *Luftwaffe* did indeed drop 550 tons of bombs on French positions on the Meuse on May 13, 1940, prior to army units crossing the river, but the bombing caused little physical damage and was followed by a respite of three or four hours before the first contact of ground units occurred. Further north, Rommel crossed the river without any air support at all. About the only documented case of serious loss to a ground formation as a result of German air attack in 1940 was the bombing on May 18, 1940, of a train waiting at a siding with about 550 men of the 7th Battalion Royal Sussex Regiment on board. The engine-driver, the regimental quartermaster and about twenty-five troops were killed, and the C.O., the adjutant, and about fifty-five men were wounded.<sup>6</sup> These were serious losses, equivalent to those many battalions experienced in a day's fighting on the Somme in 1916, but, as was not the case with battalions decimated on the Somme, it was an isolated incident. Just over a week later, when the Durham Light Infantry attacked advancing German columns near Arras, they were subjected to frequent air attacks. The advance guard of the 8th Battalion D. L. I. was caught in the open in an air raid that lasted around twenty minutes: "Casualties about 10 [wounded]—One truck set on fire. Two put out of action. O. C. [Officer Commanding] 8th D. L. I. slightly wounded." Two days later the unit war diary recorded:



Two views of the Dornier Do 217K-2. Similar aircraft, equipped with DX 1400 radio-guided bombs, sank the Italian battleship *Roma* in September, 1943.

[1400 hrs] Dive bombing raid. No military casualties but column of refugees in S. W. end of village [Givenchy] was hit and 12 people killed. The street was blocked with wrecked carts and dead horses . . . [1600 hrs] Another dive bombing raid. This time apparently trying to hit A/TK guns [anti-tank guns] at S. E. corner of village. No casualties but road damaged and houses destroyed.<sup>7</sup>

The 6th Battalion D. L. I.'s war diary recorded on the same day "Enemy dive bombed and machine-gunned from the air all afternoon and occasionally used his air cannon, but did not cause a single casualty."<sup>8</sup> Attacks of this kind had a considerable impact on nerves and morale, but then so did bombardment by artillery or being overrun by tanks or, in the previous war, subjection to gas attack. Basically air attack on ground units was simply one more technique of wearing down the enemy, differing from the others only by being more expensive.

The May-June 1940 campaign in France also provided a model instance of an air force *not* attacking a key tactical target. On the night of May 12-13, 1940, the crew of a French bomber returning from a mission to drop leaflets over Germany observed what has been called "the hitherto biggest known traffic jam in Europe," a hundred-kilometer-long tail-back of tanks and trucks slowed to a stop by Allied demolitions along the narrow roads through the woods of the Ardennes.<sup>9</sup> No attempt was made to bomb this target, just as the Japanese made no attempt to bomb the congested columns of American troops they had observed moving back to the Bataan Peninsula in December 1941, and the British made no attempt to block the single main road along which the *Afrika Korps* had to retreat after the Battle of El Alamein in November 1942. There are many instances of armies fleeing in disorder after defeat by land forces being forced to abandon their remaining equipment by attacking aircraft, from the Ottoman Seventh Army after the Battle of Armageddon in September 1918, to the Iraqi Army in its retreat from Kuwait City in February 1991, but not one instance of formations of more than brigade group strength that were not already disintegrating being stopped in their tracks by bombing from the air. The same lack of precision in assessing mission objectives that bedeviled strategic bombing also prevailed in the tactical sphere. Post-1945 experience has in no way improved on the failures and omissions of the two world wars. In the Vietnam War, despite the dropping of 2.2m tons of bombs by USAF, U. S. Navy, and Marine Corps aircraft flying ground support missions, the U. S. Army came more and more to



rely on its own helicopter gunships to back up infantry units on the ground. In the Middle East, in both the Six Day War and the Yom Kippur War, the Israeli Air Force's initial successes against Egyptian and Syrian ground formations were the prelude to growing confusion and mutual recrimination, particularly with regard to the Israeli army's failure to provide the air force with adequate information regarding the situation on the ground.<sup>10</sup>

The history of air power at sea is quite a different story. Strategic bombing merely offered an addition to existing means of economic warfare, and one that was certainly less cost-effective than naval blockade; tactical air power was an expensive supplement to older forms of battlefield attrition: but at sea the aeroplane completely transformed naval warfare. It was perhaps not particularly surprising that more than half of the aircraft carriers sunk in the Second World War were sunk by aircraft, mostly in carrier-versus-carrier battles, but unmistakably significant that more than half the battleships sunk or forced to beach were also the victims of air attack, six of them, including four of the most modern and most powerful, while under way at sea; in addition a fifth brand-new battleship, Germany's *Bismarck*, was only caught by British surface units because an air-launched torpedo had rendered her incapable of being steered.<sup>11</sup> More than half of the nearly 600 German submarines lost during the Second World War and whose cause of loss is known were sunk by aircraft, or by aircraft and surface vessels acting in co-operation. Without aircraft Britain would have lost the Battle of the Atlantic.<sup>12</sup> Four out of ten Japanese merchant ships sunk by the Allies in the Pacific War were sunk by aircraft, making a key contribution to the blockade of Japan, and for a period in 1941, it looked as if the *Luftwaffe* would achieve a comparable success against British shipping: in April of that year aircraft accounted for forty-six per cent of Allied shipping lost.<sup>13</sup>

An obvious difference between bombing targets on land and bombing targets at sea is the issue of accuracy. Finding and identifying the target is, in differing ways, equally difficult in both cases: it is knowing what one has hit that is more difficult in bombing targets on land. In bombing cities, it is impossible to tell from several miles high whether the buildings burning below are factories, railway stations, hospitals or orphanages; in the confusion of a mass raid involving hundreds of attacking aircraft, with fires raging across miles of built-up area, the crew of individual aircraft cannot be sure at the

**MORE THAN HALF OF THE NEARLY 600 GERMAN SUBMARINES LOST DURING THE SECOND WORLD WAR ...WERE SUNK BY AIRCRAFT, OR BY AIRCRAFT AND SURFACE VESSELS ACTING IN COOPERATION**

THE PHYSICAL SPACE INVOLVED IN AIR WARFARE MORE RESEMBLED THAT IN SEA WARFARE THAN IN TERRESTRIAL WARFARE

time that their own bombs have not destroyed treasured flower beds in a municipal park. In bombing enemy troop formations aircrew flying ground-support missions can generally take it for granted that the enemy infantry below are seeking to take cover, and that the enemy artillery emplacements are carefully camouflaged, and they cannot tell if the columns of smoke they leave behind are from burning munitions or from burning hay-stacks. At sea it is not always easy to see if one has hit the ship one is aiming at, and even less easy to be sure of the damage inflicted, but it is much easier than is the case with targets on land which are essentially hidden among the multitudinous details of terrain and cityscape, whereas ships at sea are as exposed as a specimen on a laboratory slide—even submarines, which before the advent of atomic power had to operate for much of the time on the surface.

Actually most bombs and aerial torpedoes launched at sea missed, just as most of the shells fired in ship-to-ship battles missed, but of course an accurate hit was always the objective held in mind. In 1944 it was considered that No. 1 Group of RAF Bomber Command had achieved a remarkable improvement in accuracy in being able to place 7.2 per cent of its bombs within a twenty-acre area.<sup>14</sup> Naval aviators attacking targets of perhaps one acre deck area needed to do considerably better than that. Bearing in mind that naval aviators in the Second World War, unlike strategic bomber crews, generally had to navigate without electronic guidance systems and, unlike tactical strike aircraft, without reference to landmarks, one wonders if it was not the case that the naval mindset adjusted to the requirements of air warfare more deftly than was the case with aviators trained to operate over land. Certainly the physical space involved in air warfare more resembled that in sea warfare than in terrestrial warfare. Land makes up 29.2 per cent of the earth's surface, sea 70.8 per cent: the Atlantic Ocean has six times the area of Europe. The air obviously covers the whole hundred per cent of the globe, and in 1945 aircraft could operate up to six miles up: the oceans of the world, down to two hundred meters (the maximum depth to which Second World War submarines could operate) equal not quite three-quarters of the cubic extent of the air over Europe to an altitude of six miles. The three dimensional warfare involved in the use of aircraft certainly seems more analogous to the warfare of vast empty spaces to which naval personnel were accustomed than to the topography-bound maneuvering of troops on land.<sup>15</sup>

Such distinctions are probably to be dismissed as mere sophism, or perhaps metaphysics. At sea there was no need to worry about what bombs actually hit if they failed to land on their target but in 1944 and 1945 the Royal Air Force carried out a series of low-altitude raids in which the avoidance of collateral damage was a special priority. The attack on Amiens Jail on February 18, 1944, enabled 258 captured members of the French Resistance to escape, though 102 other prisoners were killed; the destruction on March 21, 1945, of

the Gestapo central registry for Denmark at the Shellhus in Copenhagen cost the lives of eighty-six children and eighteen nuns and teachers when a Catholic school was also bombed. Attacks on other Gestapo targets, at the Hague in April 1944, and at Aarkus in October 1944, succeeded without casualties to civilians outside the targeted buildings.

These attacks demonstrate that the RAF could have maintained a focus on pin-point accuracy as an absolute necessity, in the same way as naval aviators had to. Another of Bomber Command's successes was the series of raids in the run-up to the D-Day landings aimed at knocking out French railway marshalling yards: an army officer attached to the Headquarters of Sir Arthur Harris, the head of the RAF Bomber Command, remarked of Harris, "by the accuracy of his railway attacks he had destroyed his own argument for area bombing."<sup>16</sup> By 1944, however, it was too late to alter the basic strategy developed during the previous three years: though the reason that more pin-point attacks were not attempted was probably the difficulty of identifying worthwhile targets among the chaos RAF Bomber Command had already created in German city centers. By February 1945, senior RAF officers 'on the hunt for more targets for 617 Squadron', the elite heavy bomber unit responsible for the celebrated dam raids of May 16, 1943, and for sinking the battleship *Tirpitz* at its berth far above the Arctic Circle, were even considering bombing the Nazi Party's elite training establishment at Sonthofen, Gmünd, and Falkenburg simply with the object of killing the students, who were supposedly "the toughest thing the Nazis have ever produced and . . . and a grave potential menace to the peace of post-war Europe, because they form a nucleus for the German underground resistance movement."<sup>17</sup> It is true that the issue of bombing accuracy was a major factor in the U. S. Twentieth Air Force's decision to give up its unsuccessful high-level daylight raids in favor of fire-bombing Japanese cities by night, but the earlier switch from day to night bombing by the RAF and the *Luftwaffe* in 1940 had much more to do with losses to enemy fighter defenses than with frustration at the inaccuracy of would-be precision raids on pin-point targets. The underlying factor in all three cases was that once a bombing force had been built up, or was in the process of being built up, the air generals had to press ahead with making maximum use of it, regardless of how combat conditions differed from pre-war theorizing. The mere fact of investment in an air fleet capable of long-range bombing in itself sidelined consideration of alternatives.<sup>18</sup> As one of the men who had to carry out the bombing missions later wrote,

*events develop a powerful momentum and became encrusted with vested interests; it was now [after 1943] necessary to cut across the current of events and reverse it. What we actually experienced from mid-1943 was a massive failure of leadership: a palpable lack of imagination, of intellect and political will.*<sup>19</sup>

A Royal Air Force Avro Lancaster about to be loaded with a 4,000 lb bomb.



**THE TACTICS OF ACTUAL AIR-TO-AIR COMBAT, IN THE SENSE OF AIRCRAFT OF ONE SIDE FIRING AT AND BEING UNDER FIRE FROM AIRCRAFT OF THE OTHER SIDE, WERE WORKED OUT RELATIVELY QUICKLY**

Strategic bombing dominated air warfare 1940-1945 not because of its objective contribution to winning the war but because once the decision had been made that it the most logical way of exploiting superiority in high-tech industrial output, it was no longer possible to do anything else.

Arguably the mind-set involved had its origins much earlier than what we currently understand to be the era of industrialization. The triremes of ancient Greece, with their banks of rowers moving to a steady rhythm, were machines – the largest if not the most intricate technology of a culture at home with mathematics and physics though not yet far advanced in metal production. Rowing galleys rarely ventured out of sight of land however, and it was only with the sailing ship that man ceased to be landbound. In favorable winds sailing ships could sail at least ten times further in twenty-four hours than could be sustained on land, and could carry loads that would otherwise require expensively maintained roads and long convoys of wagons or pack horses. Their operation required teams of men skilled in the workings of a technology that, in its day, was by no means unsophisticated. The Industrial Revolution, which supplied the standardized pulleys on the great war machines of Nelson's battle fleet and the carronades bored out of solid castings on steam-operated jigs that were mounted on the smaller warships of his day, followed on, rather than created, the culture of bodies of men working in unison as part of a mechanical operation. The switch from sail to steam, like the later switch from gasoline engines driving propellers to jet power in aircraft, was important as making a difference, not to basic principles, but merely to the speed and physical size of individual units.

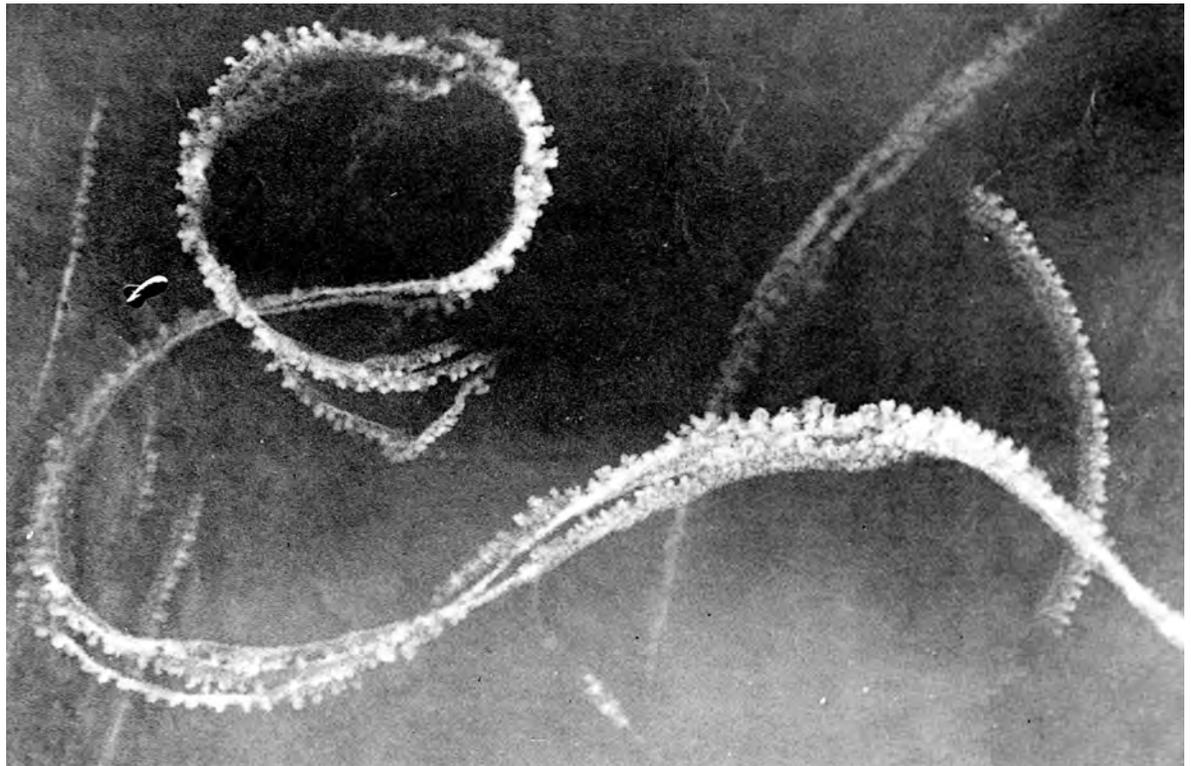
More important than its influence on the size of

machine-objects was industrialization's effect on their sheer number. Nelson had twenty-seven ships of the line at Trafalgar on October 21, 1805: on March 12, 1945 RAF Bomber Command raided Dortmund with 1,107 four-engined bombers, each carrying explosive bombs and incendiaries equal in weight to twelve broadsides of solid shot from Nelson's *Victory*. Industrialization also involved rapid technological change: Nelson's ships of the line at Trafalgar, or indeed Sir Edward Codrington's at Navarino in 1827, embodied much the same technology as that of the *Mary Rose* in 1545, and were directed by men trained in the light of more than two centuries of tactical experience, whereas in 1945 air force staffs were still trying to sort out the implications of new technology, and the best means of utilizing it, even after six years of hard and bitter experience.

Though the tactics of actual air-to-air combat, in the sense of aircraft of one side firing at and being under fire from aircraft of the other side, were worked out relatively quickly – after Immelmann had perfected methods of one-to-one combat Boelcke had developed techniques of formation fighting by the time of his death in autumn 1916—it is questionable whether larger issues of tactical deployment and prioritization were ever mastered. In the First World War the Royal Flying Corps's policy of daily offensive patrolling with a view to dominating the air space over the German lines involved heavy losses in pilots, but did not prevent the Germans from carrying out the detailed reconnaissance required for the devastating spring offensives of 1918, or even German exploitation of temporary air superiority, as in the counter-attack at Cambrai on November 30, 1917. In the Second World War the one clear instance of a numerically

A new sight, vapor trails of aerial dogfights taking place high over Kent, England, September 3, 1940.

THOUGH DEPLOYING MORE BOMBER AIRCRAFT THAN FIGHTERS THE LUFTWAFFE WORE OUT ITS FIGHTER UNITS BY MAINTAINING RATIOS OF TWO OR THREE FIGHTER ESCORTS FOR EVERY BOMBER SENT ACROSS THE ENGLISH CHANNEL



inferior air force defeating a numerically superior and technically equally matched opponent was the Battle of Britain, in which the losing side threw away its numerical advantage by waiting to utilize the best part of its bomber strength until such a time as Britain's fighter defences were eliminated. Though deploying more bomber aircraft than fighters the *Luftwaffe* wore out its fighter units by maintaining ratios of two or three fighter escorts for every bomber sent across the English Channel. Later experience was to show that attacking formations where bombers outnumbered escorting fighters did not suffer proportionately heavier losses in bombers, but did inflict proportionately heavier losses on the defending fighters. This had in fact been predicted months before the battle, by the then head of RAF Bomber Command:

*the bombers provide them [i. e. escorting fighters in a hypothetical RAF attack] with the means of making contact with the enemy fighters under terms which may be favourable to our own fighters. Our fighters may be able in this way to have the security and advantage of both superior altitude and of surprise, and, though they may not be able to prevent losses to our bombers, they will make the operation more expensive to the enemy by causing greater casualties to his fighters.*<sup>20</sup>

After the Battle of Britain it took two or three years to perfect "optimum" methods both of air support for ground troops and of bombing urban centres, and as already suggested, the contribution of either to shortening the war was disputable: in any case, by early 1943, with the Battles of Guadalcanal and Stalingrad already fought and won, it was evident that Allied victory was only a matter of time.

It was not simply a matter of the novelty of air power: the development of a weapon that could strike hundreds of miles away in any direction worked *against* the overall trend of European warfare, which since at least the Fourth Century B. C. had been marked by a series of innovations and experiments relating to flexibility of maneuver on the battlefield, often deliberately targeting the organizational complexity of the losing side, as for example in the defeat of the Greek phalanxes at Pydna in 168 B. C., and of the Spanish *tercios* at Rocroi in 1643. New technology had rarely been more important than new tactics: the French gained little benefit from their possession of the Reffye *mitrailleuse*, a hand-operated machine gun, in 1870 and in 1918 the British tank proved less successful as a means of overcoming enemy strong points than German storm troopers throwing stick grenades. Yet, as one army staff officer pointed out in 1940, the British Royal Air Force's possession of "a very long ranged flexible instrument which starting from the same place can deliver attacks say from MILAN to OSLO" led to control "by the highest common denominator so that the whole may be drawn on to attain concentration where strategy dictates."<sup>21</sup> This both militated against the decentralized control required for effective co-operation with ground troops already responding to the changing requirements of the battlefield, and fostered a commitment to long-term planning with large margins, which in themselves soon provided irresistible arguments for holding to deployment strategies that were not working, so that the flexibility theoretically inherent in aviation became in practice the inflexibility of an entrenched bureaucracy, with a "can't do" ethos in contrast to the "can do" ethos instilled in naval commanders. The technological culture—perhaps

Heinkel He 111 bombers escaping radar detection fly perilously low over the English Channel in 1940.



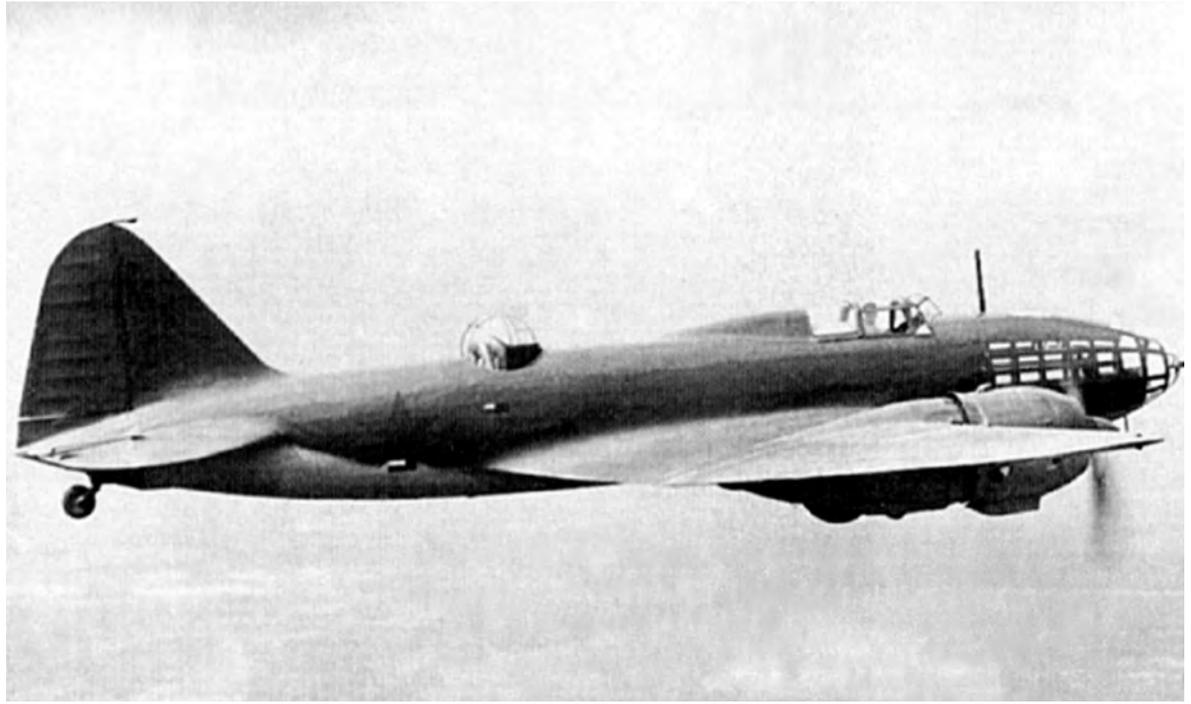
we should say the culture of industrial technocrats—that provided the weaponry somehow interfered with its effective use: man’s personal mastery of his own machines was simply unable to keep pace with the increasing sophistication and scale of the organizational framework required to deploy the machines.

Not that individual know-how ceased to be a vital factor, though this was now essentially an economic, quantitative rather than qualitative, resource. The Allies may be said to have literally swamped the Axis powers with their much greater output of hi-tech machines and expensively trained aircrew. Even in fighter aircraft, on which Germany and Japan concentrated from 1943 onward, the Allies had a 2:1 advantage in production, and it was only for the briefest periods that the Axis enjoyed apparent advantages from possessing superior designs.<sup>22</sup> In the event neither Germany nor Japan ever ran out of machines: they ran out of men trained to operate them. Britain invested enormously, especially in Canada, in developing the Commonwealth Air Training Scheme, which eventually trained over 60,000 pilots, and the U. S. Army Air Forces trained more than three times as many—at the peak of the American training program in December 1943, there were twenty men at different stages of pilot training for every trained *Luftwaffe* pilot, and overall the Allies may have trained as many as ten times more pilots than Germany, Italy, and Japan combined. The German attitude to training was more or less summed up by *Generaloberst* Hans Jeschonnek, chief of staff of the *Luftwaffe*, when he said, “First we’ve got to beat Russia, then we can start training.”<sup>24</sup> By late 1943, there was only one new fighter pilot completing his training for every three new fighter planes leaving the facto-

ries. Reduction in training times meant that by mid-1944 *Luftwaffe* fighter pilots going into action for the first time had only a third of the flying hours behind them as newly trained USAAF fighter pilots; half of them did not survive ten combat missions.<sup>25</sup> Whereas more than half of British aircraft production for the RAF had been of training aircraft in 1939, and more than a third even in 1941, the corresponding figures in Germany were a little better than one in ten in 1939, and one in twelve in 1941.<sup>26</sup> Two out of the three twin-motor types produced in the greatest numbers in Britain during the war were multi-seat training aircraft for navigation, radio, and gunnery instruction; the Germans had various types suitable for this role but they were employed mainly on transport and communications duties.<sup>27</sup> The rate of expansion of the *Luftwaffe* never really recovered from the loss of nearly 2,700 aircrew in the Battle of Britain. At its peak in 1944 its combat strength was less than 40 percent greater than it had been at the beginning of the war, and it is evident that this was essentially the result of simple organizational failure at senior levels rather than of shortage of national resources as Germany was able to increase its frontline strength in tanks with crew by at least three hundred percent during the same period, despite the fact that tank crews, in any case more numerous in later models of tanks, needed almost as long to train as aircrew.<sup>28</sup> There was a similar failure in both the Japanese army and navy air services: part of the rationale for the adoption of suicide tactics in 1944 was the belief that an inexperienced pilot not yet trained to combat standards might at least be able to crash a plane into a target.<sup>29</sup> By the end of the war both the Germans and the Japanese were short of pilots sufficiently experienced to master the diffi-

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Ilyushin Il-4 of the Soviet Air Force. Aircraft of this type carried out bombing raids on Berlin in 1941.



INSTITUTIONAL AND ORGANIZATIONAL FACTORS SUCH AS THOSE SUGGESTED HERE INDICATE HOW FAR THE HISTORY OF AIR WARFARE TIES IN WITH WHAT MIGHT BE REGARDED AS MORE MAINSTREAM BRANCHES OF HISTORICAL STUDY

cult handling characteristics of revolutionary new types like the Messerschmitt Me 262 jet fighter or the Kyushu J7W1 Shinden tail-first interceptor on which they were pinning their hopes of defeating the Allied bomber fleets.<sup>30</sup>

Institutional and organizational factors such as those suggested here indicate how far the history of air warfare ties in with what might be regarded as more mainstream branches of historical study such as social and economic history and the history of ideas. “Mainstream history” is not at all well-served when even distinguished academic historians can write glibly of the RAF maintaining “a permanent roster of airborne patrols in anticipation of German raids” during the Battle of Britain and of the Heinkel He III bomber being, “rede-

ployed as a night interceptor over Germany” after its ineffectiveness as a bomber was demonstrated in the Blitz, or of the Soviet Air Force, already equipped with an aeroplane that would be later used to raid Helsinki, Berlin and Budapest, being able in the run-up to the Second World War to reach “none of the major cities of any potential enemy.”<sup>31</sup> Historical studies have enlarged their scope enormously during the last thirty years, but there remain huge tracts of the past that are still largely unmapped, or provided only with the maps compiled for their own purposes by the embattled generations that made the history. Air warfare is one such tract. Perhaps one day the fascination of its social and cultural significance will bring it into its own. ■

## NOTES

1. See for example A. C. Grayling, *Among the Dead Cities: Was the Allied bombing of Civilians in WWII a necessity or a crime?*, London 2006. The American edition of this book is subtitled *The History and Moral Legacy of the WWII Bombing of Civilians in Germany and Japan*.

The calculation of relative losses is based on the results of the Battle of Berlin in the winter of 1943-1944. The much higher ratio of civilian casualties at e.g. Hamburg in 1943 or Dresden in 1945 occurred comparatively rarely. In the Nuremberg raid of March 30-31, 1944, on the other hand, the RAF lost ninety-six aircraft and 667 aircrew in exchange for eleven *Luftwaffe* aircrew and anti-aircraft gunners, and 110 German civilians and fifty-six foreign workers killed on the ground. Not counting the foreigners, who in many cases were citizens of countries allied to Britain but occupied by the Germans, this is a ratio of more than five RAF aircrew lost for every German.

2. David McIsaac ed. *The United States Strategic Bombing Survey*, 10 vols. New York 1976, vol. 1 p. 44.

3. Jerome B. Cohen, *Japan's Economy in War and Reconstruction*, Minn., 1949, pp. 56, 58, 107, 158.

4. Mark Clodfelter, *The Limits of Air Power: The*

*American Bombing of North Vietnam*, New York 1989, p. 126.

5. See e.g. Thomas Alexander Hughes, *Over Lord; General Pete Quesada and the Triumph of Tactical Air Power in World War II*, New York 1995, p. 13, 19.

6. The National Archives, Kew, [Hereinafter cited as TNA] WO 167/459, War Diary of the 7th Battalion Royal Sussex Regiment May 18, 1940. The entry for the previous day had noted that no-one in the battalion had yet seen a German plane.

7. TNA WO 167/730, War Diary of the 8th Battalion Durham Light Infantry, May 21 and 23, 1940.

8. TNA WO 167/729, War Diary of the 8th Battalion Durham Light Infantry, May 23, 1940. For ground support later in the war see A. D. Harvey, “How Effective were Tank Busting Aircraft in the Second World War?” *RUSI Journal* vol. 153 no. 5, Oct. 2008, pp. 78-83.

9. General J. H. Jauneaud, *J'accuse le maréchal Petain*, Paris 1977, p. 114. Karl-Heinz Frieser with John T. Greenwood, *The Blitzkrieg Legend: The 1940 Campaign in the West*, Annapolis 2005, p. 114-16.

10. Anthony H. Cordesman and Abraham R. Wagner,

*The Lessons of Modern Warfare: Volume 1: The Arab-Israeli Conflicts, 1973-1989*, Boulder 1990, pp. 92-3, and Eliezer Cohen, *Israel's Best Defence; The First Full Story of the Israeli Air Force*, Shrewsbury 1993, p. 252.

11. The six battleships sunk by air attack at sea were *Prince of Wales*, *Repulse*, *Hiei*, *Roma*, *Musashi* and *Yamato*, the last two, at 73, 000 tons, the largest battleships ever built.

12. Axel Niestlé, *German U-Boat Losses during World War II: Details of Destruction*, London 1998, p. 202, Appendix 2.

13. Denis Richards and Hilary St. George Saunders, *Royal Air Force 1939-1945*, 3 vols. London 1954, vol. 1 p. 223.

14. TNA AIR 14/4530, O. R. S. Report S. 171 "Bombfall distribution in precision attacks carried out by No. 1 Group 30 April - 1 July 1944" para. 4, cf AIR 2/3176 memo. by R. P. Willock, DWTT, May 9, 1940.

15. J. F. C. Fuller, *The Army in my Time*, London 1935, p. 172 uses the term "three-dimensional warfare," apparently a new tactical form of war "developed in cubic space," but does not elaborate, cf. Air Vice Marshall E. J. Kingston-McCloughry, *War in Three Dimensions: the Impact of Air-Power upon the Classic Principles of War*, London 1949 which while not actually employing the term "Three-Dimensional Warfare" discusses "Two-Dimensional Warfare" on pp. 14-20.

16. Charles Carrington, *Soldier at Bomber Command*, London 1987, pp. 134-35.

17. TNA AIR 14/2009, Wing Commander F. W. Chadwick to Air Commodore H. V. Satterly February 26, 1945, cf. Satterly to Air Commodore S. C. Elworthy March 12, 1945. In July 1943 Portal, the Chief of Air Staff and Harris, the head of Bomber Command, had wanted to use 617 Squadron to bomb the Palazzo Venezia in Rome in the hope of killing Mussolini – a plan vetoed by the Foreign Secretary: Leo McKinsty, *Lancaster: the Second World War's Greatest Bomber*, London 2009, pp. 315-16.

18. Only Italy provides an exception: see A. D. Harvey "The Bomber Offensive that Never Took Off: Italy's Regia Aeronautica in 1940," *RUSI Journal* vol. 154 No. 6, December 2009, pp. 96-102.

19. Frank Musgrove, *Dresden and the Heavy Bombers: an RAF Navigator's Perspective*, Barnsley 2005, p. 105.

20. TNA AIR 14/251 Air Chief Marshal Sir Edgar Ludlow-Hewitt to Under-Secretary of State for Air, January 7, 1940 p. 3, cf A. D. Harvey, "The Battle of Britain, in 1940 and the 'Big Week', in 1944: a Comparative Perspective," *Air Power History* vol. 59 (2012) no. 1 pp. 34-45, at pp. 37-39.

21. TNA AIR 2/5201 Lt. Col. Jack Woodall (later General Sir John Woodall) to Wing Commander R. V. Goddard, Nov. 12, 1940.

22. It is true that the Messerschmitt Me 262 was much faster than the RAF's first jet, the Gloster Meteor, which entered squadron service eight days earlier: but its poorly constructed jet motors had a life of only twenty-five hours between major overhauls, as compared to 125 hours for the British jet motors, and for an aircraft dependent on high speed it had alarmingly unresponsive throttles. The greatly superior Lockheed P-80 Shooting Star was being tried out in Italy when Germany surrendered in May 1945, and Britain's excellent De Havilland Vampire was also in the pipeline.

Figures given for German, British, and the U. S. production of fighter aircraft compiled by the British Bombing Survey Unit and published in Charles Webster and Noble Frankland, *The Strategic Air Offensive Against Germany*, 4 vols. London 1961, vol. 4 p. 497, Table xxiv, seriously understate U. S. production and of course do not cover Russian production, which was at least equal to German output, or Japanese production, which was only slightly greater than that of British output of a single fighter type, the Supermarine Spitfire.

23. See TNA, AIR 2/4844, AIR 20/1356, AIR 46/17 and also DO 35/1204, C. G. Gaines, Air Ministry, to Sir John Stephenson, Dominions Office, June 2, 1945; Thomas H. Green, "Individual Training of Flying Personnel," in Wesley Frank Craven and James Lea Cate eds. *The Army Air Force in World War II*, 7 vols, Chicago 1948 -58, vol. 6 pp. 557-99, at pp. 577-78. Production of the three main fighter types employed by the U. S. Navy and U. S. Marine Corps (the F4F Wildcat, F6F Hellcat and F4U Corsair) equalled approximately half total fighter production for the Army Air Forces, and fighter pilot training was presumably in proportion: naval demand for bomber pilots was proportionately less than for the Army Air Force.

24. Richard Suchenwirth, *Historical Turning Points in the German Air Force War Effort*, New York 1968, p. 27 quoting letter from General Hans-Georg von Seidel, from July 1944 in charge of *Luftwaffe* training, to General Paul Deichmann, former chief of staff to the head of training, Nov. 9, 1954.

25. Matthew Cooper, *The German Air Force 1933-1945: An Anatomy of Failure*, London 1981, p. 348.

26. *The Statistical Digest of the War*, London 1951, p. 152, Table 130, cf. Charles Webster and Noble Frankland, *The Strategic Air Offensive against Germany*, 4 vols. London 1961, vol. 4 pp. 496, Appendix 49 xxiii.

27. The Vickers Wellington bomber was the multi-engined aircraft produced in the greatest numbers in Britain during the Second World War, followed by the Avro Anson and the Airspeed Oxford, both of which were used mainly for training.

28. Regarding the time required to train tank crew I am grateful to *Generalleutnant a. D.* Dr. Franz Uhle-Wettler for allowing me to see a letter to him from *Major i. G.* Matthias Knabe of the *Bundeswehr*, dated Nov. 16, 2010, cf. TNA WO 193/24 Lieutenant General C. N. F. Broad, Aldershot Command, to General Sir Edmund Ironside, C. I. G. S., Oct. 18, 1939. For the expansion of Germany's armoured forces (including seven SS *Panzerdivisionen* and a *Luftwaffe Panzer-Korps*) see Rolf Stoves, *Die 22. Panzer-Division 25. Panzer-Division 27. Panzer-Division und die 233. Reserve-Panzer-Division*, Friedberg 1985, p. 7. Pilot logbooks in The National Archives at Kew, in class AIR 4, give details of flying training; see also Heinz Knoke, *I Flew for the Führer*, London 1953, pp. 23-38 passim and Ursula Hartmann, *Der Jagdflieger Erich Hartmann: Bilder und Dokumente*, Stuttgart 1978, p. 65.

29. For the 'relative ineffectiveness of Japanese air crews in general,' see TNA AIR 23/2500 'Japanese Air Order of Battle Conference,' Washington Feb. 23, 1945, Agenda Item 12 p. 1 para 5; for Japanese fighter pilots' deflection shooting, which 'has been very poor and up to date has shown no signs of improvement,' see TNA AIR 40/2137, 'Replies to Questionnaire by Director of Air Tactics, Air Ministry, May 11, 1943.'

30. Edwin M. Dyer, *Japanese Secret Projects: Experimental Aircraft of the IJA and IJN 1939-1945*, Hersham 2009, p. 89. The J7W1 was still at the prototype stage at the time of the Japanese surrender but was expected to be operational early in 1946; the Me 262 had been encountered by Allied fliers from autumn 1944 onward but, tellingly, the most successful unit equipped with this type was composed of officers of several years' combat experience including a redundant former head of the *Luftwaffe's* fighter arm.

31. Richard J. Evans, *The Third Reich at War: 1939-1945*, London 2008, pp. 143-44; Richard Overy, *The Air War in Europe, 1939-1945*, in John Andreas Olsen ed. *A History of Air Warfare*, Dulles, Va, 2010, pp. 27-52, at p. 28.

For the record, the Soviet Air Force (VVS) introduced into service a four-engined monoplane bomber capable of reaching Berlin with two tons of bombs in 1934, though the twin-engined type that undertook most of the Russian attacks on the German capital did not fly till the following year.

# LT. COL. CLIFFORD WERLY, BARNSTORMER, COMBAT B-29 PILOT, AND PILOT EXTRAORDINAIRE





J. Norman Grim

(Overleaf) "Bomber Flight" at RCAF, "Station Mountain View." Werly is in the front row, nearly central, white hands showing. A Fairey Battle was behind the men.

Clifford L. Werly was born on December 26, 1900, in Canton, Missouri<sup>1</sup>. His first job, as a mechanic-in-training, around the age of fifteen, was in Quincy, Illinois. There, his primary job, as he expressed it, was "to crank the Model T engines so the mechanics wouldn't have to wear themselves out." Over time, his training was broadened by doing many little jobs under the close supervision of the mechanics.

In 1919, his family moved to the central valley of California, where Werly's earliest job was driving a horse-drawn wagon as a delivery boy or, as he said "express driver," for Wells Fargo. That job was to lead him into a long life in aviation where many of his flying experiences were highly significant!

### His near life-long love of flying began

While working at Wells Fargo, he had his first ride in a World War I surplus Curtiss Jennie at a county fair in Tulare, Ca. He stated:

*Two young pilots landed their Jennies near the fair grounds to try to haul passengers on hops. One of them was a Cal Ferris. He had nosed over and broke his tooth-pick [propeller]. Ferris called Sacramento for a new prop to be shipped Wells Fargo Express to Tulare. He came to the office and said would I meet the 9:30 AM train so he could get it in time to put on the show tomorrow? I said yes.*

It arrived late, but even so, Werly was there to meet it. "Out to the alfalfa field we went and installed the prop. That was when he asked me if I would like to [help him] test-hop it the next morning at 8:00 AM." Werly said yes, and that was the beginning of his "wish to become a flyer." The flight included a loop and a roll; and he just: "fell in love with it."

### Learning to fly, and his first airplane

His first flight instructor was Bert Lane, a superb pilot and close friend for many decades. Lane remembered, via a letter to the author in the spring of 1986: "Cliff Werly, an expert auto mechanic and service manager for Nash Agency came out to my Stockton flying service to learn to fly." Cliff remembered that he and a friend started flying with Lane in 1924 in a Curtiss Jennie. Werly stated, in 1978: "all together the Jennie cost us about \$155 plus my Reo car."

Lane continued: "He [Werly] talked me into going down there in his car [and] checking the plane and flying it back – as usual, he had his tools with him and that was good! The wheels did not match; one Jenny wheel [had been] replaced with a D.H. wheel" [probably a de Havilland bomber of, or after, WW I]; and, that wheel was considerably



larger. "With much cleaning, fueling, and tuning, we developed 1,300 rpm which is minimum" [for safe take-off and flight].

Werly remembered that his lessons from Bert Lane were one-half hour each. During the instructions, they would communicate through a regular funnel and hose – between the two cockpits. Bert always said, "if I take it over, you let me have it." About his flight training, Werly stated that he performed: "Basically the same as today, [then] spins late in practice. They put an old magnet on the tail [skid] for drag so it would catch [on the ground] and keep the tail from coming around on ya."<sup>2</sup> Lane remembered: "Considerable flying was done in the old bird. 1. His first cross country. 2. Caught above the tulle fog very low on gas. 3. Getting high enough to practice spins."

All of this instruction took place while he lived in Stockton and earning \$40.00 a week. Barnstorming became quite important in helping him make the payments on the Jennie.

### Barnstorming

Werly did not recall the exact dates for the following events: "Slim Lindbergh' was barnstorming with us"—flying, he believed, a four-place "Challenger." They "were flying out of a little airport north of L.A., [on] a grass strip." [On one occasion,] they went down to barnstorm while the Navy put on a show. One time, a Navy pilot was sick and they talked Lindbergh into filling in! [He] barnstormed with Slim once or twice. In 1979, Werly remembered "barnstorming all of the county fairs making

ALL OF THIS INSTRUCTION TOOK PLACE WHILE HE LIVED IN STOCKTON AND EARNING \$40.00 A WEEK. BARNSTORMING BECAME QUITE IMPORTANT IN HELPING HIM MAKE THE PAYMENTS ON THE JENNIE

*J. Norman Grim is a retired colonel (USAR) after thirty-two years of mostly Army reserve service. He is also a professor of biology, emeritus, with forty-three publications in that discipline. He has also published three articles on aspects of the U.S. Army glider program in World War II, and more recently, the book, To Fly the Gentle Giants: The Training of World War II Glider Pilots, (Authorhouse Publishing Co., 2009). Grim has been a powered private pilot since 1961, and a sailplane pilot since 1968.*

(Left) Clifford L. Werly.

(Near right) Werly's pilot license.

(Far right) Werly and his wife Nellie in their TravelAir.

PAGE 1 FORM AB-51  
 UNITED STATES OF AMERICA  
 DEPARTMENT OF COMMERCE  
 AERONAUTICS BRANCH  
 LICENSE NO. 6056  
 RE  
 TRANSPORT PILOT'S LICENSE  
 Issued to CLIFF L WERLY  
 Date issued SEPTEMBER 1 1930  
  
 Age 29  
 Weight 155  
 Height 5' 10 1/2  
 Color hair DARK  
 Color eyes BLUE  
 PILOT'S SIGNATURE  
 This Certifies, That the pilot whose photograph and signature appear hereon is a Transport Pilot of "Aircraft of the United States." The holder may pilot all types of licensed aircraft, but may transport passengers for hire only in such classes and types specified in the accompanying Pilot's Rating Authority which is made a part hereof.  
 Unless sooner suspended or revoked, this license and rating authority expires as indicated on pages 5 and 6 hereof.  
 ASSISTANT SECRETARY OF COMMERCE FOR AERONAUTICS



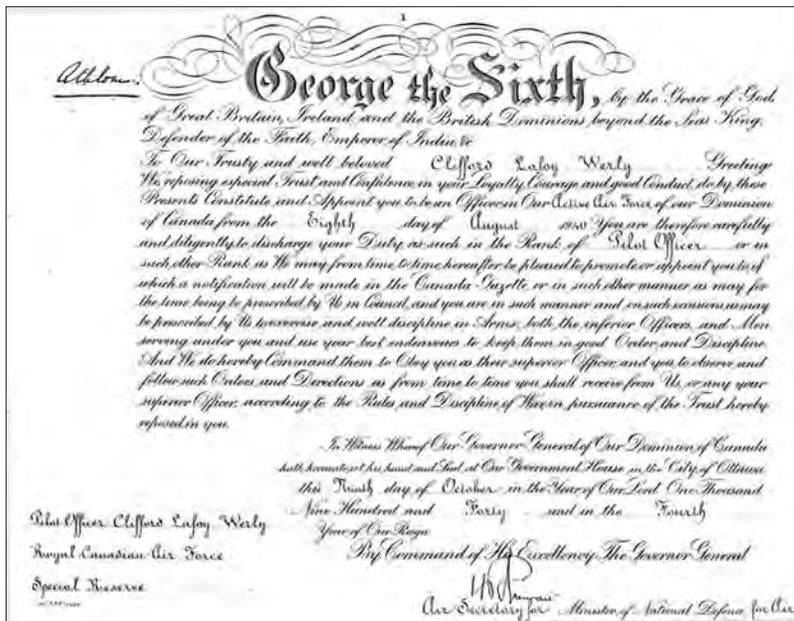
HE PURCHASED A TRAVEL-AIR 2000 ...[FOR] AROUND \$1,750.00. WERLY HELPED PAY FOR THIS PLANE BY FLYING ILLEGAL HOOCH

enough to pay for gas!" Cliff's wife, Nellie, never flew in the Jennie, but did fly in the Travel-Air. When Nellie did go along, she would sell tickets.

### Werly's second airplane

In about 1929, he purchased a Travel-Air 2000 with an OX-5 engine. He remembered it cost him around \$1,750.00. Werly helped pay for this plane by flying illegal hooch, (well, it was still prohibition!), actually grape wine, between Fresno, Stockton, and Oakland. He also continued barnstorming and giving rides, but only around the pattern, for \$.75 to \$1.50 per ride.

Werly's appointment letter as a pilot officer.



### Werly's military life begins.

Before the United States entered World War II, the Canadians had recruiters in certain hotels in the States, trying to entice pilots into the Royal Canadian Air Force (RCAF). American pilots with commercial licenses and about 300 flying hours were recruited by "secret members" of the RCAF. About this, Werly wrote: "...pilots at that time were very scarce and one with several hundred hours was almost non-existent." The "potential" RCAF pilots found out about it by word of mouth. Werly went for the interview, held on the sixth floor of the Roosevelt Hotel in Los Angeles, and promptly joined as an RCAF officer pilot. He remembered being one of the first five men from the U.S. that agreed to go to Canada. That was in 1940 and, at that time, he already had about 1,000 flying hours. The men were given an airline ticket to New York. There, at the Waldorf-Astoria Hotel, they were interviewed by The Earl of Athlone, who was in charge of the RCAF. Werly and his cohorts were then transported by train to Ottawa, Canada. Werly remembered: "There were no problems with Customs. Those new foreign cadets were 'researched' again to make sure we had no other military connections or were not German spies. [They] took us up in three or four different kinds of aircraft to see if we could fly or not; the Yale (the U.S. built BT-14, a 400 hp, low wing, radial engine trainer) and the Harvard. And, they even had some American Fleets."<sup>3</sup> After those "check rides", the men were shipped to various bases in Canada. Werly was shipped first to Jarvis, Ontario. There, the pilots flew target towing and gunnery sorties. From that time on, most of his flying was in the single engine, but very husky, Fairey Battle.

Next, he and four or five of the men went to



Werly was known, on several occasions, to fly "Santa" onto bases during Christmas; both in Canada and the U.S. Indeed, he was the pilot, above, in a Yale, on December 22, 1941. Thus, he was still in the RCAF for a time after the attack on Pearl Harbor!

**HE OFTEN TOLD FRIENDS AND FAMILY THAT HE FLEW "IFR," WHICH IN THESE CASES STOOD FOR "I FOLLOW THE RAILROAD," WHEN HE WAS LOST**

Mossbank, Saskatchewan. They spent about a year and a half there, and Werly "had two promotions out there." Their original rank was "pilot officer." In six months, he was promoted to "flying officer," and one and a half years after that to "flight lieutenant," the same as captain in the U. S. Army Air Forces.

On one occasion, he was ferrying a plane from Edmonton to Mossbank and got lost. He landed beside a railroad track. He often told friends and family that he flew "IFR," which in these cases stood for "I Follow the Railroad," when he was lost. He was stranded there for five days, and kept brushing snow off the wings so he could be spotted from the air. His nephew, Bill Schallenberg, in 2011 remembered "Uncle Cliff" saying that the Fairey Battle had an unusually large battery that he used a number of times to warm his "electrified" flying suit, possibly saving his life.

Werly continued: "Then they opened a base in Belleview, Ontario. In the RCAF, when an officer was promoted, they'd try to transfer him to another station. [I] flew down there for I guess about five or six months, then got a call from Ottawa for a pilot to transport the 'Earl of Athlone' down to the U.S."

He recalled that the flight with Athlone was sometime between September and November of 1941; but, this date seems quite questionable!<sup>4</sup> Werly flew a twin engine plane that they were using there and stated that he: "Had the privilege of flying the Earl of Athlone down to the U.S. to hold a conference with President Roosevelt regarding the Japanese." Werly: "picked him up in Ottawa and flew down to LaGuardia." Athlone had two of his staff along, and had a date with President Roosevelt to discuss the condition of the war. "Well, we stayed there about two or three days, as I remember, and I didn't go down to Washington with him.....Washington staff picked him up. And, he came back rather discouraged and got in the airplane and we started back for Ottawa. We were out about an hour, and he came up and tapped me on the shoulder and said: "Werly, I'd like to sit in the copilot seat." He said, "I got to get away from that

gang back there." Pretty soon he began to talk a little bit. Said he and his two cohorts had a long conference with President Roosevelt and his staff. The British had intelligence in Japan and we didn't have any, what-so-ever. They told the President that we would be attacked on the west coast someplace. No question about it, they were definitely going to attack the U.S. Well, he said he didn't get to first base. President Roosevelt refused to put the Army, Navy, and Air Forces on instant alert. The old Earl was very much disappointed that he couldn't get his point over and get the full alert." Werly remembered that Athlone felt that: "President Roosevelt was scared to put it [U.S. forces] on full alert for fear that he would be unpopular with the U.S. people. The Earl was very, very much upset. He even shed a few tears on the way back to Ottawa because they wouldn't listen to him in Washington or wouldn't take any action. And that kinda burned up the American [U.S.] pilots up there [Canada] because we felt that the USA didn't have any intelligence there [Japan] either and they found it out [the lack of intelligence], definitely, when we came back here [to the States] to fly in the Army Air Corps and the Navy."

In Canada, "we started to fly some Hudsons that they had slipped into Canada from the U.S. over to England. I only made two missions to Ireland.<sup>5</sup> [A] little old airport out on the west coast of Ireland. That [Hudson] was a twin engine, about the same as a twin Bonanza. [The Hudson was manufactured by Lockheed and sometimes called an Electra.] We took off in Newfoundland and went straight to Ireland. The whole cabin was a mess of gas tanks (Werly chuckled). We were running on the edge of nothing all the time. At that time we had no decent navigation [aids], [that is,] inter-ocean control of our airplanes."

One day Werly stated: "...I was a Squadron Commander and director of flying at Belleview. I had a bombing flight and I had nothing to do with training the bombardiers, only running the squadron, keeping the airplanes in shape and on time. That was the basis of most of the American pilots. A squadron ran around 1,500 men and fifteen to twenty airplanes."

Werly remembered a very noteworthy event that took place while training in Canada; it is partially *paraphrased*, below:

*He was training (he believed in Mossbank) and had a large crew of U.S. pilots who were flying aircraft with the large V-12 engine [most likely Hawker Hurricanes with the Rolls-Royce Merlin V-12 engine]. "Some of those fellows really didn't want to go on the training missions." In fact, his unit had four men that would routinely get in the aircraft and for some reason they just couldn't manage to get the engines started which was, of course, nonsense; as they knew very well how to start the aircraft's engines! They would "play around with it and run the batteries down; they aborted mission after mission." Werly finally got sick of this and decided to bring this behavior up short. He did so by going out*



(Above) Werly in very warm attire, Fairey Battle behind with its large three-bladed prop. (Werly Collection.)

(Far right) Lieutenant Clifford Werly in his RCAF uniform.

*with them to the flight line one day and saying: "Ok fellows, one at a time you fellows stand by your plane, but don't get in and start them." He would then get in the aircraft, and have the pilot step up on the wing with him. Then, Werly would start the engine with ease! A perplexed crew chief had commented to Werly that those engines just didn't or wouldn't start; so the pilots also had their crews fooled. However, after that they never seemed to have problems starting their engines again. Their dereliction had been foiled.*

## LIEUTENANT WERLY COMPLETED HIS ACTIVE DUTY WITH THE RCAF IN MID-MAY 1942

Lieutenant Werly completed his active duty with the RCAF in mid-May 1942. At that time, his log book showed over 327 hours in single engine aircraft Fairey Battle, Fleet, Yale, Porterfield, Nomad, Lysander, Harvard (only 1 flight), and over thirty hours in twin engine aircraft; the Bolingbroke, first flown by Cliff on Dec. 12, 1941; and the larger Anson, first flown by him on January 21, 1942.

Sometime after December 7, Werly continued, [the] "U.S. recruited all the [former U.S.] pilots they could from the RCAF and would give us our present rank and citizenship back if we would join an American service. [For this transfer to the U.S.], they sent a train up through Canada with three or four cars on it, and a complete recruiting team. And it went to every base in Canada where there was a pilot. Canada gave them the permission to do it. Then, in about two months, after they cleared us, [we] were shipped down to state-side, Maxwell



Field, Montgomery, Alabama. Most of 'em [were under the] South-East Air Training Command; then diverted from there on to various bases as they opened. When you joined the RCAF, you were a subject of the Queen. We were a citizen of the British Empire. They would cancel our citizenship if we came back to the military state-side."

Werly: "In May 16, 1942, I became a Captain in the [Army] Air Forces of the U.S., stationed at Maxwell Air Base, Alabama. There was such a shortage of airplanes and runways we had to set there for about two months; just fly four hours a month in BT-13s." His next station (he recalled without full certainty) was at Peterson Field, Georgia, as a navigator instructor pilot. "They had us flying twin-engine Bonanzas on navigation missions, to fill in so we'd have something to do beside just sit and wait. After about two months there, July 1942, I was transferred to a B-17 transition field in Ft. Lauderdale, Florida."

Werly spent about two years in Fort Myers, Florida, as the Operations Officer. There, he had to investigate crashes of his unit's aircraft. This of course greatly upset him. Some of the pilots there were full of far too much "vim and vinegar;" and occasionally buzzed people on the beach, and a hotel where a lady friend might be staying. On one such occasion, a pilot buzzed the Werly family's bright red Chrysler Highlander, a big mistake. Werly's daughter, Carole, remembers to this day that one of the officers in his unit was a Lt. Bill Braun. On one occasion, Braun had told her that he had sat next to Hitler, in a box, at an opera, back in about 1938.<sup>6</sup>

"From there I went to Monroe, Louisiana, and flew navigation missions in twin engines. Then they opened up...Buckingham Field in Florida, a bombing and gunnery school. They gave me a squad



(Above) Fairey Battle, down in the snow. Emergency “off field landing.”

(Right) Werly’s “Flight Training Directive”

## THE B-29...MADE THE B-17 LOOK LIKE A KITE

there. About three months later I was made director of flying. They lacked personnel with experience. One reason I didn’t go overseas was because I had experience in bombing and gunnery in Canada and had learned quite a bit about it. They wanted me on one of those bases that was just opening up – trying to get somebody to go along on the B-17 missions. So [I] stayed there about a year and a half, and got pretty tired of the routine.”

[For his B-29 recruitment] “Maxwell field sent out applications for pilots with 1,000 hours [in] B-17s or four-engine time and they recruited whatever pilots I had on the field. I had about 110 airplanes and, I think, about fifty to sixty pilots. And, I put my name on the application, and I told the Adjutant of the base not to have the “old man” read all the applications because if he saw my name on there he would-a-took-it off! Cuz I asked him if I could go before and he said — No! So, it [his application] went through that way and when the application came through, I went in the office, naturally [as expected in the military], to say goodbye and he blew his stack, [but] he settled down in a little while and let me go.”

“I went from there to Alamagordo, N.M., [and] took transition [first flight was on July 7, 1944] in the B-29. It made the B-17 look like a kite. [The B-29 had] four 2,200 (2,000 h.p.) engines, [and was] 115 feet long. However, we went along to learn [how to fly] the greatest aircraft built at that time. Well, the first month of transition, we walked up to that airplane and we couldn’t see how in the world it would fly – would ever get off the ground. But we got in it. It was the hardest transition that I had ever had. We had to go days on end in classes: engineering classes, navigation classes, radio classes. All as though we’d never done any of it before. It was a really trying experience. Each [training] mission, on dual, was five hours and we never could make over two landings in that five hours for the simple reason that they were afraid of over-heating the under-carriage. Tremendous under-carriage, when we put the gear up or down, we needed a “putt-putt” [small



gasoline engine generator] in the tail gunner’s compartment. We’d tell him [the gunner] to start the putt-putt. [After a landing] the gear and everything would be so hot we had to fly around a couple of hours ‘fore it’d cool off (Werly chuckled).

“We had only five B-29s at that base when we started and we lost two of them in the first two months. The reason we lost them was that we had trouble with the exhaust valves, and they would over heat and blow a cylinder head off. It exploded, the engine would catch fire and [in] the back of that engine in the wings was 7,500 gal. of 130 octane fuel, and the minute that got a spark it’s goodbye airplane and the whole thing exploded and there was no saving anything on it. To counteract that, if we saw it quick [sic] enough, we shut that engine down. We had four scanners [men] in the back that did nothing but watch those engines. The least little puff from the engine and we shut it off. She’d fly pretty good [sic] on three engines. Before we went overseas, the manufacturer of the engines put new engines in the whole damn flock, practically. [It] corrected the exhaust valve problems.....over-heating.”

“After fifty hrs. of transition we were assigned to B-29 squads. I was assigned to the 29th Bomb Group at Pratt, Kansas; the training base for the crews and us. [There, we had] to get our crews and [determine] if we had to change any of ‘em. We had to train our crews to work together in a B-29 which had eleven crew members.

Then, we flew our training missions [to] Borinquen Field, down in Puerto Rico where we again wanted to simulate what it would be [like] flying over Honshu, and we flew down there for a couple of months with our crews. Took us damn near a



Pilots & possibly some crew, Guam AAF tent-like building. Werly on far right. Werly collection.

good year before we went overseas; [doing] this kind of training.

We took new aircraft to go overseas, of course, they had new engines in 'em, and they were excellent! [Overseas] we had 'em fly 35-40 missions without any difficulty what so ever."

### Heading Overseas!

"I was assigned to the 29th Bomb Group at Pratt, Kansas. [After that training], we were transferred to Mather Field, California, near Sacramento. [From there] after 7,000 miles we landed at our air base – North Field, Guam. Nice runway, but [we slept on] cots under the coconut trees for quite a while." His military orders indicate that he departed for the South Pacific on February 8, 1945 and arrived on Guam four days later, on the 12th.

### Morale dynamics of the enlisted maintenance personnel for the B-29s.

While in the states, the B-29 maintenance personnel seemed to have little interest in their assignments. They had low morale and little enthusiasm. Cliff remarked that when combat missions started on Guam the attitudes changed very dramatically. Support personnel began to identify with their assigned aircraft and crew. After a time, that developed into a deep emotional attachment such that they would frequently have to "drag" personnel, line chiefs and their maintenance crews off the pad after "their" B-29 had left on its mission. It seemed that they would just a soon sit there all day and half the night waiting for their beloved winged aluminum "birds" and air crews return. When they returned, or when there was word that they were coming in, the ground crews would be back on the ramp immediately. Cliff reported that he often saw ladders being erected up to an engine just as the prop was slowing its rotation. The mechanics, then, began pulling out very hot parts to be worked on, not infrequently

burning their hands—another indication of the superb morale and esprit-de-corps of the maintenance crews.

### Combat Missions

"Our first mission was to bomb Tokyo, and [it was] a daylight mission." This was sometime in February 1945. For many of his missions, it is noteworthy that his navigator was Airman Jimmy Doolittle, nephew of the famous General Jimmy Doolittle.<sup>7</sup>

"Before we made a mission we sent two recon aircraft up to the altitude [at] which we were supposed to bomb, 35,000 feet. Lo and behold, we located a jet stream of 120 knots [about 138 mph] over Honshu at all times, day after day, above 18,000 feet." The high winds apparently interfered with bombing accuracy, so the altitude was lowered dramatically. Werly continued: "Well!, General LeMay wired Washington and got permission to go in lower; of course, they gave him permission. He sent us up to 5,000 feet, not above 12,000 feet, for this 'high altitude' aircraft; so, we were sitting ducks!" Werly's nephew, Bill Schallenberg, remembers Werly saying that when LeMay first announced this at a pilot's meeting, Werly looked around and noticed that all the men were ashen and had extremely shocked looks as they felt this might be their death knell.

"We went in at first with two wing-men, one on the right and one on the left, and a leader. That didn't work out well at all. The Zero would come in on us at between 11 and 1-o'clock high, diving and firing at the leader. Well, when he pulled out, the rate of closure was so great that he mis-interpreted how much space he needed to get out of the way, to keep from crashing. He generally turned off to the right [the fighter was headed toward the front of the bomber; thus, head on] and he crashed into the left wing-man. Of course, they both went up in smoke. After about two missions we quit that formation and went in – 'in trail' [one behind another, and] with quite a bit of distance between us, and that eliminated that [vulnerability]. That was about the only dangerous thing the fighters could give us. If a fighter came in on us and missed, he would fly over the top. By the time he turned around he couldn't catch us; we were just about as fast (over 350mph) as a Zero.

Werly remembered one mission that was his worst: "We had to run three missions on one town. [We had] heavy cloud cover the first two missions, and the amateur [primitive] radar system the first system we had on our aircraft wasn't worth a damn for picking out something like that. So, we bombed where the radar said and we missed the town. The third time we went over in clear weather, [and] we got the town. But!, we really got [the] hell shot out of us. There was a big aircraft factory there, and lots of munition factories...and I came home with 119 holes [from] flack and that was about the scariest mission I had (Werly chuckled). They had a lot of flack [that had hit us] in the engine nacelles....but

THE B-29 MAINTENANCE PERSONNEL SEEMED TO HAVE LITTLE INTEREST IN THEIR ASSIGNMENTS... WHEN COMBAT MISSIONS STARTED ON GUAM THE ATTITUDES CHANGED VERY DRAMATICALLY



we had [the four engines] all running; and [we were] lucky, a lot of them didn't [have that luck]."

### **A serious dereliction of combat duty by one pilot and crew**

Apparently, a B-29 pilot on Guam who was part of Cliff's group, routinely went on a combat mission to Japan, but would unload his plane's bombs in the ocean, just short of Honshu Island. In time, someone of the crew could not stand the guilt and confessed. The pilot was summarily released from his combat assignment, transferred to the U.S. Marine Corps on Guam, and it was Werly's recollection that he was demoted to private.

### **Werly's recollections of activities of Japanese troops hidden away on Guam**

Reports had it that, at one time, a small contingent of Japanese troops was preparing to attack the AAF base; but, just about that time a pregnant woman, apparently in labor, came down the road into the main airbase. She was picked up and taken to the hospital by U.S. military personnel. She delivered her baby and Werly remembered that U.S. forces felt that her treatment was so good that it had the effect of stopping the attack. Further, she was reported to have had a very large diamond ring which she gave to one of the nurses at the hospital. Also, there were rumors that she was the wife of a high ranking officer (or the commander) of the Japanese troops that remained on Guam at that time. Werly stated that "word of mouth" was that there were about 3,000 Japanese left on Guam. The jungle could hide a lot of bodies!



### **Major Clifford Werly is awarded the DFC**

*It reads, in part only:* "Central Orders no. 56, 6 Sept. 1945. Major Clifford L. Werly, 01699157, 29<sup>th</sup> Bombardment Group, Air Corps, United States Army. For extraordinary achievement while participating in a daring daylight raid, 24 April 1945. Major Werly was acting Command Pilot...flying against the highly important Hitachi aircraft plants at Tachikawa, near Tokyo, Japan. Despite the presence of enemy fighters and adverse weather conditions, Major Werly accomplished a complete and highly effective formation with unusual skill...Major Werly led his group over the objective to achieve outstanding results. All the bombs hit in the target area, leaving the vital enemy installations over seventy percent destroyed. After bombs away, twenty enemy fighters attacked savagely. He led his B-29s through this onslaught without loss to personnel or aircraft. The outstanding airmanship, technical skill, and brilliant leadership displayed by Major Werly reflect great credit on himself and the Army Air Forces."

*By: Command of Lt. Gen. Twining. Signed by: Gustav A. Neuberg, Lt. Col., AG.*

In addition to the DFC, Werly received: The Air Medal, the Asiatic Pacific Service Medal, the



(Right) Cliff and Nellie in their Travel Air, Nellie in the front, Date unknown.

(Opposite page, top) Bombing missions – U.S. AAF photos. From the C. L. Werly collection.

(Opposite page middle) Major Cliff Werly receiving awards and congratulations from Col. Storrie. Specific awards are not known. At about this time he was a “Command Pilot.” C. L. Werly collection.

(Opposite page, bottom) Major Cliff Werly receiving awards and congratulations from Col. Storrie. Specific awards are not known. At about this time he was a “Command Pilot.” C. L. Werly collection.



American Service Medal, and the World War II Victory Medal. Also, he has other medals from the RCAF.

In a letter home of August 15, he stated, with marked enthusiasm, that: “The war is over and we can hardly believe it. Enclosed is a note I wrote flying to Japan and when we landed back this morning it proved to be the last mission of this war. I was glad I went too, as I flew the first and the last missions of our Group.” At that point he had flown twenty-two missions.

Two weeks later their operations had changed a lot, and he wrote: “We are hauling P.W. (prisoner of war) supplies to Japan and will do so for a few days.” Cliff Werly departed Guam on October 27, 1945, and arrived on mainland U.S.A. on October 31, 1945. At that time, his MOS was: “Pilot, very heavy bomber, # 1093.” He turned his war weary bomber in at Sacramento, Calif.

Lt. Col. Werly joined the Air Force Reserves, as a Sergeant (due to certain military regulations),

and completed a total of twenty years of active and reserve duty. That was in May 1962. He retired and quite properly reverted to his previous rank of lieutenant colonel.

He remained an avid pilot and, thereafter, owned several more aircraft, all for pleasure flying. He owned (at least, and at different times): a two-place PT-19, a PT-26, two rather large and tricky to fly, radial engine, high winged World War II Navy Howards, and several civilian planes.

To summarize, Clifford Werly first soloed in 1924 and became a commercial pilot in 1929. By the late 1970s, he had amassed 12,000 hours of flight time. He dearly loved to fly and was extremely skilled at flying a wide variety of airplanes.

Cliff Werly “slipped the surly bonds of earth” on November 22, 1986, and is buried within view of the Sedona, AZ., Airport. Or, as he stated in a little “tome” that he wrote in 1979:..“like all of us [pilots we] never die we just fly away.” ■

## NOTES

1. Based on a diverse collection of both oral and written history from Werly, including fifty-nine letters he wrote home from Guam. Also used were some of his military orders, and his log books; and recollections of some family and friends.
2. The magnet, because of its shape, served to increase, and provide a rough, surface area for drag on the ground.
3. The Fleet was designed by Consolidated Aircraft. They ultimately designed nine models.
4. From his log book we have not found that he flew a large enough multi-engine aircraft, for this task in Canada until early January 1942; hence, this story cannot be verified. Still, he told it often, to many people over many years, and all while he was obviously very coherent! We wonder if the flight was in early 1942, and Athlone was warning about Japan attacking the west coast (interestingly, the exact words Werly

used) of continental U.S.; thus, not Hawaii. The first attack on the west coast of the U. S. (on oil wells and storage tanks just north of Santa Barbara, Calif.) was on February 23, 1942.

5. Careful perusal of his log book used while flying with the RCAF does not list him flying the Hudson, nor flying to Ireland. Possibly there were some intentional omissions in his log book, or some entries were missed while original data were transcribed into a new log book; at some point, the original one was very badly damaged with water! His daughter remembers that Werly's wife, Nellie, did the transcriptions.

6. It is perhaps noteworthy that Carole Werly can, to this day, still “see” Lt. Braun standing in front of her — pontificating about this story.

7. While not a quote, he told several of the family that his navigator was the young airman, Doolittle.

# The United States Air Force and Bosnia, 1992-1995





Daniel L. Haulman

(Overleaf) The U.S. Air Force did not go it alone in Bosnia, as the presence of these NATO allies' aircraft can attest.

**SERBIAN MILITARY FORCES IN BOSNIA, ARMED WITH RESOURCES OF THE FORMER YUGO-SLAVIAN ARMY PROVIDED BY MILOSEVIC, SOON GAINED CONTROL OF TWO-THIRDS OF THE COUNTRY AND SURROUNDED SARAJEVO**

In 1990, the Communist Party in Yugoslavia, like those in other eastern European states, gave up its monopoly of power. Not long afterwards, Serbs in Belgrade under President Slobadan Milosevic began to dominate the federation politically. Other ethnic groups began agitating for independence of the type being successfully achieved peacefully in the former Soviet Union and Czechoslovakia.<sup>1</sup>

As early as May 1991, both Slovenia and Croatia declared independence from the rest of Yugoslavia. Slovenia had few Serbs, and seceded relatively peacefully, but the thousands of Serbs living in Croatia resisted its independence, and a civil war resulted. Col. Ratko Mladic, a Yugoslavian People's Army commander, launched an "ethnic cleansing" campaign in Croatia to assure that large parts of the country remained under Serbian control. Before long, Serbs controlled one-third of the territory.<sup>2</sup>

On January 15, 1992, the European Community recognized the independence of both Slovenia and Croatia. Major factions agreed to a truce in January 1992, and a United Nations Protection Force (UNPROFOR) entered Croatia. Despite the arrival of the UN peacekeeping forces there, ethnic violence continued.<sup>3</sup>

In March 1992, Bosnia-Herzegovina, a large territory between Croatia and Serbia, also declared independence from Serb-dominated Yugoslavia and named Sarajevo as its new capital. Bosnian Serbs under Dr. Radovan Karadzic declared their own independence from the rest of Bosnia-Herzegovina and sought the support of Slobodan Milosevic in neighboring Serbia. General Mladic, who had led Yugoslavian and Serbian forces in Croatia, moved into Bosnia to support Karadzic and the Serbs there. A civil war ensued between Bosnian Serbs and Muslims.<sup>4</sup>

On April 6, 1992, the United States recognized the independence of Slovenia, Croatia, and Bosnia-Herzegovina. Serbian military forces in Bosnia, armed with resources of the former Yugoslavian army provided by Milosevic, soon gained control of two-thirds of the country and surrounded Sarajevo, cutting off the capital from its traditional sources of supply. At this point, the United States began airlifting food, medical supplies, and blankets from stockpiles stored in Italy to Bosnia and Croatia.<sup>5</sup>

At the end of June, the United Nations Security Council extended the United Nations Protection Force (UNPROFOR) to Bosnia to protect the flow of humanitarian relief supplies to the Sarajevo airport. United Nations forces took control of the airport and authorized an international airlift of humanitarian supplies to the Bosnian capital.

For its part of the international airlift, the United States inaugurated Operation PROVIDE PROMISE on July 3, 1992. U.S. Air Force elements took part in a joint task force under United States European Command. Col. Patrick M. Henry, USAF Vice-Commander of the 435th Airlift Wing at Rhein-Main Air Base, Germany, served as the operation's first mobility commander. The wing's 37th Airlift Squadron flew the initial PROVIDE PROMISE missions, using four-engined C-130s that flew from Rhein-Main.<sup>6</sup>

The Bosnian Serbs benefited from a regional arms embargo because they inherited most of the arms remaining in Bosnia that had belonged to the Yugoslavian army. Moreover, Yugoslavia's air force, which had essentially become the air force of Serbia, supported the Bosnian Serbs in their civil war with the Muslims and Croats of the country. On October 16, 1992, the United Nations Security Council passed Resolution 781 that banned all military flights over Bosnia. Although the North Atlantic Treaty Organization (NATO) monitored such flights in an operation called SKY WATCH (SKY MONITOR), it had no authority to enforce the ban.<sup>7</sup>

At the end of March 1993, the United Nations passed Resolution 816, which banned all flights over Bosnia-Herzegovina not authorized by the United Nations. It also authorized NATO to enforce the ban on military flights by shooting down violators. A "dual key" concept permitted military action only with the approval of both the local UN and NATO commanders. The result was the first NATO combat operation in its history: Operation DENY FLIGHT, which began on April 12, 1993. Operation PROVIDE PROMISE continued as its humanitarian counterpart.<sup>8</sup>

The United States was one of many nations taking part in Operation DENY FLIGHT. The 5th Allied Tactical Air Force (5 ATAF) controlled NATO air resources for Operation DENY FLIGHT. Fighter

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aircraft from the USAF's 36th Wing at Bitburg Air Base in Germany, operating from Aviano Air Base in Italy, flew some of the earliest DENY FLIGHT missions. Air Force Special Operations Command units also took part in the new operation, with search and rescue aircraft operating out of Bridisi, Italy. A United States Navy carrier task force in the Adriatic Sea participated, as did USAF reconnaissance crews and airplanes from as far away as England. Operation DENY FLIGHT did not prevent all non-authorized military flights. It largely ignored helicopter flights because so many of them carried civilians or displayed Red Cross symbols.<sup>9</sup>

On July 22, the UN Security Council authorized NATO close air support missions and offensive air strikes to protect UN forces in the former Yugoslavia. UN Secretary-General Boutros Bou-

tros-Ghali authorized his representative for the region, Ambassador Yasushi Akashi, to veto NATO close air support missions. When NATO authorized retaliatory air strikes in Bosnia-Herzegovina in August, Boutros-Ghali insisted on exercising his own power to veto them.<sup>10</sup>

The crisis in Bosnia encouraged France to associate more closely with the NATO alliance from which she had withdrawn its military forces in 1966. On February 18, 1994, USAF aircraft deployed to France for the first time in more than twenty years. Five KC-135 tankers flew from French bases to refuel NATO aircraft patrolling the airspace over Bosnia-Herzegovina during Operation DENY FLIGHT.<sup>11</sup>

On February 28, 1994, NATO engaged in combat for the first time in its history. A British airborne warning and control system (AWACS) aircraft crew flying over Hungary detected at least six Serbian J-21 Jastreb-Galeb jet aircraft that were attacking a factory in the Banja Luka area of Bosnia and warned them to land, exit the no-fly zone, or be engaged. The AWACS crew also contacted a flight of two F-16s from the 526th Fighter Squadron (86th Fighter Wing), that were patrolling over Mostar in southern Bosnia. Although already low on fuel, the F-16 pilots quickly flew to the area, spotted the Serbian airplanes, and repeated the warning. The Serbian pilots did not respond, but continued their air strikes on ground targets, in clear violation of the no-fly zone. Cleared to fire, Capt. Robert G. Wright launched one of his radar-guided AIM-120 missiles and destroyed one of the Serbian aircraft. The rest of the J-21s quickly descended to a lower altitude to reduce their radar signature. Captain Wright shot down two more of the Jastreb-Galebs, using shorter-range heat seeking AIM-9 missiles. His total was three that day. His wingman, Capt. Scott F. O'Grady also fired an AIM-9 missile at one of the fleeing enemy airplanes, but missed. Wright and O'Grady departed to refuel, turning over the mission to two other F-16 pilots from their squadron, who had come to relieve them. Capt. Stephen L. Allen used another AIM-9 heat-seeking missile to destroy a fourth Jastreb-Galeb, but the remaining two Serbian jets escaped the no-fly zone and returned to their base at Udbina in the Serbian-dominated part of Croatia.<sup>12</sup>

On April 10, two F-16 Fighting Falcons of the 512th Fighter Squadron struck a Bosnian Serb

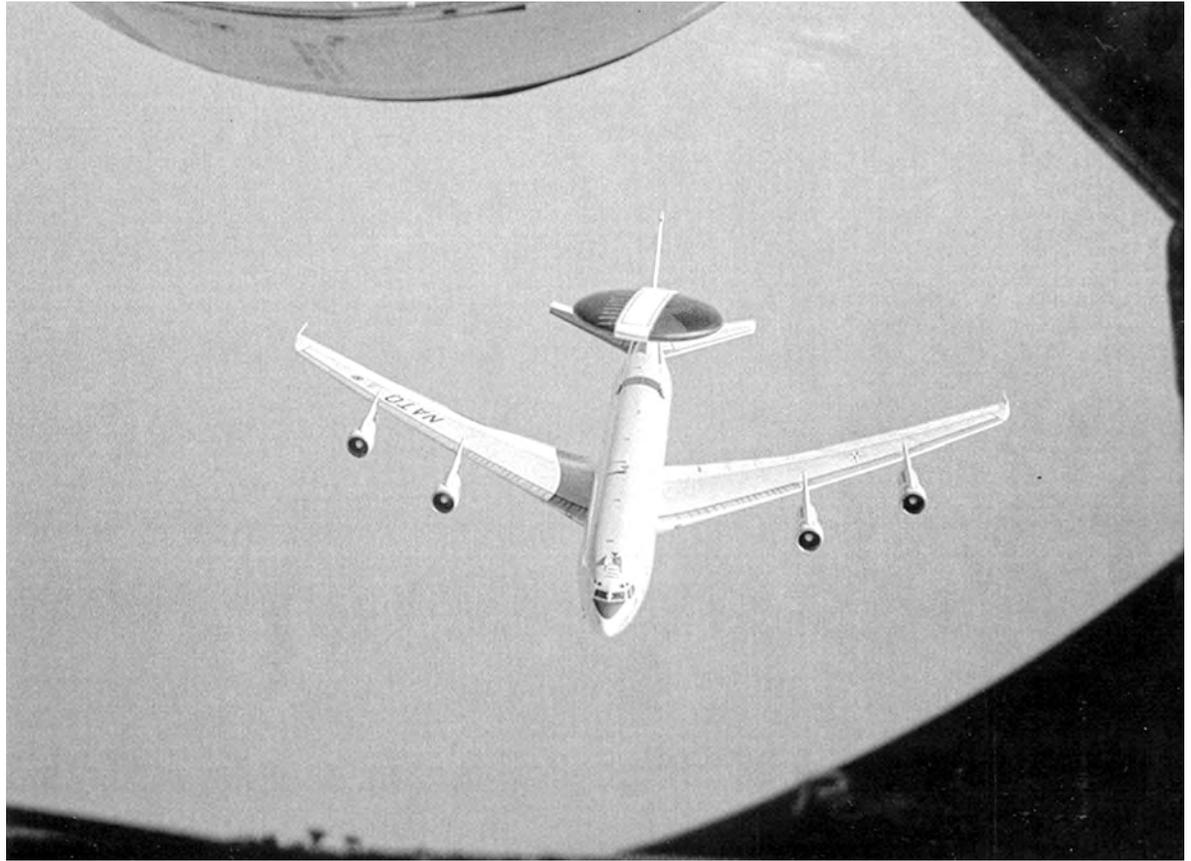
**HIS WINGMAN, CAPT. SCOTT F. O'GRADY ALSO FIRED AN AIM-9 MISSILE AT ONE OF THE FLEEING ENEMY AIRPLANES, BUT MISSED**

**Serbian Aircraft Shot Down by USAF Aircraft, February 28, 1994**

Type	USAF aircraft & Weapon	Victor	Squadron/Group
J-21 Jastreb-Galeb	F-16C, AIM-120	Capt. Robert G. Wright	526th/86th
J-21 Jastreb-Galeb	F-16C, AIM-9	Capt. Robert G. Wright	526th/86th
J-21 Jastreb-Galeb	F-16C, AIM-9	Capt. Robert G. Wright	526th/86th
J-21 Jastreb-Galeb	F-16C, AIM-9	Capt. Stephen L. Allen	526th/86th

Source: Department of the Air Force Special Order GB-228 dated May 27, 1994.

A NATO AWACS refuels during Operation Deny Flight.



**THE SERBS RESPONDED BY SEIZING UN PERSONNEL AS HOSTAGES, AND AGAIN THE UN INSISTED THAT NATO TEMPORARILY SUSPEND ITS AIR STRIKES**

artillery command post near Gorazde, after Bosnian Serb forces attacked UN personnel in the enclave. This was the first close air support mission of Operation DENY FLIGHT, and the first air-to-ground bombing in NATO history. In retaliation, the Bosnian Serbs took more than 150 UN personnel as hostages, and caused the UN to ask NATO to suspend air strikes.<sup>13</sup>

In November, NATO leaders convinced UN leaders to approve the largest alliance air raid yet against an airfield at Udbina, a Serb-controlled area from which aircraft had raided Bosnia in violation of the DENY FLIGHT no-fly zone. Capt. Brent Johnson, an F-15E pilot, led the raid, which targeted not only the airfield but also Bosnian Serb surface-to-air missile sites in the area. As had happened in April, the Serbs responded by seizing UN personnel as hostages, and again the UN insisted that NATO temporarily suspend its air strikes.<sup>14</sup>

Operation DENY FLIGHT suffered setbacks in 1995. On June 2, USAF Captain Scott O'Grady of the 31st Fighter Wing's 555th Fighter Squadron patrolled the skies over northwestern Bosnia in daylight when his F-16C fighter was brought down by an SA-6 surface-to-air missile guided by radar. O'Grady ejected safely. He was rescued by USMC helicopters from a USN task force in the Mediterranean Sea on June 8 after evading Bosnian Serb forces for six days.<sup>15</sup>

U.S. Air Force organizations and personnel took part in the rescue. On June 8, KC-135 tanker crews from the 107th Air Refueling Group and the 157th Air Refueling Group, from New York and New Hampshire respectively, flying out of Istres, France,

refueled fighters covering the rescue helicopters. A crew from the 107th had also refueled O'Grady's own F-16 before it was shot down.<sup>16</sup>

The summer of 1995, the U.S. Air Forces in Europe (USAFE) centralized control of Operation DENY FLIGHT aircraft by activating the provisional 7490th Wing at Aviano Air Base, Italy. Col. Charles F. Wald, who was already commander of the 31st Fighter Wing at Aviano, served as commander of the new wing. The United States also deployed its new Predator unmanned reconnaissance aerial vehicle to Albania in an operation called NOMAD VIGIL.<sup>17</sup>

The fall of two UN-declared safe areas in Bosnia—Srebrenica and Zepa—to the Serbs, aroused NATO and the UN to action. Western military leaders meeting in London on July 20 and 21 warned the Bosnian Serbs that any attack on Gorazde, the most threatened of the four remaining safe areas in Bosnia, would provoke a "decisive response." A few days later, the North Atlantic Council met and committed NATO to defend Gorazde. On August 1, NATO extended the Gorazde ultimatum to the other three safe areas in Bosnia, including Sarajevo. Bosnian Serb attacks on any of the four remaining enclaves would provoke a NATO/UN military response.<sup>18</sup>

On August 22, the Serbs shelled Sarajevo, killing six and wounding almost forty. The UN commander removed his forces from Gorazde to prevent the Bosnian Serbs from taking them as hostages, as they had in response to previous air strikes. He also accepted reinforcement of his troops by the recently introduced European Rapid Reaction Force. The



## THE BOSNIAN SERBS IGNORED UN AND NATO WARNINGS AND INCREASED THEIR PRESSURE ON SARAJEVO

stage was set for a more decisive air operation in the former Yugoslavia.<sup>19</sup>

The Bosnian Serbs ignored UN and NATO warnings and increased their pressure on Sarajevo. On August 28, they shelled the capital again, this time killing thirty-seven and wounding eighty. It was time for the UN and NATO to deliver on their threat of retaliatory air strikes. By agreement, such strikes required the approval of the regional commanders of both NATO and the UN. NATO's Admiral Leighton Smith quickly approved, but UN Lt. Gen. Bernard Janvier was attending his son's wedding in France. His deputy, Lt. Gen. Rupert Smith of the United Kingdom, approved the air strikes in Janvier's place. The two keys had been turned, and NATO prepared to embark on Operation DELIBERATE FORCE, its first major combat operation.<sup>20</sup>

Operation DELIBERATE FORCE commenced on August 29, the day after the Bosnian Serbs resumed the shelling of Sarajevo. USAF Lt. Gen. Michael Ryan served as Admiral Smith's air component commander at the Combined Air Operations Center (CAOC), to which he had already gone for an exercise. Ryan listed targets for Admiral Smith's and the UN commander's approval. While most of the air strikes came from land-based fighters at Aviano Air Base in Italy, which were already conducting Operation DENY FLIGHT missions over Bosnia, Admiral Smith ordered the aircraft carrier USS *Theodore Roosevelt* to the Adriatic Sea to increase the number of fighters available.<sup>21</sup>

The second phase of the operation, which lasted until September 13, included air strikes on the

Bosnian Serb air defense network in northwestern Bosnia. Using stand-off munitions launched from aircraft, General Ryan targeted command, control, and communication facilities, which crippled harder-to-hit enemy missile batteries that had previously threatened DENY FLIGHT missions. The cruiser USS *Normandy* also launched seven Tomahawk missiles against Bosnian Serb command and control targets. Continued air strikes on these and other enemy military sites weakened the Bosnian Serbs.<sup>22</sup>

Operation DELIBERATE FORCE was the first combat air campaign in which precision-guided munitions outweighed conventional munitions dropped. UN Lt. Gen. Rupert Smith, who was familiar with vulnerable sites in Bosnia, nominated close air support targets. Ryan sometimes planned to strike an enemy facility at two o'clock in the morning, hoping it would be unoccupied. Milosevic himself admitted that there were only twenty-five fatalities in the entire air campaign.<sup>23</sup>

Operation DELIBERATE FORCE officially ended on September 21, 1995, after air strikes and a combined Bosnian-Croatian ground offensive had left less than half of Bosnia in the hands of the Bosnian Serbs. The allied coalition had flown a total of 3,485 sorties, 2,444 of them by "shooters," or aircraft launching weapons. The actual munitions dropped or launched totaled fewer 500 tons, but that relatively low number obscures the fact that the air campaign was more effective than many others in earlier conflicts because the majority of the 1,026 bombs or missiles dropped or fired were the more accurate precision-guided munitions.<sup>24</sup>

A C-17 takes off during Operation Provide Promise.



**THE PRESIDENTS OF BOSNIA-HERZEGOVINA, CROATIA, AND SERBIA MET...AND PRODUCED AN AGREEMENT TO END THE WAR IN BOSNIA**

The Bosnian Serbs were more willing to negotiate when they learned on October 23 that Russia, Serbia's old ally, would furnish part of the peacekeeping force in Bosnia. Between October 31 and

An F-15 refuels during Operation Deny Flight.



November 21, the presidents of Bosnia-Herzegovina, Croatia, and Serbia met at Wright-Patterson Air Force Base, Ohio, and produced an agreement to end the war in Bosnia and designate sectors for Serbs and non-Serbs. On December 14, international leaders signed a peace agreement in Paris to confirm the Wright-Patterson accords.<sup>25</sup>

Operation DENY FLIGHT, which had enforced a United Nations no-fly zone over Bosnia-Herzegovina since April 1993, officially ended on December 20. At the same time, the NATO-led Implementation Force (IFOR), under Admiral Smith, replaced the United Nations Protection Force (UNPF) in Bosnia and assumed the task of enforcing the peace agreement.

On January 9, 1996, after three and one half years, PROVIDE PROMISE officially ended. It was the longest sustained humanitarian airlift in history. Since early July 1992, aircraft from twenty-one countries had taken part in the operation, flying a total of 12,886 sorties and delivering 159,622 tons of food, medicine, and other supplies to Sarajevo and other parts of Bosnia-Herzegovina. The operation provided 95 percent of the city's supplies and evacuated some 1,300 wounded civilians. The United States flew 4,553 sorties and delivered 62,802 metric tons of cargo. Besides landing cargo at Sarajevo's airport, USAF transports had also flown 2,222 sorties to drop food rations to isolated safe areas within Bosnia that had been surrounded by Serb military forces. Air Force Reserve and Air National Guard organizations provided approximately 40 percent of the airlift of Operation PROVIDE PROMISE. The opening of surface routes of transportation to the

Bosnian capital negated the need for further military airlift of humanitarian supplies to its airport.<sup>26</sup>

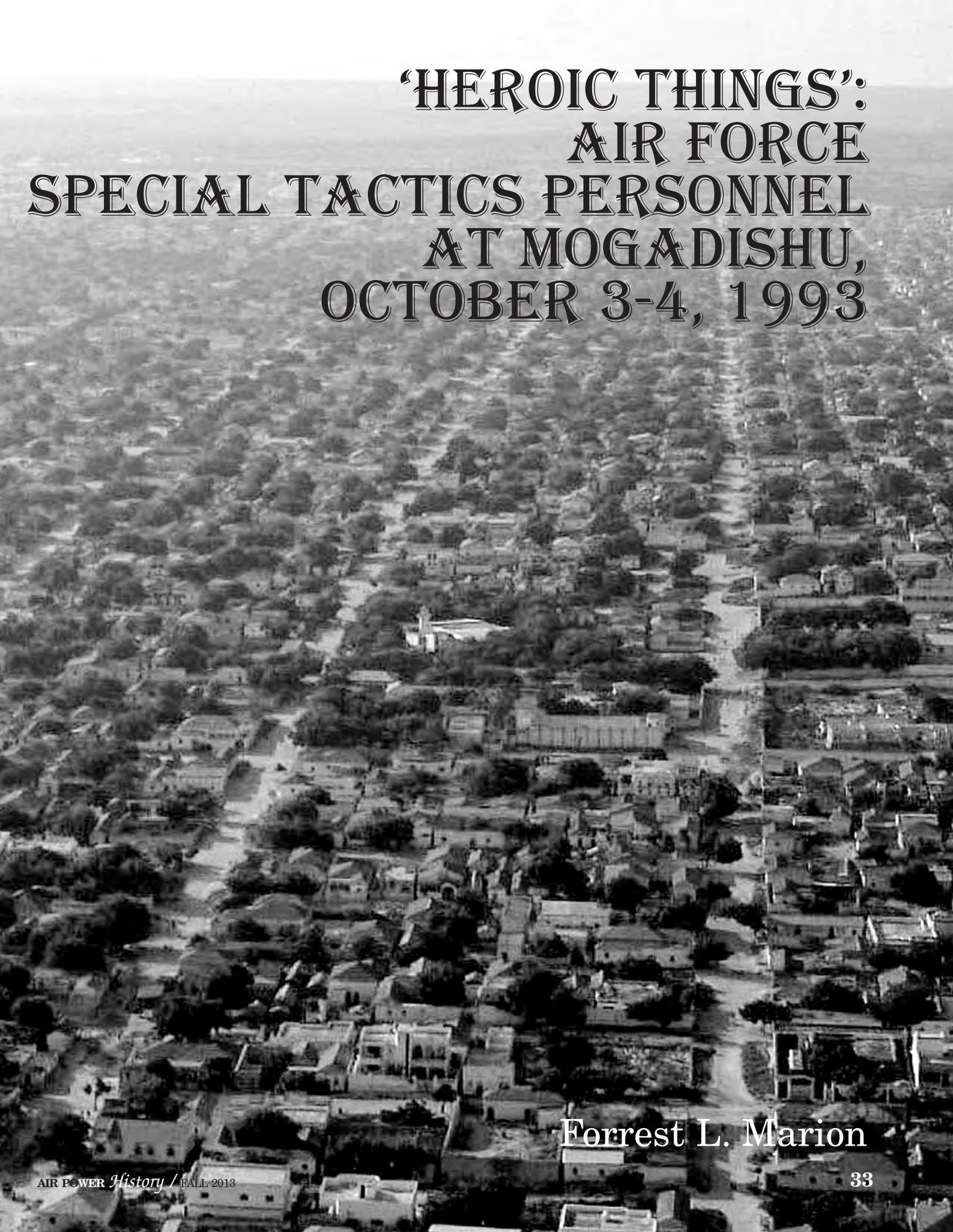
The Bosnian crisis proved to be pivotal in the history of NATO and the U.S. Air Force. The UN allowed NATO to be its enforcement instrument in the former Yugoslavia, and for the first time, NATO embarked on a combat operation. France drew closer to NATO, allowing U.S. Air Force tankers to be based in and fly missions from France. Operation DELIBERATE FORCE was the first air campaign in history to use more precision-guided

weapons than “dumb” bombs. For the first time, the Predator unmanned aerial vehicle entered a combat zone. In Bosnia the C-17 transport first entered a major overseas operation. In Operation PROVIDE PROMISE, the Air Force had taken part in the longest sustained humanitarian airlift in history. Despite all the successes, the crisis in the former Yugoslavia was not yet over. Albanians within the Serbian province of Kosovo began to agitate for independence, and another conflict loomed before the end of the decade.<sup>27</sup> ■

## NOTES

1. Karl Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia: Strategic Causes, Effects, and Responses,” in *Deliberate Force: A Case Study in Effective Air Campaigning*, edited by Col. Robert C. Owen (Maxwell Air Force Base: Air University Press, 2000), pp. 7-9, 10.
2. *Ibid.*, pp 6, 10-12; Col. Robert C. Owen, USAF, “The Balkans Air Campaign Study: Part I,” *Airpower Journal*, vol. XI, no. 2 (Summer 1997), pp. 6, 8.
3. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” pp. 6, 11-12, 18; Col. Robert C. Owen, USAF, “The Balkans Air Campaign Study: Part I,” *Airpower Journal*, vol. XI, no. 2 (Summer 1997), p. 8.
4. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” pp. 13-15; Col. Robert C. Owen, USAF, “The Balkans Air Campaign Study: Part I,” *Airpower Journal*, vol. XI, no. 2 (Summer 1997), p. 8.
5. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” pp. 13-14; Col. Robert C. Owen, USAF, “The Balkans Air Campaign Study: Part I,” *Airpower Journal*, vol. XI, no. 2 (Summer 1997), p. 8; Frederick J. Shaw, Jr., “Crisis in Bosnia: Operation Provide Promise,” contained in *Short of War: Major USAF Contingency Operations*, edited by A. Timothy Warnock (Washington, D.C.: Air Force History and Museums Program, 2000), p. 198.
6. Shaw, Jr., “Crisis in Bosnia: Operation Provide Promise,” pp. 198-99; USAFE History, 1995, vol. I, p. xix.
7. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” pp. 18-19; Owen, USAF, “The Balkans Air Campaign Study: Part I,” *Airpower Journal*, vol. XI, no. 2 (Summer 1997), pp. 8-9.
8. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” p. 19; Col. Robert C. Owen, USAF, “The Balkans Air Campaign Study: Part I,” *Air Power Journal*, vol. XI, no. 2 (Summer 1997), p. 9; USAFE History, 1995, vol. I, p. xx.
9. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” p. 19; History, Air Force Special Operations Command, 1999, vol. I, p. 77.
10. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” p. 19.
11. USAFE History, 1995, vol. I, p. xxxvi.
12. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” p. 21; Philip Hadleman, *Combat in the Sky* (St. Paul, Minn.: MBI Publishing Company, 2003), p. 157; 86th Wing History, Jul 1993-Jun 1994, vol. I, pp. 32, 48.
13. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” p. 21.
14. USAFE History, 1994, vol. I, pp. xl-xli.
15. Mueller, “The Demise of Yugoslavia and the Destruction of Bosnia,” p. 24; USAFE History, 1995, vol. I, pp. xxi, xxiv.
16. “Air Refueling Ensures Global Reach and Global Power,” Air Mobility Command History Office historical report, January 2007, p. 22; “Refueling Highlights,” report published by Air Mobility Command History Office in 2008 and given to author on trip to Scott Air Force Base, Illinois; Air Mobility Command History, 1 Jan-31 Dec 1995, vol. I, pp. 110-111.
17. USAFE History, 1995, vol. I, p. xxv.
18. Col. Mark A. Bucknam, *Responsibility of Command* (Maxwell Air Force Base, Ala.: Air University Press, 2003), 273; USAFE History, 1995, vol. I, pp. xxvii, xxviii.
19. Bucknam, *Responsibility of Command*, pp. 274-75.
20. Owen, USAF, “The Balkans Air Campaign Study: Part I,” *Airpower Journal*, vol. XI, no. 2 (Summer 1997), p. 9; Bucknam, *Responsibility of Command*, pp. 274-75; USAFE History, 1995, vol. I, p. xxix; Shaw, “Crisis in Bosnia: Operation Provide Promise,” contained in *Short of War: Major USAF Contingency Operations*, edited by A. Timothy Warnock (Washington, D.C.: Air Force History and Museums Program, 2000), p. 205.
21. Bucknam, *Responsibility of Command*, pp. 274-77, 279-80, 292; USAFE History, 1995, vol. I, pp. xxviii, xxix; Shaw, “Crisis in Bosnia: Operation Provide Promise,” p. 205.
22. Bucknam, *Responsibility of Command*, pp. 293-97; USAFE History, 1995, vol. I, p. xxx.
23. Bucknam, *Responsibility of Command*, pp. 281-82, 284, 301.
24. Lt. Col Richard L. Sargent, “Aircraft Used in Deliberate Force,” “Weapons Used in Deliberate Force; and “Deliberate Force Combat Assessments,” in *Deliberate Force: A Case Study in Effective Air Campaigning* (Maxwell AFB, Ala.: Air University Press, 2000), pp. 207, 257, 334.
25. USAFE History, 1995, vol. I, pp. xxxi, xxxiii, xxxiv, xxxv, xxxvii, xxxviii, xxxix; Report by MSgt. Timothy M. Brown, “AFSOC in the Balkans: Provide Promise to Noble Anvil, 1992-1999” (Hurlburt Field, Fla.: Air Force Special Operations Command History Office, 2000) p. 19.
26. USAFE History, 1995, vol. I, pp. xl and xli; Shaw, “Crisis in Bosnia: Operation Provide Promise,” p. 207; “AFRC Historical Milestones,” from Air Force Reserve Command History Office.
27. Lt. Col. Richard L. Sargent, “Aircraft Used in Deliberate Force,” in *Deliberate Force: A Case Study in Effective Air Campaigning* (Maxwell AFB, Ala.: Air University Press, 2000), p. 199.





**'HEROIC THINGS':  
AIR FORCE  
SPECIAL TACTICS PERSONNEL  
AT MOGADISHU,  
OCTOBER 3-4, 1993**

Forrest L. Marion

(Overleaf) Aerial view, right side profile, of a US Marine UH-1N "Huey" helicopter as it flies over a Mogadishu residential area on a patrol mission to look for signs of hostilities. This mission is in direct support of Operation Restore Hope.

**AT THE END OF 1990,... MOGADISHU REVERTED FROM A ONCE-MODEST CITY TO A REPRESSIVE THIRD WORLD CAPITAL... SUFFERING FROM FOOD AND FUEL SHORTAGES AND THE BREAKDOWN OF LAW AND ORDER**

In 1969 Somalia's president was assassinated and replaced by a military dictator whose rule became increasingly repressive after a disastrous war with neighboring Ethiopia. At the end of 1990, in the face of clan-based civil warfare, the government collapsed. Mogadishu reverted from a once-modest city to a repressive Third World capital lacking electricity and suffering from food and fuel shortages and the breakdown of law and order. Food was traditionally a source of power in Somalia; competing clans fought over the control of food supplies and storehouses. A drought exacerbated the suffering. Private relief organizations could not prevent food theft by armed militias and the use of food as a political weapon. In 1990–91, an estimated 300,000 Somalis died from starvation.<sup>1</sup>

In April 1992, UN-approved relief operations began in Somalia. United Nations peacekeepers deployed and tried to oversee the distribution of food to those Somalis in dire need. In response to a worsening situation, in August the United States began airlifting food supplies from neighboring Kenya to remote airstrips in Somalia in hopes of avoiding supply "bottlenecks" in Mogadishu's port as well as clan militias and unscrupulous food convoy guards. Problems with food distribution continued, however, with lawless gangs stealing and hoarding.<sup>2</sup>

In December 1992, the United States (not the UN) began Operation Restore Hope under the direction of a U.S. Marine Corps-led Unified Task Force (UNITAF). Twenty-three countries contributed a total of 38,000 soldiers for the humanitarian operation. On December 9, U.S. Marine and Navy elements moved into Mogadishu unopposed. Within an hour of arrival, conventional USAF combat controllers began providing air traffic control and ground services at Mogadishu's all-but-abandoned airport. The UNITAF's mission was strictly to facilitate the delivery of food, not to disarm the traditionally heavily-armed Somali factions. Leading Somali warlords decided to cooperate, at least initially, with the UNITAF in establishing a relatively secure environment that facilitated relief efforts. The warlords included Gen. Muhammed Farah Aideded, a major figure in the former Somali government.<sup>3</sup>

Influenced perhaps by the presence of massive U.S. firepower and the leadership of Ambassador Robert B. Oakley, the U.S. envoy, Aideded and a rival warlord accepted a sort of cease-fire. By the end of 1992, U.S. special operations and allied elements began moving into the countryside outside

Mogadishu and the major cities to facilitate food deliveries and to garner intelligence for the UNITAF on potentially hostile clan militias. From February to May 1993, the mission proceeded without a major incident and succeeded in halting mass starvation in the country. Local markets returned to life, increasingly Somalis felt safe enough to travel, and initial efforts at restoring the Somali national police appeared favorable.<sup>4</sup>

In May 1993, the four-month-old William J. Clinton administration terminated Restore Hope and turned the Somalia mission over to the UN. Quickly, the situation deteriorated. The United States supported the UN operation with some 2,600 logistics personnel, 1,100 members of a quick reaction force (QRF), and a small special operations element. Retired U.S. Navy Admiral Jonathan Howe became the new U.S. envoy to Somalia.<sup>5</sup>

On June 5, in one of several coordinated attacks against UN/U.S. forces in Mogadishu, Aideded's militia ambushed and attacked a Pakistani unit, killing twenty-four. The next day the UN Security Council called for additional troops and equipment from member nations. The Pentagon's Joint Staff approved a U.S. Air Force deployment of four AC-130 gunships. Deploying on June 7 to an airport in neighboring Djibouti, then onward to Mogadishu, that month the gunships destroyed several weapons storage facilities and vehicle compounds of Aideded's and neutralized Radio Mogadishu. The AC-130s redeployed on July 14. Meanwhile, Admiral Howe inadvertently provided "folk hero" status to Aideded by declaring him an outlaw, naming him responsible for the recent attacks, and issuing a warrant (with reward) for his arrest.<sup>6</sup>

As violence mounted, the UN/U.S. focus shifted to one man, Aideded, leader of the largest of Somalia's major clans. A U.S. aviation task force comprised of various helicopters, snipers, and a scout platoon conducted continuous surveillance of Aideded, hoping to "snatch" him as his convoy passed through the city, but the warlord lowered his profile and was rarely seen. In August, U.S. defense secretary Les Aspin directed a joint special operations task force (JSOTF) to deploy to Somalia. "Task Force Ranger" (TF Ranger) was composed of U.S. Army Rangers from the 3d Battalion (75th Ranger Regiment), 10th Mountain Division soldiers, and a battalion from the 160th Special Operations Aviation Regiment (160 SOAR), and special mission unit personnel from the Army, Navy, and Air Force. A handful of Special Tactics men from the 24th Special Tactics Squadron (24 STS), pararescuemen

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*DISCLAIMER: "The conclusions and opinions expressed in this article are those of the author. They do not reflect the official position of the U.S. Government, Department of Defense, or the United States Air Force."*

Abandoned Mogadishu Street known as the "Green Line". The street was the dividing line between North and South Mogadishu, and the warring clans. This mission is in direct support of Operation Restore Hope.



and combat controllers, comprised the USAF element. United States Army Maj. Gen. William F. Garrison commanded Task Force Ranger. The Joint Special Operations Command (JSOC) commanding officer, General Garrison had served two tours in Southeast Asia, commanded "Delta Force," and was considered by several USAF special operators "the finest general officer I ever worked for." The majority of TF Ranger arrived in Mogadishu by August 28, its mission to capture Aideed and his key subordinates. That same day, 24 STS combat controller Dan Schilling participated in the first patrol in Mogadishu by TF Ranger personnel.<sup>7</sup>

The city's elevation was higher than the Mogadishu airfield complex, so the enemy enjoyed an excellent view of the airfield. Because the movement of aircraft and personnel could not be hidden, Garrison directed his crews to launch up to ten sorties a day, conditioning the Somalis to frequent flights. The Somalis would not know when an operational mission launched. Moreover, to keep the enemy off-balance Garrison ordered his men, accustomed to fighting only at night, to perform some raids by day, employing both helicopters and ground vehicles. The typical mission involved a special mission unit deploying by helicopter onto (or near) a target building in the city while other helicopters dropped Rangers to establish blocking forces at nearby positions that surrounded the target building, in some cases "kind of like a square." The special mission unit handled everything *inside* the square while the Rangers blocked anyone from entering from the outside. Back at the airfield, a Ranger QRF awaited, if needed. On September 21, TF Ranger captured one of Aideed's closest advisors, but, for the first time, U.S. forces encountered massed rocket-propelled grenade (RPG) fire from the Somalis.<sup>8</sup>

Meanwhile, on September 8, Somali militia attacked U.S. and Pakistani soldiers as they cleared roadblocks. The well-armed Somalis employed small arms, 106-mm. recoilless rifles, and RPGs and were suppressed only by extensive U.S./allied fire from ground and air assets. In the next two weeks,

two other roadblock-clearing teams were attacked. In one of the incidents, a Pakistani armored personnel carrier (APC) was lost; two soldiers died. On September 25, a U.S. Army H-60 Blackhawk helicopter was shot down by an RPG, killing three soldiers. A week later the same basic scenario occurred again. And on that occasion, the attack became part of the longest sustained firefight involving U.S. forces since Southeast Asia.<sup>9</sup>

The roughly 440-member task force included eleven members of the 24 STS: three pararescuemen, MSgt. Scotty Fales, SMSgt. Rusty Tanner, and TSgt. (later, MSgt.) Timothy A. "Tim" Wilkinson; and eight combat controllers, Ray Benjamin, Jeff Bray, John McGarry, Jack McMullen, Bob Rankin, Pat Rogers, Dan Schilling, and Dave Schnoor. The last-named, Master Sergeant Schnoor, participated in the first three raids in Mogadishu just after TF Ranger's deployment. Sent home for a family emergency, he was replaced by another combat controller, SSgt. Jeff Bray, only twenty-six.<sup>10</sup>

Bray became the highest-decorated combat controller in the battle of Mogadishu, earning the Silver Star. However, one pararescueman, Scotty Fales, thirty-five, also earned the Silver Star, the third-highest award for valor in combat. Fales' partner in Somalia, Tim (aka Wilky) Wilkinson, was a month older than his team leader. Wilkinson earned the Air Force Cross, the second-highest award for valor in combat.

On October 3, 1993, Fales, the PJ team leader, and Wilkinson were the primary pararescuemen supporting TF Ranger. A third 24 STS pararescueman, Rusty Tanner, was the senior enlisted man among the eleven deployed squadron members. He expected to work the casualty collection point in the event of wounded personnel, but the level of concern was not high; the Somalis "rarely hit anything." The missions so far had been "a piece of cake." Three of the six had been conducted in daylight, "without a hitch."<sup>11</sup>

In any case, Scotty Fales and, no doubt, others in TF Ranger wanted to "mix it up with the bad

**BECAUSE THE MOVEMENT OF AIRCRAFT AND PERSONNEL COULD NOT BE HIDDEN, GARRISON DIRECTED HIS CREWS TO LAUNCH UP TO TEN SORTIES A DAY, CONDITIONING THE SOMALIS TO FREQUENT FLIGHTS**

AT 1532 LOCAL TIME, A HELICOPTER-BORNE TEAM... DEPARTED THE AIRPORT AND THREE MINUTES LATER SWOOPED INTO THE AREA OF HAWLWADIG ROAD AND FAST-ROPE TO THE GROUND. JEFF BRAY WAS THE LONE COMBAT CONTROLLER, AND THE ONLY USAF MEMBER

guys.” On the morning of October 3, Fales went around the airfield on a self-imposed rucksack march for some physical training. Around midday, teammates retrieved Fales from his march when alerted to a possible mission involving a Humvee vehicle that struck a land mine in downtown Mogadishu, but another unit responded, and the mission was scrubbed. Disappointed, Fales, Wilkinson, Bray, and other task force members expected another long, boring afternoon. However, at 1350 local time, General Garrison received timely intelligence on the location of two of Aideed’s lieutenants on the “wanted” list. He approved a “snatch-and-grab” mission for mid-afternoon. The target location was a compound in the so-called “Black Sea” district of downtown Mogadishu. Because the Black Sea was the center of Aideed’s power base, a mission there represented, as *Black Hawk Down* author Mark Bowden wrote, “a thumb in the warlord’s eye.”<sup>12</sup>

At 1532 local time, a helicopter-borne team of U.S. Army special mission unit members accompanied by Rangers, SEALs, and 24 STS personnel departed the airport and three minutes later swooped into the area of Hawlwadig Road and fast-roped to the ground. Jeff Bray was the lone combat controller, and the only USAF member, with the main assault force. Fellow combat controller John McGarry accompanied the Rangers’ blocking force. Ray Benjamin flew on the command-and-control helicopter in a kind of communications-liaison role. Dan Schilling served as the combat controller for the exfiltration convoy that departed from the airfield at 1535 local. The convoy consisted of six or seven “Kevlar [armored] Humvees,” two unarmored Humvees, and three flatbed five-ton trucks. The plan called for the blocking force to secure the perimeter around the compound where Aideed’s men stayed, while the assault team entered the structure, located, identified, and secured the warlord’s lieutenants. After the “hit,” all U.S. personnel and the Somalis would be transported back to the airport in the convoy’s vehicles. Schilling recalled that very shortly after the blocking-and-assault force’s lift-off, the convoy departed for its destination next to the seven-story Olympic Hotel on Hawlwadig Road. Only minutes later, however, TF Ranger began taking fire from the Somalis. In fact, the fire was heavier than on previous missions, and it quickly grew worse. Even prior to its arrival at the target building, the exfiltration convoy experienced heavy fire, too. While parked outside the target building, an RPG disabled one of the five-ton flatbed trucks.<sup>13</sup>

Inside the compound, the assault team discovered and captured not two, but twenty-four, Somalis, stunning, handcuffing, and blindfolding them in preparation for transport. Thirty minutes after the start of the operation, the mission still appeared manageable despite several casualties and the disabled truck. One Ranger had fallen out of his helicopter and was badly injured. He and several other casualties expected to be evacuated to the airport by three of the convoy’s Humvees. Assault

team members were busy loading the Somalis into the remaining convoy vehicles when an RPG slammed into one of the H-60s overhead, call sign “Super 61.” Out of control, Super 61 crashed three blocks to the east of the target building, killing both pilots. Mark Bowden described the helicopter coming “to rest in a narrow alley on its side against a stone wall in a cloud of dust.” The operators and crew chiefs in the cabin, however, survived the impact. Ray Benjamin called Bray from the command-and-control helicopter and directed him to move to the crash site. In the confusion that followed, Bray and the assault team maintained adequate communications with only one of the four groups of Rangers in the blocking positions, John McGarry’s group. The UHF radio frequency used may have contributed to the confusion. The frequency was 242.6, only 400 megahertz from the international emergency frequency of 243.0. In any case the static was terrible. Soon, Bray’s and McGarry’s teams joined together while they moved under fire toward Super 61’s location several blocks away. They intended to assist the CSAR team in securing the site and in rescuing or recovering their downed teammates. Many of the men, including Bray, soon regretted they had brought fewer than one-half the normal number of thirty-round clips for their weapons. The Rangers and assaulters sustained more casualties during the movement to Super 61. Meanwhile, the convoy was instructed to move to “61’s” site, but lacking clear directions—the location was several blocks north and east—it had great difficulty doing so in the developing urban chaos.<sup>14</sup>

Combat controller Dan Schilling rose to the occasion. The ground reaction force lacked a pararescueman, so Schilling served as both the ground-air communicator for the ground force as well as its unofficial medic. As casualties mounted from Somali small arms fire, Schilling treated a number of wounded including his ground force commander among several other Rangers. Schilling was himself cut by flying glass and sustained a minor foot injury. More significant, however, he took the initiative to keep the convoy moving toward Super 61’s site when his commander appeared temporarily dazed and slow to respond. Making matters worse, at about that time the second Black Hawk, Super 64, was shot down less than a mile to the south of Super 61’s location. Finally, frustrated by the inability to obtain clear instructions on which direction to move, and with communications breaking down, Schilling switched to a different frequency to talk with the helos. Receiving vectors from one of the helos overhead, Schilling realized too late that the instructions were taking the convoy to the *second* crash site, not the first: he had not specified *which crash site* in his request. Realizing the error, Schilling, now temporarily leading the convoy, recovered and redirected the convoy to Super 61’s site. But with the combination of mounting casualties from intense Somali fire, winding streets and narrow alleys, and damage to the convoy’s vehicles, they never made it. Soon, the ground



Michael Durant's helicopter over Mogadishu. Mike Goodale rode on this one.

**WHILE THE PJS WERE STILL ON THE ROPES, PERHAPS FORTY FEET ABOVE GROUND, THEIR HELICOPTER, SUPER 68, TOOK AN RPG HIT**

force commander reassumed control of the convoy and headed for the airfield. Schilling's Humvee brought up the rear of the convoy which, carrying most of the dead and wounded, limped back to the airfield by about 1810.<sup>15</sup>

Meanwhile, aboard the CSAR Black Hawk flying over the city, PJs Scotty Fales and Tim Wilkinson and combat controller Pat Rogers were part of the rescue team tightly packed in the helo's cabin. At 1620 local, Fales witnessed the crash of the first helicopter, Super 61. He recalled, "I saw it hit in a big huge plume of dust and it hit the ground and came up. I knew right away . . . that we were going to get committed here shortly."<sup>16</sup>

He was right. Mike Durant, the pilot of Super 64 (the second H-60 downed by the Somalis twenty minutes after the first loss), wrote, "In those few seconds, everything changed. The radios, which up till now had hissed the occasional code word or updates, went crazy. . . we'd all prepared for the possibility of a bird going down, but the timing and location were about as bad as they could be." Momentarily, Dan Jollata, the pilot of the CSAR bird, Super 68, came on the radio and announced, as Fales remembered, "Hey, they are calling us in and it's going to be a fast rope, fellas. Does everybody have their fast rope gloves on . . . [is everyone] buckled and ready to go?"<sup>17</sup>

The one-minute call came, then about fifteen seconds later the call for ropes. Fales noted the helicopter came into a hover in the middle of the street and short of the wrecked Super 61, preventing him from seeing it. The Rangers began their fast rope exit from the Black Hawk's left and right sides. Then "Tim chucked out the . . . big CSAR bags and then . . . Tim and I hit the ropes and down we went," Fales recounted. While the PJs were still on the ropes, perhaps forty feet above ground, their helicopter, Super 68, took an RPG hit. Seeing the aircraft's parts flying, Fales "darn near let go of the rope because I wanted to get from underneath" the helo in case it came down. Bowden described the moments that followed:

*[The pilot, Dan] Jollata could hear his rotor blades whistling. Shrapnel from the blast had peppered*

*them with holes. The aircraft slobbered from side to side. . . Instinct and training both dictated that he move out, fast, but Jollata eased the Black Hawk back down to a hover for the remaining seconds Wilkinson and Fales needed to finish sliding down the ropes.*<sup>18</sup>

With superb airmanship, Jollata nursed Super 68 to a safe landing near the airport.<sup>19</sup>

Once on the ground, the men were in a "brownout" from the helicopter's rotor wash which prior missions taught them to expect. "You could hardly see your hands in front of your face," said Fales. When Super 68 pulled power, staggering back to the airfield, the dust began to clear. The helicopter had aligned with the road, facing north, for the team's fast rope insertion. By the time several men, including Fales, entered a courtyard on the left side of the street and exchanged some gunfire, the brownout dissipated. Other CSAR team members were on the right side of the street, and both groups began working their way north, looking for the wreckage of Super 61. Shortly they came to an alley on their left and spotted the helicopter. Fales thought "it looked like a giant boulder," all balled up. Alerting their teammates on the intrateam radios, Fales' group entered the alley and started setting up a security perimeter around what remained of the aircraft. They were the first Americans on the scene besides the downed Black Hawk crewmembers. A survivor, dazed, tried unsuccessfully to pull one of the pilots out of the cockpit. Unfortunately, the pilot, Cliff Wolcott, had expired. Fales moved to the front of the helicopter to see if anyone was there and was starting to come around the other side when he was struck by a bullet in the back of his left leg. Immediately, he "rolled back behind a pile of rocks and tried to shield" himself. Seconds later, Tim Wilkinson and his group came into view. For most of the next fourteen hours, he and Fales remained within earshot and eyesight of one another as they did their best to care for wounded comrades while fighting for their lives.<sup>20</sup>

Fales' wound was "an all-muscle hit" for which he "did just a quick bandage job pushing some 'meat' back in, and I got up by myself." Wilkinson came over without realizing his team leader was hit, though he saw him limping. Fales and a Special Forces medic moved to the tail of the helicopter and there set up the "choke point." Fales described, "At that point it was a shoot-out . . . it was getting the guys out of the wreck and finding the guys that [they thought] were missing." Meanwhile, Wilkinson and an Army medic went back inside the wreckage and managed to pull out the crew chief from the cabin. In the course of rescuing the crew chief, the rescuers took shrapnel hits, Wilkinson in the face and lower arm, the Army medic in the hand. Discovering shortly that no one was missing, they "hunkered down" to assess the situation.<sup>21</sup>

Basically, there were two parts to the operation taking place simultaneously in the vicinity of Super 61, each of which had its own intrateam radio net. The outer perimeter (security) element managed



Pararescueman MSgt. Scotty Fales.

**ONE OF THE "DYNAMICS" IN THE FIGHT WAS THAT "THE SOMALIS AT THAT POINT ARE NOSE-TO-NOSE WITH PROBABLY THE MOST TRAINED, FIRE-DISCIPLINED, ACCURATE-SHOOTING GROUP OF AMERICAN FIGHTERS THAT YOU COULD EVER GO UP AGAINST**

the fight with the Somalis, "a nose-to-nose kind of a gun battle," as Fales put it. The CSAR element handled the inner perimeter to include getting everyone out of the wreckage and treating the casualties. Fales worked both radio nets. The pararescueman noted that whereas the tactical doctrine for such a situation was to seize a nearby building to provide some cover, a place to shelter casualties, and a command post, the ten-foot high stone walls surrounding the alley made that option less practicable. Although they could have moved from the alley back out into the street, which was actually just a wide dirt path, "we had bad guys all around us, so moving out into the street was just not an option at that time. The best thing for us to do was defend the crash [site] right where we were." The PJs grabbed Kevlar pads from inside the cabin and set them up to provide some cover.<sup>22</sup>

While treating casualties by the tail of the aircraft, Fales heard a call for a medic from across the street in the courtyard where Bray's group was situated. Wounded and in no condition to respond himself, he glanced at his fellow PJ and said, "They need a medic, Wilky." *Airman* magazine described what happened next:

*Wilkinson grabbed his medical ruck sack, waited for the Rangers to lay down cover fire, then dashed up the narrow alley. A hail of bullets, shrapnel and RPGs greeted Wilkinson as he raced some 45 meters across the open intersection. 'I felt like I was moving in slow motion,' he said. . . . 'these boots weigh a thousand pounds' [he thought]. Safely across the deadly intersection, Wilkinson caught his breath, then assisted in dragging the wounded off Freedom Road. Inside the 'safe' confines of the casualty collection point, Wilkinson assessed the medical situation. Four wounded, one critical.<sup>23</sup>*

Realizing he needed additional medical gear, he called to Fales on his intrateam radio and confirmed the supplies were available. Running back across the street, Wilkinson collected the gear and then returned, crossing the opening for a third time. Later, an Army Ranger credited Wilkinson with "repeated acts of heroism [that] saved the lives of at least four soldiers." In his self-deprecating way, Wilkinson joked that probably the reason he wasn't hit was that the Somalis 'led' him too much, being deceived by his exaggerated arm-swing and not realizing *just how slow* a runner he was!<sup>24</sup>

Surprisingly, there were humorous moments in the midst of the grave situation. At one point, Fales and Wilkinson were sitting behind the tail rotor section of the crashed H-60 while bullets repeatedly struck the tail section. Fales recalled, "It sounds like a hammer hitting a big piece of metal . . . bink, bink, bink. . . . I am looking at these holes opening up in this aluminum and Tim looks at me and [recalling Steve Martin in the movie, "The Jerk"] goes, 'It's the cans, man, it's the cans. Get away from the cans!'" Although many scenes in war films are not much like the real thing, thanks to Tim Wilkinson, the humor of "the cans" from *The Jerk* found its way into the battle of Mogadishu. Reflecting on his experience, Wilkinson remarked on the practice of "gallows humor," saying, "It's funny what comes to your mind at times, it truly is. . . . I guess people really do talk like that in critical situations, who would have thought?"<sup>25</sup>

Although the Somalis enjoyed the advantages of numbers, familiarity with the urban terrain, and a sort of moral strength from believing—erroneously from the American perspective—they were defending their homes against foreign invaders, their fire was mostly poorly executed. Fales observed one of the "dynamics" in the fight was that "the Somalis at that point are nose-to-nose with probably the most trained, fire-disciplined, accurate-shooting group of American fighters that you could ever go up against. So if a bad guy stuck his head up, he would generally get it blown off." So the Somalis mostly remained hidden, spraying their fire inaccurately. In some cases, though, Somalis found good sniping positions, especially on the roofs of buildings. To a degree, the urban melee in Mogadishu, Somalia, was reminiscent of Arnhem, Holland, in September 1944. As Cornelius Ryan described in his classic work, *A Bridge Too Far*, "This strange, deadly battle now devastating the outskirts of the city barely two miles from the Arnhem bridge seemed to have no plan or strategy. Like all street fighting, it had become one massive, fierce, man-to-man encounter in a checkerboard of streets." Although in Mogadishu the Americans' adversary was far from a professional force and the scale of the fighting was miniscule in comparison, nonetheless, the urban battle in 1993 was perhaps the closest parallel to Arnhem in 1944 that U.S. forces had experienced since World War II.<sup>26</sup>

The fighting continued uninterrupted until dark. When Super 61 crashed, it brought down with it a portion of a mud-and-stone wall that offered an



Pararescueman TSgt.  
Timothy A. "Tim"  
Wilkinson.

**I WILL ALWAYS REMEMBER THE CALM DEMEANOR AND PROFESSIONALISM [BRAY] SHOWED OVER THE RADIO EVEN AS I HEARD BULLETS HITTING VERY NEAR HIS POSITION**

opening into a building. During daylight, several Rangers were wounded trying to get through the hole and into the building for cover. But once it was dark, the CSAR team moved into the building. Fales sensed they were in one of the city's middle-class neighborhoods, definitely a better area than the "tin-shanty hovels" of the Black Sea district. Also by that time, Fales' injured leg had gone from hurting "real bad" to numbness, and he anticipated an amputation if he survived the ongoing ordeal. Thankfully, the bullet had not hit bone, only muscle. His teammates wanted him to lie down on a stretcher and rest. Fales refused, responding, "Oh, no . . . I am running on that baby all night tonight!"<sup>27</sup>

Inside the building, Fales and a Ranger considered their options. The room they were in was small. They had casualties, including several dead, with them. Ultimately, the team wanted to find another access point to the street. The Ranger carried a demolition load of "C4." Agreeing on a likely spot to cut a hole in the wall, he arranged the C4 on one of the walls and pulled the igniter, blowing away "a beautiful archway door," as Fales described. Unfortunately, it ran out into another courtyard which offered no better access than what they already had. Trying another wall, his partner blew a second hole. This time, the opening led into another house that, in turn, opened to the street. Relocating to that house, the Americans encountered a frightened Somali family all of whom they flex-cuffed and put down in a corner. Fales recalled it was perhaps 2100 or 2200 by then and that for about an hour things settled down because the Somalis couldn't tell the whereabouts of the Americans. The team had radio contact with the U.S./UN-manned relief convoy that was then forming. Encountering several delays, the convoy, including combat controller Dan Schilling, did not depart the new port facility just east of the airport until after 2300.<sup>28</sup>

The convoy's arrival came not a moment too soon. For a time, the Somalis fired RPGs into the

building. The firing eventually quieted down, relatively speaking, no doubt due in part to a complete lack of night vision devices on the Somali side. Not that most U.S. personnel had anything better. None had expected the mission to continue after dark, so task force members left their personal night vision goggles (NVGs) behind. Scotty Fales recalled, though, that the helicopters generally carried NVGs. Operators retrieved them from Super 61 and distributed them among the Rangers on the outer security perimeter. In his after-action report, Fales emphasized, "Always take your goggles, always." In addition to not having NVGs, combat controller Jeff Bray noted that by the time darkness set in they were "really in trouble," out of water and low on ammo.<sup>29</sup>

In any case, the downturn in the fighting allowed Fales and several others to tend to the wounded. But, at one point the Somalis emplaced a 12.7-mm. machine gun across the street and began shooting into the room where some of the Americans were sheltered. Bray called in a "Danger Close" AH-6 Little Bird gunship strike that took out the machine gun. "That missile hit ten yards from us," said Fales, commenting on the "phenomenal job" done by Bray and fellow combat controller Pat Rogers. Bray was so close that spent shell casings from the helicopter gunship rained down on him, burning the back of his neck. An Army Chief Warrant Officer, CW2 Paul White, agreed with Fales' assessment, recalling, "I will always remember the calm demeanor and professionalism [Bray] showed over the radio even as I heard bullets hitting very near his position each time he keyed his radio microphone." Even so, there was at least one moment when Jeff needed some reassurance. Because Wilkinson established the triage site in Bray's area, the two of them saw a lot of each other that night. "It was always good to see Tim's face because we could always make each other laugh a little bit," recalled Bray. But as Bray prepared for one (of at least two) Danger Close air strikes, sensing that his friend needed a lift, Tim came over, patted Jeff on the back and offered a word of encouragement. Bray remembered, "Then he went back in and started treating people." Soon, the sounds of helicopter minigun rounds hitting their targets told Bray what he needed to know. He contacted the gunships and called, "Cleared hot for rockets." The helicopters' rockets nearly took down an entire wall on their next pass.<sup>30</sup>

Jeff Bray was the only USAF member among the main assault force. Without his combat controller's expertise, the task force members caught in the Black Sea almost certainly would have suffered greater casualties at the hands of the Somalis. The Americans might not have made it out alive. Using the call sign, "Kilo 64 Charlie," Bray remained in contact with helicopter gunships throughout the night, coordinating their strikes against targets, in some cases, only yards away from the "friendlies." After some time of attempting to follow the established formal procedures for calling in strikes, Bray finally decided to improvise. In an urban environ-

**A HUGE CHALLENGE WAS HOW TO TALK THE HELICOPTERS... ONTO THE TARGETS WHILE MINIMIZING THE RISK OF A [FRATRICIDE] INCIDENT**

ment, “That stuff wasn’t working and so finally I said, ‘Hey, listen, let’s just talk like I am talking to you on the telephone. You tell me what you need to know and that is what I am going to tell you . . . we won’t worry about this formal stuff anymore because it just wasn’t working.’” Formal or informal, the bottom line on Bray’s work that night was what one Air Force author described as talking “steel onto the targets.”<sup>31</sup>

Bray experienced particular stress, no doubt, when after having talked with one helicopter flight for an hour to get them oriented to the exact locations of the Americans and Somalis, the aircraft were forced to depart for fuel. Thankfully, the next flight was monitoring the conversation and didn’t take long to become familiar with the urban battlefield below. It helped that another helicopter conducted an airdrop at Bray’s location, delivering two kit bags full of ammo, NVGs, and medical gear. Flying “right off the deck” to ensure an accurate delivery, the helicopter was badly damaged by Somali ground fire and barely made it to an emergency landing site. Now Bray had the NVGs allowing him to see what the gunships he was talking to saw.<sup>32</sup>

A huge challenge was how to talk the helicopters, mainly AH-6 Little Bird gunships, onto the targets while minimizing the risk of a “blue-on-blue” (i.e., fratricide) incident. Bray devised a system that was simple, creative, and effective. During the daylight he had drawn a simple dirt map on the ground to keep track of the four groups of soldiers in his vicinity. No one had moved. After dark, he came up with the idea of placing infrared (IR) strobe lights—most of the operators carried them on their helmets or persons—on the rooftop where each group was located: one strobe with group 1, two strobes with group 2, and so on. It took over an hour for Bray to collect the needed strobes, get them to each of the four groups, and ensure they were properly placed on the rooftops where the helicopter pilots could see them. Then turning on the IR laser beam sighted to his weapon, he pointed it straight up into the air and asked one of the helicopter crews if it was visible. It was. Better yet, it stood out clearly when viewed from the air. With the locations of the four groups of Americans marked by IR strobes, Bray could point his weapon’s laser at a target and call for fire with strong assurance that the gunships could see exactly where the four groups of Americans were positioned, avoiding a blue-on-blue incident.<sup>33</sup>

As Bray later described, of eight total gunships two Little Birds were on-scene at a time. One conducted a run-in while the other provided security “overwatch.” Then the two swapped roles. At the same time, two other AH-6s refueled, two rearmed, and two were enroute to the battle area. Bray estimated the helicopter gunships expended close to seventy rockets, and tens of thousands of minigun rounds, just in his immediate vicinity.<sup>34</sup>

Meanwhile, shortly before midnight, a mile-long multinational relief convoy set out from the new port facility at the east end of the airfield. Led by four Pakistani tanks and including twenty-eight Malaysian APCs, U.S. Humvees, and perhaps other

vehicles, mainly the 10th Mountain Division’s soldiers manned the convoy. Helicopters provided security overhead. In the darkness and confusion, two Malaysian APCs took a wrong turn and were ambushed but, later, rescued. Finally, after a series of “fits and starts,” at 0155 local part of the convoy reached the first Black Hawk crash site (Super 61’s, the northern site). The convoy remained together until reaching a road intersection situated between the two crash sites. There, some of the APCs turned north to the first crash site, while some headed south to the second crash site. Combat controller Dan Schilling remained with a third convoy element that secured the intersection itself. To the Rangers and assault team members at the northern site who survived the hours of darkness on their own, the sight of the vehicles was “an awesome relief, to look up and see your guys coming to get you,” as Jeff Bray recalled. However, while still under sporadic fire, the force remained in place for more than three hours as the Rangers, true to their creed, labored to extract the body of pilot Cliff Wolcott. Following extraction of Wolcott’s remains and setting destructive charges on the aircraft wreckage, the northern crash site convoy element—their wounded riding in APCs—departed to link up with the rest of the convoy at the intersection a short distance away.<sup>35</sup>

When the now-rejoined convoy, including the survivors of the task force’s original vehicles, began to move, Schilling’s vehicle was the last in line. The convoy proceeded to the Pakistani stadium, arriving at 0630 local time. Although the stadium was in the opposite direction from the airport, it provided a closer area of relative security where casualties could be treated. The location was also suitable for evacuation by helicopter. The decision to direct the convoy to the stadium seemed tactically shrewd, as undoubtedly some of the Somalis still interested in fighting expected the convoy to return along the same route, that is, back to the airfield. While most personnel rode to the stadium in the APCs, about fifteen, including Bray, walked out. Continuing to control air strikes conducted by several Army helicopters as he moved, Bray walked and at times ran backwards behind the last vehicle while directing the Little Birds. The gunships flew directly overhead at low altitude, covering the movement to the soccer stadium, which was perhaps six blocks away. Shortly after 0800 local time, task force helicopters began transporting the survivors from the stadium to the airport. Later that day, Bray and the pilots he controlled during the battle met in person in an emotional gathering.<sup>36</sup>

Fales’ group remained in place until the arrival of the relief convoy. As casualties were loaded into the APCs shortly after daylight on October 4, Fales boarded one on his own strength. But with the effects of adrenaline finally wearing off, he gave in to shock, fatigue, and dehydration. Teammates administered IVs and morphine to Fales prior to his evacuation.<sup>37</sup>

On October 3 and 4, Somali fighters killed eighteen U.S. troops and wounded at least seventy-nine.



Combat controller, SSgt. Jeff Bray.

**THE  
MOGADISHU  
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[TWO SOL-  
DIERS]  
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MEDAL OF  
HONOR  
(POSTHU-  
MOUSLY)**

Allied losses included two Malaysian soldiers killed and seven wounded, and two Pakistanis wounded. Estimates of Somali casualties ranged between 500 and up to three times that number. The days following the battle were a mix of pain and relief. On October 6, a Somali-fired mortar struck the hangar area at the airport, killing one and wounding twelve.<sup>38</sup>

On October 14, eleven days after the battle, warlord Aideed released Mike Durant, the 160 SOAR pilot who survived the crash of Super 64. Despite his grievous injuries, in time he recuperated and returned to flying helicopters. One week later, Task Force Ranger redeployed stateside. The Clinton administration decided to withdraw from Somalia. Although the impact was impossible to quantify, the U.S. public's shock and revulsion at seeing dead U.S. soldiers dragged through the streets of Mogadishu contributed to the decision in Washington. Undoubtedly, many special operators shared the feelings of a twenty-two year-old Ranger who wrote, "We had a job to do, but we were pulled out."<sup>39</sup>

Meanwhile, the administration took heavy criticism for defense secretary Aspin's decision in late September to deny the U.S. Central Command's request for M-1 Abrams tanks and M-2 Bradley infantry fighting vehicles (IFVs). Congressional testimony by senior officers made it clear the requested tanks and IFVs likely would have resulted in fewer casualties in Mogadishu than the number suffered. Lacking the U.S. vehicles, the relief convoys relied on Pakistani tanks and Malaysian armored personnel carriers. In mid-December, President Clinton announced that Secretary Aspin would be stepping down from the

Pentagon. In February 1994, an *Air Force Times* editorial expressed the desire of many U.S. citizens to withdraw from Somalia. In a piece entitled, "No reason to be in Somalia," Fred Reed wrote, "The original mission has been accomplished in Somalia. Starvation has ceased. But now what?" By the end of March 1994, most U.S. troops departed Somalia, although several hundred Marines remained offshore in case an evacuation of U.S. citizens should be required. By early March 1995, all remaining UN/U.S. personnel left the country, which reverted to warlordism and chaos.<sup>40</sup>

As noted in various accounts, the Mogadishu battle included numerous acts of heroism. Two Special Forces' soldiers, Gary Gordon and Randall Shughart, who defended the wounded Mike Durant at the site of his crashed helicopter at the cost of their own lives, earned the Medal of Honor (posthumous). However, the small contingent from the 24th Special Tactics Squadron also garnered recognition. TSgt. Tim Wilkinson earned the Air Force Cross, the nation's second-highest medal for valor. Wilkinson commented, "Everybody was doing heroic things. Nobody quit. Nobody whined. Nobody shirked their duty." Wilky's team leader, MSgt. Scotty Fales, and combat controller SSgt. Jeff Bray, earned Silver Stars for gallantry. Three other combat controllers, MSgt. Jack McMullen, Sgt. Pat Rogers, and SSgt. Dan Schilling, received the Bronze Star with Valor.<sup>41</sup>

After the Grenada operation in 1983, the Military Airlift Command/Twenty-Third Air Force's leadership merged PJ and CCT specialties with the expectation of achieving synergies on the battlefield, particularly respecting the treatment of battlefield trauma sustained by special operators. In short, Mogadishu vindicated that vision to a degree even greater than in Panama in 1989. In 1995, a *Joint Forces Quarterly* article analyzing recent doctrinal issues pointed out that "Somalia reveals that many institutional mistakes are corrected (when the chips really *are* down) only through extraordinary efforts by junior officers, NCOs, and most of all by individual soldiers, sailors, marines, and airmen." The performance of Special Tactics Airmen in the battle of Mogadishu was "extraordinary," indeed. In the U.S. military's longest continuous firefight since Southeast Asia two decades earlier, both the concept of Special Tactics, and its men, had been tested and proven under excruciating stresses.<sup>42</sup> ■

## NOTES

1. [Richard W. Stewart], *The United States Army in Somalia, 1992-1994* (Washington, D.C.: Center of Military History, [2002]), pp 5-6; at <http://www.history.army.mil/brochures/Somalia/Somalia.htm> (Oct 19, 2010). For background on Somalia, see I. M. Lewis, *A Modern History of the Somali, Nation and State in the Horn of Africa* (Oxford: James Currey Ltd., 2002 [1965]).
2. *United States Army in Somalia, 1992-1994*, pp 7-8;

at [www.history.army.mil/brochures/Somalia/Somalia.htm](http://www.history.army.mil/brochures/Somalia/Somalia.htm) (Oct 19, 2010); Frederick H. Fleitz, Jr., *Peacekeeping Fiascoes of the 1990s: Causes, Solutions, and U.S. Interests* (Westport, Conn., and London: Praeger, 2002), pp 130-31. This initial effort became known as UNOSOM I (United Nations Operations in Somalia) to distinguish it from its successor, UNOSOM II. Soldiers from Fort Campbell's 5th Special Forces Group (Airborne) (SFG-A) accompanied many of the relief

flights and began gathering intelligence on the areas they observed.

3. *United States Army in Somalia*, pp 9-10; Timothy P. Barela, "Home is Where the Havoc Is," *Airman*, Mar 1993, pp 6-8; Fleitz, *Peacekeeping Fiascoes*, p 131. Aware that the contingency would be left for his successor to wrap-up, President Bush sought and obtained the support of President-elect William J. Clinton prior to the start of Operation Restore Hope.

4. *United States Army in Somalia*, pp 10-13.

5. *United States Army in Somalia*, pp 14-16. In March 1993, the UN passed a resolution authorizing military forces to conduct peace enforcement or peace-making in Somalia (under Chapter VII of its charter) rather than peacekeeping (under Chapter VI)—an important distinction.

6. *United States Army in Somalia*, p 16; Walter S. Poole, *The Effort to Save Somalia, August 1992-March 1994* (Washington, D.C.: Joint History Office, 2005), pp 41-45; Fleitz, *Peacekeeping Fiascoes*, pp 131-33; Mark Bowden, *Black Hawk Down, A Story of Modern War* (New York: Atlantic Monthly Press, 1999), p 94; History, Air Force Special Operations Command [AFSOC], Jan-Dec 1993, vol 1, pp 113-22, under AFHRA call no. K317.01. The two U.S. government publications above listed the number of Pakistani soldiers killed in the ambush as twenty-four, while Fleitz listed twenty-five. Regarding the four AC-130 gunships supporting United Nations/U.S. operations in Somalia, AFSOC's documentation indicated the aircraft flew from either Djibouti or Mogadishu at various times. Apparently, between July 14 and early October 1993, however, there were no gunships in the area for supporting the operations in Mogadishu (at least one request in September was turned down by Secretary of Defense Aspin). Following the Mogadishu battle on October 3-4, a total of four gunships deployed within days. Also on the 17th, in a "search and arrest mission" armed Somalis killed five Moroccan soldiers and wounded thirty-nine.

7. *United States Army in Somalia*, pp 16-18; Poole, *Effort to Save Somalia*, pp 44-45; John T. Carney, Jr. and Benjamin F. Schemmer, *No Room for Error: The Covert Operations of America's Special Tactics Units from Iran to Afghanistan* (New York: Ballantine Books, 2002), pp 245-48; Matt Eversmann and Dan Schilling, eds, *The Battle of Mogadishu: Firsthand Accounts from the Men of Task Force Ranger* (New York: Ballantine Books, 2004), pp 161, 165-66; Bowden, *Black Hawk Down*, pp 23-24; author's discussions with several USAF members of TF Ranger. Garrison's JSOTF reported directly to the U.S. Central Command rather than to UNOSOM II; see *United States Army in Somalia*, p 18. Following one poorly-coordinated operation in which an unlisted UN compound was hit and some workers temporarily detained, General Garrison began coordinating TF Ranger's activities with UNOSOM II despite not being under UNOSOM's command-and-control structure.

8. *United States Army in Somalia*, p 18; Poole, *Effort to Save Somalia*, p 56; Intvw, F. L. Marion, oral historian, AFHRA, with MSgt Scott C. Fales (USAF, Ret), Jul 13, 2007; Intvw, F. L. Marion, oral historian, AFHRA, with Mr. Jeffrey W. Bray (former SSgt., USAF, separated), Jul 12, 2007.

9. *United States Army in Somalia*, pp 18-19; Carney, *No Room for Error*, p 245.

10. Carney, *No Room for Error*, pp 247-49, 259. Different sources listed the number of TF Ranger's personnel between 440 and 450. Bowden stated 450 men

were in the task force; see his *Black Hawk Down*, p 96. Approximately two hundred members participated in the action on October 3-4, 1993; see Philip F. Rhodes, "No Time For Fear," *Airman*, May 1994, p 24.

11. Intvw, F. L. Marion, oral historian, AFHRA, with MSgt Timothy A. Wilkinson (USAF, Ret), Mar 6, 2007; Bowden, *Black Hawk Down*, pp 21, 38.

12. Fales intvw; Carney, *No Room for Error*, p 249; Rhodes, "No Time For Fear," pp 23-24; block quote from Bowden, *Black Hawk Down*, p 33; see also p 21. The time of 1350 local was contained in excerpted material from Memo, "After Action Report for TASK FORCE RANGER Operations in Support of UNOSOM II; 22 August - 25 October 1993 (U)," Jan 5, 1994.

13. *United States Army in Somalia*, p 19; Poole, *Effort to Save Somalia*, p 56; Eversmann and Schilling, *Battle of Mogadishu*, pp 171, 173 [Dan Schilling recalled seven Kevlar Humvees]; Fales intvw (information used is Unclassified); Bray intvw; Carney, *No Room for Error*, p 249; Bowden, *Black Hawk Down*, pp 21, 99-100; History, AFSOC, Jan-Dec 1993, vol 1, p 125. MG William F. Garrison (USA, Ret), Task Force Ranger's Commanding Officer, indicated that to the best of his recollection all the helicopters (including the CSAR helo, Super-68) launched at the same time (telecon, MG William F. Garrison (USA, Ret) with Marion, Oct 19, 2010. Garrison's recollection was supported by Sgt. John Belman, a Ranger who served as part of the CSAR team. Belman wrote, "We knew CSAR would be going up in the air along with the other Black Hawks and Little Birds, all in squadron formation" (Eversmann and Schilling, *Battle of Mogadishu*, p 108). Note that the AFSOC history listed an incorrect time for the start of the mission, stating that Bray began the mission (with the assaulters) at approximately 1500 local (p 125). Actual time was 1532 local. However, the AFSOC history was much closer when it stated that Wilkinson (and Super-68's team, including Fales) responded to the first downed Black Hawk (Super-61) at 1620 hours (p 123). Actual time was most likely 1628 to 1630 local - the crash of Super-61 occurred at 1620. The times of 1532, 1535, and 1620 local were contained in excerpted material from Memo, "After Action Report for TASK FORCE RANGER Operations in Support of UNOSOM II; 22 August - 25 October 1993 (U)," Jan 5, 1994.

14. *United States Army in Somalia*, p 19; Poole, *Effort to Save Somalia*, p 56; Fales intvw; Bray intvw; Bowden, *Black Hawk Down*, pp 83, 100; Michael J. Durant with Steven Hartov, *In the Company of Heroes* (New York: G. P. Putnam's Sons, 2003), pp 18-19; History, AFSOC, Jan-Dec 1993, vol 1, p 125. On October 3, 1993, the CSAR package was cut from between fifteen and seventeen Rangers to about twelve. PJs were cut from three to two, plus one combat controller (see Fales interview). Bray normally carried eight to ten clips, but on October 3 he carried only about four. An after-action item emphasized the lesson: never go "light" on ammunition, a maxim that combat controller Dan Schilling also emphasized (see Bray interview; Eversmann and Schilling, *Battle of Mogadishu*, pp 181, 194).

15. Eversmann and Schilling, *Battle of Mogadishu*, pp 175-92; quote on pp 185-86; *United States Army in Somalia*, p 21; Bowden, *Black Hawk Down*, pp 122-25. For fuller accounts of the convoys, see Bowden's *Black Hawk Down* and Eversmann and Schilling's *Battle of Mogadishu*.

16. Fales intvw. My evidence indicated the CSAR helo, Super-68, launched at the same time as the assault-

and blocking-force-helicopters; telecon, MG William F. Garrison (USA, Ret) with Marion, Oct 19, 2010; Sgt. John Belman's comments in Eversmann and Schilling, *Battle of Mogadishu*, p 108.

17. Durant, *In the Company of Heroes*, pp 19-20; Bowden, *Black Hawk Down*, p 101; Fales intvw. Durant survived his aircraft's shoot-down and was held captive by the Somalis until released on October 14.

18. Fales intvw; Rhodes, "No Time For Fear," pp 25-26; block quote in Bowden, *Black Hawk Down*, p 139. Rhodes indicated Fales' watch read 1539 hours at the one-minute call prior to his fast-roping to the ground. Based on other primary sources, however, this time appeared erroneous. The time of 1620 local for Super-61's shootdown was contained in excerpted material from Memo, "After Action Report for TASK FORCE RANGER Operations in Support of UNOSOM II; 22 August - 25 October 1993 (U)," Jan 5, 1994. According to Wilkinson's account, the insertion of the CSAR team took place some eight to ten minutes after Super-61's shootdown, arguing for insertion between 1628 and 1630 local (Eversmann and Schilling, *Battle of Mogadishu*, pp 133-35).

19. Eversmann and Schilling, *Battle of Mogadishu*, p 136; Bowden, *Black Hawk Down*, p 139.

20. Fales intvw; Rhodes, "No Time For Fear," pp 26-28. In his article, Rhodes stated that Fales egressed the helicopter on the right side, Wilkinson on the left. In his interview with me, however, Fales stated the opposite; he egressed on the left, Wilkinson on the right. Wilkinson agreed with that statement; see Eversmann and Schilling, *Battle of Mogadishu*, p 136. That fact helped explain the above narrative regarding Fales' actions and position in the street.

21. Fales intvw; Rhodes, "No Time For Fear," p 28.

22. Fales intvw; Carney, *No Room for Error*, p 252; History, AFSOC, Jan-Dec 1993, vol 1, p 127.

23. Rhodes, "No Time For Fear," p 29.

24. *Ibid.*

25. Fales intvw; Wilkinson intvw; Eversmann and Schilling, *Battle of Mogadishu*, p 144.

26. Fales intvw; Cornelius Ryan, *A Bridge Too Far* (New York: Simon and Schuster, 1974), p 342.

27. Fales intvw; Rhodes, "No Time For Fear," p 28. Fales' numbness, he learned later, was probably due to a major nerve in his leg that had been cut. His leg was saved.

28. Fales intvw; Eversmann and Schilling, *Battle of Mogadishu*, pp 195-96; Poole, *Effort to Save Somalia*, p 57.

29. Fales intvw; Bray intvw; Rhodes, "No Time For Fear," pp 28-29.

30. Fales intvw; Bray intvw; Rhodes, "No Time For Fear," pp 28-31; Carney, *No Room for Error*, pp 255-56. "Danger Close" was a specific term used by CCTs that alerted one's own forces to the heightened threat of supporting fire intentionally directed within a few yards of friendly forces.

31. Bray intvw; Rhodes, "No Time For Fear," p 29; also quoted in Carney, *No Room for Error*, p 255.

32. Bray intvw.

33. Bray intvw; Carney, *No Room for Error*, p 255; History, AFSOC, Jan-Dec 1993, vol 1, p 125. This history referred to "an ingenious perimeter marking system" but did not provide details.

34. Bray intvw; Rhodes, "No Time For Fear," p 30.

35. *United States Army in Somalia*, pp 22-23; Eversmann and Schilling, *Battle of Mogadishu*, pp 196-98; Bray intvw; Fales intvw. Sources differed on

the relief convoy's arrival time at the first crash site (Super-61, Cliff Wolcott). The above U.S. Army publication stated the convoy arrived at 0155 local and spent several hours attempting to extract the body of the pilot of Super-61. The other element in the relief convoy proceeded to the second (southern) crash site, Mike Durant's Super-64; it was secured at 0227 local. The TF Ranger After Action Report stated the "lead elements of the QRF linked up with the assault force at the northern crash site at 0155C." I have elected to follow this report; Memo, "After Action Report for TASK FORCE RANGER Operations in Support of UNOSOM II; 22 August - 25 October 1993," Jan 5, 1994. Bowden stated the convoy consisted of "almost a hundred vehicles and was nearly two miles long." Given the number of vehicles and their length, and the spacing between vehicles to provide mutual support, this was almost certainly an overstatement. For example, generously assuming a convoy of ninety vehicles and allowing an average length of twenty feet per vehicle and a spacing of sixty feet between vehicles, the total length of the convoy calculates to 7,140 feet, or approximately 1.4 miles. Of course, if the number of vehicles was less than ninety or the spacing less than sixty feet, the total length could have been considerably less than 1.4 miles. Indeed, two U.S. Army studies listed the convoy as "sixty-plus" vehicles; see *United States Army in Somalia*, p 22; *United States Forces, Somalia, After Action Report and Historical Overview: The United States Army in Somalia, 1992-1994* (Washington: Center of Military History, 2003), p 12.

36. *United States Army in Somalia*, pp 22-23; Rhodes, "No Time For Fear," p 31; Bowden, *Black Hawk Down*, pp 263-64; Bray intvw; Carney, *No Room for Error*, pp 256-59; Eversmann and Schilling, *Battle of Mogadishu*, p 197; Memo, "After Action Report for TASK FORCE RANGER Operations in Support of UNOSOM II; 22 August - 25 October 1993," Jan 5, 1994. The time of 0630 local was contained in excerpted material from the above memo.

37. Fales intvw; *United States Army in Somalia*, pp 22-23; History, AFSOC, Jan-Dec 1993, vol 1, pp 127-28.

38. *United States Army in Somalia*, p 23; Poole, *Effort to Save Somalia*, pp 56-57; Andrew Compart, "Everyone 'was doing heroic things'," *Air Force Times*, Feb 14, 1994; Eversmann and Schilling, *Battle of Mogadishu*, pp 202-204; Bray intvw. Poole listed 84 Americans wounded, 312 Somalis killed, and 814 wounded.

39. Durant, *In the Company of Heroes*, pp 349, 357; *United States Army in Somalia*, p 24; Eversmann and Schilling, *Battle of Mogadishu*, pp 55, 205. The Ranger quoted above was Sgt Raleigh Cash.

40. Poole, *Effort to Save Somalia*, pp 57-67; Fred Reed, "No reason to be in Somalia," *Air Force Times*, Feb 7, 1994, p 55; *United States Army in Somalia*, pp 24-25.

41. *United States Army in Somalia*, p 21; Carney, *No Room for Error*, pp 247, 259; Compart, "Everyone 'was doing heroic things';" Philip F. Rhodes, "Pope airmen save lives, earn medals," *Tiger Times*, Feb 11, 1994, p 3; Wilkinson intvw; Bray intvw.

42. Carney, *No Room for Error*, p 249; C. Kenneth Allard, "Lessons Unlearned: Somalia and Joint Doctrine," *Joint Forces Quarterly*, Autumn 1995, p 109 [emphasis in original]. For the Special Tactics role in Panama, see Forrest L. Marion, "First Fight: The U.S. Air Force's Special Tactics Group in Panama, December 1989," *Air Power History* vol. 59, no. 4 (Winter 2012), pp. 28-37.

**Iron Curtain 1944-1956: The Crushing of Eastern Europe.** By Anne Applebaum. New York: Doubleday, 2012. Maps. Photographs. Illustrations. Bibliography. Index. Notes. Pp. xxxv, 566. \$35.00 ISBN: 978-0-385-51569-6

In 1951, in Portland, Maine, I recall my grandmother religiously listening to Drew Pearson's radio news broadcasts about the Korean War and the vaunted Communists of the Soviet Union, China, and North Korea. She was very fearful of the Communists. The fear of the Communists was so deeply imbedded and entrenched in my Catholic faith that I believed that a Communist was something not human, over ten feet tall, and immune to bullets. The Catholic Church held large processions in the city stadium to pray for the downfall of Communism. The family rosary also broadcast over the radio was in vogue with special intentions directed to the demise of Communism the world over.

What were my grandmother and many Americans so fearful of? And how could a system such as Soviet Communism that was so despised by the western powers both gain power and maintain control over Eastern Europe? How could these nations submit so easily to another tyrannical system?

Anne Applebaum successfully answers these questions. She chose to concentrate on Central Europe (specifically Hungary, Poland, and East Germany) not because the countries were similar, but rather because they were different. Study of the region informs us more about the manner in which human beings react to the imposition of totalitarianism than would a study of any one country alone. In her research, she sought to find documentary evidence of deliberate destruction of civil society and small business by the Communists. In addition, she examined the phenomena of social realism and Communist education and gathered as much information as possible on the founding and early development of the region's secret police forces.

For a select few, the Communist system offered dramatic promotion and social advancement as well as excellent opportunities for those who conformed. "The new educational system and the new work place ideology certainly created losers—teachers and intellectuals with prewar sensibility, older skilled workers, young people who would not or could not conform—but it created many winners as well. Among them were new teachers and workers who replaced the older ones, new writers who replaced older writers, and new politicians who replaced their elders too." Further, "most people in the commu-

nist regimes [of *Eastern Europe*] did not succumb to dramatic bribes, furious threats, or elaborate rewards. Most people wanted to be neither party bosses nor angry dissidents. They wanted to get on with their lives, rebuild their countries, educate their children, feed their families, and stay away from those in power. But the culture of Stalinist Eastern Europe made it impossible to do so in silent neutrality. No one could be apolitical: the system demanded that all citizens constantly sing its praises, however reluctantly. And so the vast majority of Eastern Europeans did not make a pact with the devil or sell their souls to become informers but rather succumbed to constant, all-encompassing, everyday psychological and economic pressure. The Stalinist system excelled at creating large groups of people who disliked the regime and knew the propaganda was false, but who nevertheless felt compelled by circumstances to go along with it. In seeking a definition of the situation, Applebaum called them *resistant* or *reluctant* collaborators.

Applebaum covers the suppressive tactics of the Communist system. In Hungary it was the new Directorate of Public Works (KOMI) whose purpose was to support "on the one hand the interests of the people's economy, and on the other hand the interests of law enforcement." She compared it to the Soviet Gulag that aimed to create profitable companies that would make use of prisoner labor in factories, quarries, and construction projects and pointed out that, just two years after its founding, KOMI employed some 27,000 prisoners.

The book clarifies for the western mind what my grandmother's fear was about. The Communists, backed by the powerful Red Army and the secret police, not only subdued individuals, but also crushed organizations like the scouts, trade unions, schoolteachers, journalists, small businessmen, students, artists, and religious organizations—especially reluctant leaders like Catholic cardinals and bishops. The communists effort to control reveals an unpleasant truth about human nature: "if enough people are sufficiently determined, and if they are backed for adequate resources and force, then they can destroy ancient and apparently permanent legal, political, educational, and religious institutions, sometimes for good. And if civil society could be so deeply damaged in nations as disparate, historic, and culturally rich as those of Eastern Europe, then it can be similarly damaged anywhere. If nothing else, the history of postwar Stalinization proves just how fragile civilization can turn out to be."

Applebaum examined a myriad of

documents and conducted many interviews with people who had lived through that postwar repressive era. She warns the world just how fragile our governments can and or could be. Her work is an excellent depiction of the suppressive nature of Soviet Communist repression and domination of its Eastern European satellite countries.

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USAF Senior Historian*



**The Space Shuttle: Celebrating Thirty Years of NASA's First Space Plane.** By Piers Bizony. Minneapolis, Minn.: Zenith Press, 2011. Tables. Diagrams. Photographs. Appendix. Pp. 299. \$40.00 ISBN: 978-0-7603-3941-1

This book is accurately titled. By devoting more than 250 pages to spectacular photographic images of the Space Shuttle and its missions, Bizony has indeed produced a celebration of the thirty-year history of the only reusable manned spacecraft in history. But the work is more than just a collection of photos. Bizony uses the images to help describe how and why the Shuttle program was established and how it evolved over time. He breaks the history of the Shuttle into several stages:

*The Routine Dream:* The genesis of the program following the completion of the Apollo lunar program, and the first two dozen successful shuttle missions.

*Falling from Grace:* The loss of Challenger and its crew, why it happened, and how NASA tried to ensure that it wouldn't happen again.

*Rebuilding Trust:* A six-year period of major accomplishments including repair of the flawed Hubble Space Telescope.

*Unexpected Allies:* Making peace with a former foe in a cooperative effort on Russia's Mir space station, an endeavor that paved the way for the International Space Station (ISS).

*An Island in the Sky:* Beginning the major effort to construct the ISS, the primary Shuttle mission for the final twelve years of the program.

*At the Crossroads:* The Columbia accident and how NASA recovered to bring the Shuttle era to a close with additional Hubble servicing missions and completion of the ISS.

Each segment begins with a narrative—a brief essay that establishes the historical context of the Shuttle program—and then describes, in words and pictures, how each mission contributed to the program. The reader is left with an

appreciation of the program as a whole, rather than just seeing it as a series of 135 individual launches.

Perhaps the most difficult task in any history of the program is the need to strike a proper balance between praise and criticism. The people who designed and flew the Shuttle can be lauded for achieving a 98.5 percent mission success rate with the most complex machine ever built. At the same time, however, NASA managers can be deservedly criticized for decisions that led to two tragic mission failures and the loss of fourteen crew members. Bizony handles this challenge effectively. He acknowledges the management failures that led to the accidents and, at the same time, helps the reader understand that the impact of those mistakes was magnified because the Shuttle remained an experimental vehicle throughout its life, never achieving what might be considered routine operations. This is one of the more important lessons we should draw from the Shuttle program.

Bizony should have expanded on one of his thoughts. In a photo caption for a Shuttle-Mir mission, he says Mir was "somewhat unfairly associated with failures and accidents toward the end of its operational life." Entire books have been written on Mir's failures, and Bizony's statement defending the early space station leaves the reader asking for further explanation: In what way was criticism of Mir unfair? But the narrative that describes this segment of the Shuttle's history focuses on the geopolitical aspects of American-Russian cooperation and says nothing about Mir's shortcomings.

In a less substantive vein, the book contains factual errors that many followers of the Shuttle program will catch. These include describing astronaut John Young as the only person to fly three different types of spacecraft, even though Wally Schirra earned that distinction years earlier; incorrectly identifying the control surfaces on the orbiter's wings as ailerons rather than elevons; and stating that the shuttle's external tank falls to a watery grave in the Atlantic Ocean rather than the Pacific Ocean or South China Sea. But these are relatively small issues, and Bizony gives the reader the comfortable feeling that he has gotten the big things right. The book would be a fine addition to the library of anyone who wants a concise, non-technical history of the Shuttle program along with a collection of dazzling photographs.

*Lt. Col. Joe Romito, USA (Ret.); Docent, National Air and Space Museum*



**Air War D-Day: Assaults From the Sky, Volume 2.** By Martin W. Bowman. South Yorkshire UK: Pen & Sword Aviation, 2013. Photographs. Index. Pp. 256. \$34.95 ISBN: 978-178159116-1

This is the second volume of a planned five-part series dealing with D-Day. I cannot highly recommend it to the reader. It is a seeming jumble of personal accounts of the airborne landings that contains very little historical commentary by the author to put the individual tales into perspective.

Chapter One, titled "Planes Overhead Will be Ours," deals with air efforts to suppress German defenses at the invasion beaches and interdiction of communications from their rear lines to the beaches. All the accounts are from U.S. airmen: from pilots and navigators through bombardiers and aerial gunners.

The second chapter, "Never a Sign of the Luftwaffe," deals with D-Day and Allied air supremacy over the invasion beaches during the night before the landings and the day of the invasion. The commentators are service personnel from the Allied forces, with an occasional newsman's stories included.

Chapter Three, "Devils in Baggy Pants," deals with American paratroopers from the 82d and 101st Airborne Divisions and their associated Glider Troops. Chapter Four deals with the British paratroopers and their accounts of D-Day activities.

I found parts of the book terribly interesting as the volume jumps from person to person and their perceptions of combat situations, but it is difficult to read overall. I didn't care for the layout of the book; it does not make for an easy read. For example, in one instance, an American paratrooper's story is told on page 112 and then again, identically, on pages 130-131, with only the last paragraph of the first account missing from the second recounting. Since the book has an index I checked to see if both were indexed. They were.

The individual stories of heroism, confusion, uncertainty, and the like are fascinating. The photographs are excellent. But I certainly wish Bowman had done a better job of packaging the material and presenting it to the reader.

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



**Strange Rebels: 1979 and the Birth of the 21st Century.** By Christian Caryl. New York: Basic Books, 2013. Notes.

Bibliography. Index. Pp. xv, 407. \$29.00 ISBN: 978-0-465-03335-5

Historian Christian Caryl has built this interesting book around the premise that we of the twenty-first century live in the shadow of 1979, a year that changed the course of history. He builds his case with five studies of key personalities and events that, driven by the forces of religion and the market in that watershed year, shaped the world in which we now live. Caryl explains how the course of history had been deflected into a radically different direction by a new kind of global religious conflict and a global market revolution. He also speaks briefly to technological innovations of the 1970s (personal computers, high speed financial transactions, e-mail, the MRI, bar codes, etc.) that have shaped global society as we now know it.

Caryl reminds the reader that American global influence, economically and militarily, had diminished in the years approaching 1979 as a consequence of the Vietnam War. At the same time Soviet power was in its ascendancy, and the British were in the midst of an economic disaster. The book is laced with indicators that the world we had known was changing in important ways. One tidbit that resonated, because of current debates about survival of the American middle class, was the subject of income inequity. The gap in income that had been closing since 1945 began, in 1979, to widen again leading us to our current predicament. He also speaks to the disenfranchised masses in the Middle East and south Asia leading up to the Islamic revolution in Iran and jihad in Afghanistan. Secular revolutions had failed to accommodate the common people, who were now turning to radicalized Islam to find solutions. He also looks at the non-violent use of faith to erode and collapse the Iron Curtain. With this backdrop in mind, Caryl then examines the following major events and personalities: The Iranian Revolution; start of the Afghan jihad; Thatcher's election victory; the Pope's first Polish pilgrimage; and launch of Chinese economic reforms by Deng Xiaoping.

Caryl reasons that the eventual fall of the Iron Curtain and the Cold War's end can be traced to the Pope's first visit to Poland in 1979. He also discusses how Margaret Thatcher's economic reforms saved Great Britain from becoming a second-rate nation dependent upon international loans to stay afloat. It was Deng's economic reforms that rescued China from manmade disasters precipitated by Mao's destructive policies. Deng put China on track to become the pre-eminent power in Asia and create the second largest econo-

my on the planet. All of this has its beginnings in 1979.

This book establishes a good basis for discussions on the relevance of 1979 as a turning point in the greater scheme of momentous world events. For anyone who lived through the period, there was so much ahead that could not have been imagined (e.g., the Cold War ending in 1989 and the United States emerging as the sole superpower).

I think most readers will be somewhat annoyed by Caryl's repetitions. The editor should have noticed that Caryl frequently presented background information and repeated it verbatim in a subsequent chapter (or just a page or two later) as if it had never appeared elsewhere.

Now, about pivotal dates. Another historian once wrote that "Much of history is a story of events that might have turned out differently...[events] or the consequences of previous events...in turn shape subsequent events." In other words, we cannot know what will necessarily follow. 1979 is simply a part of natural historical flow, where events lead to other events.

*Col. John Cirafici, USAF (Ret.), Milford, Delaware*



**Chewing Gum, Candy Bars and Beer: The Army PX in World War II.** By James J. Cooke. Columbia: University of Missouri Press, 2009. Photographs. Notes. Bibliography. Index. Pp. 186. \$39.95 ISBN: 978-0-8262-1867-4

On the surface, the story of the Army Post Exchanges (PXs) in World War II might seem an unimportant or, indeed, trivial side story of history. The great value of Professor Cooke's book is to show the vital role played by provision of small items—sometimes characterized as comfort items—to the morale of the troops. It also demonstrates the labyrinth of problems and challenges involved in running what was, for a time, the largest retail operation in the world. Cooke tells the story in an exhaustive, but not exhausting, examination of the Army Exchange System (AES).

The book traces the history of providing comfort items to American soldiers from the sutlers who followed troops during the Civil War selling luxury items from home. During the Great War, distribution of goods to the Doughboys was haphazard and frustrating. As the Second World War loomed, the command and civilian authorities were determined to do a better job.

The sheer scale of the operation was staggering in terms of the tonnage of mer-

chandise that had to be transported along with vital military supplies across much of the planet. Some items, such as razor blades, shaving cream and candy bars, were often distributed free to troops in the field but sold in PXs, a distinction that was not always easy to make. Stateside, the PXs had to contend with local merchants protesting the competition from lower cost exchanges that, to further annoy the locals, did not charge sales taxes. Overseas operations were also tricky, often fostering resentment from deprived local populations and fueling an underground black market in American goods. The AES had the further complications of the demands from the American public to send items to troops for free. And, for the first time, the AES was faced with meeting the needs of female personnel, confronting the almost exclusively male staff with the question of what to stock for women.

Cooke found many personal stories to tell within the narrative, and the book has a number of period photos of the AES operations. His book is an interesting insight into a little considered but important part of the story of World War II and the men and women who served their country.

One sad coda runs throughout the book. There are repeated stories of the distribution of cigarettes and other tobacco products to the service members, often given for free by well-meaning supporters or calculating tobacco companies. For those of us who are the children and grandchildren of the Greatest Generation, it is the beginning of the painful story of watching them die of cancer and other smoking-related diseases. In the end tobacco killed far more of the World War II generation than the enemy's bullets. It is a sad, but useful, lesson from history, and, hopefully, one taken to heart.

*Greg Bailey, History Writer, Journalist, Attorney, St. Louis, Missouri*



**The Influence of Airpower upon History: Statesmanship, Diplomacy, and Foreign Policy since 1903.** By Robin Higham and Mark Parillo, Eds. Lexington: University Press of Kentucky, 2013. Photographs. Notes. Index. Pp. ix, 317. \$40.00 ISBN: 978-0-8131-3674-5

This collection of ten essays can be divided into two groups. The overview group includes essays by the two editors and one on air power before World War II by John Morrow, best known for his works on World War I aviation. Higham, of course, is one of the West's most highly regarded air power historians. Parillo has

served on the faculty of Kansas State University for more than twenty years. The seven remaining essays are of a national or regional nature. These cover Germany, France, the Soviet Union, Latin America, two on the United States, and China.

Higham's chapter provides a solid review of the use of air power, citing specific instances up to the U.S. intervention in Libya in the spring of 2011. Morrow's piece emphasizes trends in Europe and the United States from 1906 to 1939, particularly regarding strategic bombing as opposed to a subordinate role to ground forces. In chapter three, noted French aviation historian Patrick Facon examines policies concerning the development of air power in France and how that affected the perception of Germany's emerging strength in the 1930s.

Richard Muller, Professor of Military History and Associate Dean of the USAF School of Advanced Air and Space Studies, shares insights into his specialty, the German *Luftwaffe*, and its impact on Adolf Hitler's policies in the 1930s. David Jones, a Soviet military specialist, discusses the changing Russian perception of the role of the strategic bomber as an instrument of national policy from 1909 to 1959. Rene De Le Pedraja, Professor of History at Canisius College, reviews various conflicts in Latin America and how the presence of airpower affected their outcomes.

In chapter seven, Jeffrey Underwood, historian for the National Museum of the USAF discusses how U.S. Presidents over the years have applied air power to further national objectives. What was once known as gunboat diplomacy might today be better labeled "carrier diplomacy." This is the subject discussed by Douglas Smith, head of the Strategy and Policy Division of the College of Distance Education at the Naval War College, and Kent Coleman, a serving Navy officer. Andrew Erickson, Associate Professor in the Strategic Research Department of the Naval War College, reviews the history of Chinese airpower and how that nation may use this tool in the future.

In the final chapter, Parillo summarizes the strengths and weaknesses of air power. As in the past, national leaders bear responsibility for how it is to be applied. Perhaps more interesting is the implication that while air power may have been a decisive force over the past 100 years, evolving technology suggests that the ability to wield power in space or in computers could very well emerge as the primary influence in this century.

While the tone of the essays is a bit uneven, the editors have striven for a balanced approach. Two aspects that might

have merited discussion are the influence of export sales and the rise and fall of flag carriers or national airlines. Most chapters include notes and suggestions for further reading and for further research.

*Lt. Col. Steven D. Ellis, USAFR (Ret.), Docent, Museum of Flight, Seattle, Washington*



**Iron Man Rudolph Berthold: Germany's Indomitable Fighter Ace of World War I.** By Peter Kilduff. London: Grubb Street, 2012. Maps. Notes. Index. Photographs. Appendices. Bibliography. Pp. 192. \$39.95. ISBN: 978-1-908117-37-3

You probably have never heard of Hauptman Rudolph Berthold. Von Richt-hofen, Boelcke, Immelmann, and Udet are almost everyday heroes to those who enjoy reading about aerial combat in the First World War, but Berthold is mostly an unsung hero. He shot down forty-four Allied aircraft, ranking seventh in the list of German aces and twentieth in a list of aces of all nations engaged. He was called the *iron man* for both his determination to excel and refusal to allow wounds to keep him out of the air.

Coming from a comfortable family background, Berthold was commissioned in the infantry in January 1912. Shortly before the war began, he was accepted for training in the Flying Service. Trained as an aerial observer, he went to war with his aviation battalion in August 1914, providing aerial support for the initial German movement through Belgium. The only aircraft armaments were pistols and rifles. On August 15 he made his first sortie over enemy lines to locate Belgian and French forces. The plane returned with useful information and several bullet holes in the wing. Just before the Battle of the Marne that finally halted the German advance, Berthold observed and reported French forces moving rapidly into a gap between the German First and Second Armies, resulting in award of the Iron Cross Second Class.

When the German drive halted, Berthold took advantage of the lull to acquire his pilot's badge. He continued to fly observation missions, the primary function that aircraft carried out at the time, although bombs were carried and dropped on targets of opportunity. Some impromptu aerial combat also took place.

About May 1915 machine guns began to appear as weapons for observers and later as primary armament for fighters. The Fokker *Eindecker* fighter entered service and made life very difficult for Allied

observation aircraft. The Germans assigned *Eindeckers* to each observation squadron to provide escorts for observation missions. Berthold was in charge of a detachment and began his career as a fighter pilot. In February 1916, he shot down two aircraft and was shot down himself, although without injury. He also flew night bombing raids. On April 16, he shot down his fifth enemy aircraft and entered the roll of aces. Later that month, his plane crashed after takeoff. He was hospitalized, in a coma for two days, and temporarily lost his eyesight.

Despite mobility problems he persevered in getting back into flying duties. On August 24 he made his first flight in a biplane fighter—although he had to be helped into the plane—and shot down an enemy aircraft. The next day, he was made commanding officer of a new fighter squadron. After his eighth aerial victory, Kaiser Wilhelm awarded Berthold the *Pour le Merite*.

Berthold went on to command a number of fighter squadrons and finally a fighter wing. His victories increased as he led from the front until the last day of the war. Serious injuries caused him a great deal of pain and he became addicted to cocaine. That led to somewhat erratic behavior, which was tolerated by his superiors because of his fighting record.

War's end saw the outbreak of Communist revolution in Germany and in turn the organization of *Freikorps*—bands of former soldiers who opposed the revolution. Berthold, now demobilized, organized a *Freikorps* unit which fought in the new Baltic States. Upon return to Germany in 1920, the unit was involved in civil warfare with Socialist units and Berthold was killed. Later the Hitler regime touted him as a nationalist hero.

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



**Russian Aces of World War I.** By Victor Kulikov. Oxford UK: Osprey Publishing Ltd, 2013. Photographs. Illustrations. Appendix. Index. Pp. 96. \$22.95 Paperback ISBN 978-1-78096-059-3

Victor Kulikov is a well-known aviation writer and historian living in Russia. His considerable efforts as a co-author of the seminal work, *The Imperial Russian Air Service: Famous Pilots & Aircraft of World War One* (1996), although never fully recognized by the aviation historical community in the West, formed the foundation of this book.

This new concise work, *Russian Aces*

*of World War I*, provides some very useful details about the thirteen individuals Kulikov chose to focus on. Unfortunately, the publisher has let the reader believe from the title that these select few were the only Russian aces. Of course this is not the case, as there were Russian naval aces, as well as Russian army pilots who fought and scored on other fronts during the war. As with many aces there are always controversies as to the actual kill score. In time, as new historic research in Russia is compiled, additional individuals will undoubtedly join in the pantheon of aces.

In this small compendium Kulikov presents those Russian Army Aviation Service pilots who are considered aces. The book provides the relevant facts, dates, and locations of the aces' actions and their eventual personal outcome if they outlived the war and revolution. In some circumstances, there are the narratives in the pilots' own words. These always provide interesting vignettes of the historical events.

The new book's well-captioned photographs are an important contribution. However, the publisher should have considered producing a work with larger images, particularly since a number of them are wholly unique, coming from the photo collections of Gennady Petrov and Mikhail Maslov. Also included in this volume are some very well executed color profiles which will provide the enthusiast and researcher with details not found elsewhere.

*Russian Aces of World War I* is a valuable work that, for the price, is a great addition to a book collection of anyone interested in World War I aviation.

*Carl J. Bobrow, Museum Specialist, Smithsonian National Air and Space Museum*

**Ed. Note:** Victor Kulikov wrote several articles for *Air Power History*. See: Vol. 47, No. 4, Winter 2000, "Sikorski's Fighters, pp. 36-45; Vol. 48, No.4, Winter 2001, "Aeroplanes of Lebedev's Factory," pp. 4-17; Vol. 50, No.1, Spring 2003, "Soviet Ship-Based Reconnaissance, 1930s-1950, pp. 4-11; Vol. 51, No.1, Spring 2004, "British Aircraft in Russia, pp. 4-15; Vol. 52, No. 3, Fall 2005, "Italian Aircraft in Russia," pp. 14-25; and Vol. 53, No. 3, Fall 2006, " pp. 14-25.



**Operation KE: The Cactus Air Force and the Japanese Withdrawal from Guadalcanal.** By Roger and Dennis Letorneau. Annapolis, Md.: Naval Institute Press, 2012. Maps. Photographs.

Notes. Glossary. Bibliography. Index. Pp. xx, 370. \$42.95. ISBN: 978-1-59114-446-5

The Allied (primarily U.S.) goal in the Guadalcanal Campaign was to secure the islands of Guadalcanal, Florida, and Tulagi to prevent their use by the Japanese as bases from which to attack lines of communication between the U.S., Australia, and New Zealand. In this first major Allied offensive in the Pacific in World War II, the significant land and sea battles took place during August–November 1942, but the campaign didn't come to a close until February 1943.

This book fills the gap between November and February, during which time the Japanese planned for, and then successfully carried out, the seaborne withdrawal of nearly 11,000 defeated troops. Although this almost certainly was not the authors' intent, the book is best approached as two separate but related works. In what might be called Part One, the father-and-son authors present a day-by-day (and, in many cases, plane-by-plane) account of the air battles that took place before the withdrawal operation and during the evacuations themselves. Convoys known as the Tokyo Express extracted beleaguered Japanese troops from Guadalcanal with three nighttime runs in early February. Part Two is a thorough analysis, from both the Japanese and U.S. perspectives, of why the withdrawal operation was successful.

Part One effectively describes how U.S. forces employed various types of fighter and bomber aircraft in coordinated attacks on Japanese vessels and ground bases, shows that both sides almost always believed they had shot down more enemy aircraft than was actually the case, and (most interestingly) gives the reader an appreciation of what aerial combat felt like from inside the cockpit. On the down side, the book (but Part One in particular) suffers from a lack of adequate maps. There are several sketch maps of Guadalcanal and nearby islands, but none provides the detail needed to follow the narrative.

In Part Two, several factors stand out among the many that led to the success of the withdrawal. First, the Japanese recognized that the operation could not be successful if they used poorly-armed, unmaneuverable transport ships to evacuate their soldiers. Instead, they opted for destroyers. The speed, maneuverability, and small size of these ships made a difficult task—hitting a moving vessel at night with a bomb or torpedo—even more challenging. Second, the Japanese established numerical fighter superiority above the convoys, and this caused many U.S.

bombers to miss their targets or to completely break off their attacks. And third, the Japanese made good use of deception during the evacuation, sometimes routing their convoys directly down the “slot” from their base at Bougainville to Guadalcanal and at other times making the trip by first heading out to open sea.

Unfortunately, the two parts are ineffectively woven together. While the authors give a clear depiction of what took place in each day's air activity, there is little attempt to explain how those events contributed to or detracted from the overall outcome of Operation KE. And in the chapters that analyze the operation, there are only limited references to the detailed accounts of action that dominate the first part of the book. Each part presents an interesting account of operations in the Pacific. But taken together, they do not provide a good understanding of how day-to-day actions fit within the broader tactical or strategic context. As long as the reader understands this at the outset, *Operation KE* can be a useful addition to a military history library.

*Lt. Col. Joe Romito, U.S. Army (Ret.),  
Docent, National Air and Space Museum*



**Captured: The Forgotten Men of Guam.** By Roger Mansell. Annapolis Md.: Naval Institute Press, 2012. Map. Notes. Photographs. Bibliography. Index Pp. x, 255. \$33.95 ISBN: 978-1-61251-114-6

Following Army service in the early 1960s, Roger Mansell established a commercial business in California. Conversations with an employee who was interned by the Japanese during World War II formed the impetus for his interest in telling stories of other POWs held by the Japanese. Mansell researched and wrote this work but died before its publication. Linda Holmes, a Pacific War historian, edited it for publication.

The story begins on Guam, the strategically located island in the Marianas that served as an interim stop for Pan American Clippers flying from San Francisco to Hong Kong. The U.S. Navy also had a base on the island, with just over 400 sailors and Marines present in 1941. In November, the Navy decided that Japan was an imminent threat and evacuated all military dependents from Guam.

On December 7, 1941, it became obvious that Japan would soon be attacking Guam. That anticipated attack began at 0230 on December 10. It took one day for the Japanese force to capture the island. U.S. military men and American civilians

were quickly rounded up and placed in a makeshift jail in the Agat city center—they thought to be executed. However, the Japanese Government had other plans for these nearly 800 Americans: ship them to Japan and force them to work as slaves to support the Japanese war effort along with an eventual 63,000 other Allied POWs.

Mansell details the daily barbaric treatment endured by these “forgotten men from Guam” over the course of nearly four years. The starvation, beatings, exposure to severe winter weather conditions, and continual threat of execution took their toll on emotions, morale and strength of these American prisoners. The book highlights their daily search for food and the high cost of being caught by the Japanese if found with stolen food. Mansell uses a series of personal accounts of prison life from officers, enlisted, and civilian personnel who were forced to endure it. Thus, the reader is given ample examples of atrocities forced upon these prisoners who related they had no doubts that, if and when allied forces did invade Japan, the Japanese guards at the camps were already ordered to kill all prisoners.

The accounts of the American prisoners from Guam also relate their sense of awe watching B-29 formations during day and night attacks on Japan, as well as low-level flying of fighter aircraft strafing and bombing Japanese targets. We know today how, when, and why the war in Japan ended; but the POWs were not cognizant of the detailed meaning or use of the atomic bomb. However, they were grateful that the Emperor surrendered and the prisoners were not executed. The final two short chapters of the book detail the liberation of the prison camps by U.S. forces and the repatriation of the prisoners to the United States.

All in all, this is a good book to learn of the atrocities suffered by these prisoners. While the book does portray some disturbing scenes of torture and other atrocities, it is a worthwhile read concerning the plight, strength, and complications endured by these U.S. military and civilian personnel when faced with an intolerable situation.

*Col. Joe McCue, USAF (Ret.), Leesburg,  
Virginia*



**In Their Own Words The Final Chapter: True Stories from American Fighter Aces.** By James A. Oleson. Bloomington, Ind.: iUniverse, 2011. Photographs. Notes. Appendices. Glossary. Bibliography.

Pp. xviii, 203. \$18.95. ISBN: 978-1-4502-9045-6

This book strives to capture the tales of some of the greatest aviators of the U.S. armed forces. The author's intent is to preserve these accounts for the future. The book, culminating twenty years of work, is the second volume of personal accounts of fighter aces (Oleson's first book was *In Their Own Words: True Stories and Adventures of the American Fighter Ace*).

Though never a fighter pilot himself, Oleson has a deep-seated passion for these men and their craft, calling it his "Labor of Love." He acts as a conduit to bring these tales to the next generation that knows so little of these heroes by compiling ninety-one personal accounts, published without alteration, into a spellbinding, stunning, and humbling volume. Each account captures the subject's personality, and each adds its own dynamic to the book. Colonel Morehead's account of barely eluding death while trying to escape compressibility in his P-38 is fascinating, but may be more relevant to aircraft designers and pilots than historians. The common thread is the sacrifices and trials of war and the courage of the pilots. Lt. Col. Richard Suehr relayed an account of travelling ten days through the Australian jungle after losing an engine. After his rescue, Suehr went to P-38s and managed to lose both engines, crashed into the ocean, and was washed onto an island. He flagged down a passing Filipino fishing boat and was with the Filipino guerilla fighters for months before making it back to a U.S.-held position.

Most of the accounts are excerpts from oral histories, though some are from the personal diaries of the fliers. They provides a rare, unadulterated look at fighter aces in their own words, as fewer and fewer of these men are still with us. The quality and content of the writings varies. This does not detract, but rather gives the reader a feeling of interaction, drawing them deeper into the stories. Lt. Col. Bryan tells, in great detail, of having his P-47 overboosted to ninety inches of mercury and making it back to fly fifteen more missions. Other accounts are simply a paragraph on a favorite airplane or an explanation of how to aim an F6F Hellcat at a target.

Oleson divides the book chronologically by war. World War II is further divided by service branch. There are also accounts from some military test pilots. Each part has a short informative introduction about air combat and aircraft covered. Oleson's short essay, "The Best Fighter Aircraft," is bound to breed some arguments among friends but is very interesting and does

add some to the understanding of the text. There are discussions throughout the text of the dangers of the P-38, the downfalls of the P-40, the differences in the F4F and the F6F, etc. He provides numbers to support his theories, though there are no references given for the data.

This book is hard to put down; Oleson's passion leaps out. He let his subjects (the real experts) tell their own stories without interruption by any analysis. The collection of primary source material and pictures of the pilots and their machines is wonderful. Where else would a young American student find an English first-hand account of what it was like to fly the Me 262, the FW 190, and the Bf 109? The author clearly acknowledges all the contributors to the book, and also lists their autobiographies, if they exist. He encourages the reader to access these for further information or research. The superficial, broad coverage of this book provides great stories of the people of war; great for a history buff, an aviation aficionado, or as first-hand source material from high school to graduate work. The minor typographical errors are a small distraction. Oleson has left us a jewel of a story.

*Maj. Daniel L. Vaughan, USAF*



**Those Angry Days: Roosevelt, Lindbergh, and America's Fight over World War II, 1939-1941.** By Lynne Olson. New York: Random House, 2013. Photographs. Notes. Bibliography. Index. \$30.00. Pp. xxii, 548 ISBN 978-1-4000-6794-3

The controversies provoked by America's wars in Vietnam and Iraq still resonate in today's political posturing and policy decisions. Yet, this country's most divisive dispute over foreign policy and national security erupted while the nation was at peace, and then vanished overnight in a wave of patriotic unity for the duration of what truly became the Second World War after the Japanese attacked Pearl Harbor. Olson, who has previously written about the British experience in the early years of the war in Europe, has produced a dramatic account of the battle waged between American isolationists and interventionists during the same period.

As background to this often overlooked episode, Olson reviews the nation's disillusionment with participation in the First World War (but not its long tradition of avoiding such foreign entanglements). As the rise of Hitler and Mussolini in the 1930s began to portend another such war,

Congress codified the public's isolationist attitude with a series of neutrality acts to prohibit support to any future belligerents. When war broke out in Poland in September 1939, most Americans still felt protected by distance and their formidable Navy. But after Germany occupied Norway and defeated France in the spring of 1940, the struggle between a growing movement to rescue Great Britain and another to preserve American neutrality quickly dominated American public opinion and politics.

Olson thoroughly traces the organizations and leaders that emerged in support of these causes and their relationship to key politicians and media outlets. The Century Group (a veritable who's who of the *Eastern Establishment*) and the White Committee (led by the respected Midwestern pundit William Allen White) were the most influential of the pro-intervention forces. Behind the scenes, a highly effective British espionage and propaganda machine helped the interventionists and sometimes conducted *dirty tricks* against the isolationists. The America First Committee (founded by pacifist Yale students but eventually dominated by conservative Republicans) became the most significant of the isolationist organizations. The two sides waged their war of words in newspapers and magazines, on the radio and motion picture screens, in lecture halls and stadiums, and in the chambers of Congress. As implied in the book's title, the national mood became truly angry, with defamatory charges and epithets such as *warmonger* and *Fascist* hurled about indiscriminately. With the stakes so high, there seemed to be little room for compromise.

Making her book especially readable (except for jumping around chronologically), Olson skillfully profiles the diverse personalities and human dramas involved on both sides. As indicated by the subtitle, she especially focuses on Charles Lindbergh, the most famous American of the era, who eventually became the top spokesman for America First. Particularly poignant is the effect of Lindbergh's growing notoriety as an anti-Semitic admirer of Germany on his sensitive wife, Anne Morrow Lindbergh, whose own family was staunchly interventionist. The role of the book's other main protagonist, Franklin Delano Roosevelt, is of course already well documented. Olson focuses on how the indecisive FDR, chastened politically by his disastrous scheme in 1937 to expand the Supreme Court, lagged behind public opinion in taking steps to support Britain—much to the consternation of political allies and advisors, not to mention a desperate Winston Churchill. The

unsung hero of the story is Wendell Willkie, who served as a tireless and effective proponent of the need to stop the Axis powers after losing the presidential race of 1940. Even though most Americans came to favor various measures to save Britain from defeat (and later even the Soviet Union), most continued to oppose entering the war.

Olson's examination of the isolationist and *Fortress America* tendencies of much of the nation's pre-war military leadership should be of particular interest to readers of this journal. Among these, she devotes considerable attention to the activities of Henry H. Arnold, who became Chief of the new Army Air Forces in June 1941 despite a sometimes difficult relationship with FDR. Most accusatory, Olson presents the evidence that "Hap" Arnold may have been the source of what was probably the most sensational leak of classified information prior to the pilfering of National Security Agency files in 2013. On December 4, 1941, the isolationist *Chicago Tribune* and *Washington Times Herald* headlined top secret details of the War and Navy Departments' recently prepared "Victory Program" on how the United States would mobilize for war against Germany. In any event, the Japanese attack on Pearl Harbor three days later immediately overshadowed this shocking affair, and Hitler's declaration of war on December 11 emphatically ended America's domestic battle over intervening in Europe.

In researching this book, Olson exploited a wide range of existing literature as well as some archival sources and private diaries, one of the most revealing being that of Anne Morrow Lindbergh. She gives due credit to previous authors who laid the groundwork for her book, such as Lindbergh biographer A. Scott Berg and diplomatic historian Wayne S. Cole, "unquestionably the premier authority on America's prewar isolationist movement" (and my thesis advisor at the University of Maryland), whose four books on the period are copiously cited in the end notes. In retrospect, Olson tends to agree with Cole's judgment that this passionate debate over the nation's future course, despite its nastiness, was an extraordinary example of "democracy in action." Anyone interested in the history of World War II can benefit from understanding how reluctantly the United States became involved.

*Lawrence R. Benson, retired Air Force historian, Albuquerque, New Mexico*



**The Bad Boy—Bert Hall: Aviator and Mercenary of the Skies.** By Blaine L.

Pardoe. New York: Perseus Books, 2012. Photographs. Notes. Bibliography. Appendix. Pp. 224. \$29.95 ISBN: 978-178155-130-1

Since the 1920s, mercenary airmen have been subjects of numerous novels, films, and short stories. But the romantic myth of the hard-bitten, cynical, yet somehow still-idealistic mercenary pilot, the man who quite literally lives to fly and fight—archetypically captured in Ernest Gann's long-out-of-print novel *Benjamin Lawless*—has been only rarely balanced by actual historical studies and biographies realistically examining this enigmatic and often contradictory personality type. Of such non-fiction works, three stand out: Sterling Seagrave's *Soldiers of Fortune*, an excellent introductory survey; John Carver Edwards' *Airmen Without Portfolio: U.S. Mercenaries in Civil War Spain*, a useful case study of one group of mercenaries; and Richard K. Smith and R. Cargill Hall's *Five Down No Glory: Frank G. Tinker, Mercenary Ace in the Spanish Civil War*, a masterful biography of one of mercenary aviation's most chaotic personalities. Very different, at least to me, are aggregations of professional service airmen brought together at the behest of governments to achieve some strategic purpose (e.g., the American Volunteer Group in China, or Air America in Indochina).

Few truly mercenary airmen (like their traditional land-roving forebears) have been motivated solely by monetary concerns. Almost all blended multiple motivations including profit, seeking adventure, and serving a cause. But (again, as characteristic of many of their predecessors since ancient times) almost all possessed various personality deficiencies (and, in some cases, disorders) that, taken together, seriously limited their effectiveness and, hence, their value. Flaws typically included a reluctance to follow orders, inability to function within an established military framework, criminality, erratic behavior, shifting loyalties, mercenary temperament, unreliability, personal vice and disorder, grandiosity, dishonesty, and easily triggered frustration of ten boiling over into resentment. Indeed, as a group, mercenaries are not readily found among the ranks of the most stable and reliable individuals, and whatever good they allegedly have accomplished must be balanced against the very great misery that they often have promulgated or at least contributed to.

To the available literature on mercenary airmen, we can now add Pardoe's study of a legendary mercenary, Weston Birch "Bert" Hall (1885-1948), who flew

with the French air service in the Great War, in Hollywood as an early film pilot, and in China. Overall a sympathetic study, the book redresses what Pardoe perceives as a deliberate attempt by surviving veterans of the *Lafayette Escadrille* to denigrate and minimize the contributions and valor of Hall. Pardoe bases his work upon published sources and sporadic archival documents and makes a reasonable, if not overly convincing, case that Hall has been, at least to some degree, disrespected by his peers and subsequent aviation historians (though Pardoe seems overly critical of his detractors).

Hall, the son of a Confederate soldier who had served with great steadfastness and dedication to the Southern cause, was undoubtedly a pilot of great personal skill and valor. But he was clearly an unreliable and contentious individual. A persistent fabulist who exaggerated to an almost inconceivable extent, he was unfaithful to his several wives (some simultaneously), aloof and distant from most of his colleagues, and crossed over into outright criminality involving an arms-running scheme. "I have no confidence in your story," Judge Milton Purdy chastised the airman upon sentencing him to a two and one-half year jail term in late 1933, adding "You have lied to everyone."

In part because of lingering controversy and his own advancing age, Hall did not participate in arguably the greatest of all mercenary air wars—Spain 1936-1939—though his personality well-matched many of the other misfits who flew in the conflict. He returned to Hollywood, then worked on the periphery of the Dayton aviation industry during the Second World War, dying of a heart attack in 1948.

To his credit, Pardoe, while sympathetic to Hall (whom he judges "a master of reinventing himself"), is not blind to his subject's many egregious faults. "I have been asked what Bert's contribution was to aviation," Pardoe concludes, "and I have to admit not a great deal. . . . Hall's contribution to aviation was not so much in achievements of merit, but rather by the fact that he was *there*" (emphasis in original text). One might reasonably ask if that is indeed the final judgment to be rendered, does the book justify Pardoe's time and effort and the price that its readers must pay to learn about its subject? To me, the answer is "yes," if for no other reason than how supportive this study is and how well it fits with the mercenary works mentioned previously. Hall could serve as the *Everyman* of mercenary airmen.

The book is well-written and well-produced, with good illustrations and a very useful bibliography, though marred by

occasional typos that better proof-reading would have caught.

*Dr. Richard P Hallion, Florida Polytechnic University*



**Council of War: A History of the Joint Chiefs of Staff 1942-1991.** Steven L. Rearden. Washington, D.C.: NDU Press, 2012. Notes. Photographs. Tables. Glossary. Index. pp. xiv, 586. <http://bookstore.gpo.gov>

*Council of War* offers its readers far more than what its title implies, for its sweep of narrative covers a broad range of issues, events, and circumstances relating to the evolution of American national security policy and practice over the Second World War and the Cold War that followed. Rearden places the evolution of the JCS in a remarkably rich and diversified context. Indeed, he has written what should be mandatory reading for all personnel working for or assigned to the Joint Staff.

Rearden is a historian of great experience and insight, and it shows. Though he draws on numerous primary and secondary sources, one of the book's many strengths is that it avoids merely regurgitating previous works. He writes engagingly and well, avoiding both getting lost in unnecessary detail, and the boring morass of bland passive-voice constructions all-too-familiar in administrative histories.

Any misconceptions readers may hold that the JCS has been a smoothly functioning and unified body working collegially and dispassionately is dispelled. The narrative goes from crisis to crisis, ending with the conclusion of *Desert Storm*. One can only wonder what Rearden would have made of JCS history since that time, from the all-too-brief era of post-Soviet unipolar American hegemony through the chaos of the late 1990s, and on into 9-11 and its tumultuous multi-conflict aftermath into the era of sequestration.

Rearden begins in the early days of the Second World War, starting with the Arcadia conference. Wisely, he does not immediately leap into the post-1947 creation of the Department of Defense. Rather, he develops the narrative in great detail, looking at the influence of America's strategic policy upon the functionings of the emerging JCS, and its transformation throughout the war and into the immediate postwar years. While the war "did not assure the JCS a permanent place in the country's defense establishment," he writes, it had "confirmed

that high-level strategic advice and direction of the Armed Forces were indispensable to success in modern warfare." The post-World War II era involved a series of critical challenges that ensured the continued existence of the JCS, though it almost continuously evolved in scope and structure, reflected in its changing formalized relations with the Secretary of Defense, the National Security Council (NSC), the President, and the Congress.

Vietnam posed a special set of challenges, the Joint Chiefs of Staff having, in Rearden's view, "passed their prime," having declined in "stature and institutional influence" since the 1940s when they had routinely met with the President and "knew every Allied leader personally." For this reason, he dismisses H. R. McMaster's "five silent men" thesis expressed in his explosive *Dereliction of Duty* (1997), though he credits McMaster for having authored a "thoroughly researched and well-written book. Rearden notes the growing mutual antipathy that eventually characterized relations between the Secretary and his service chieftains over Vietnam, and which erupted openly in 1967. Even so, he is generally less critical of Robert McNamara and his tenure as defense secretary than OSD historian Edward Drea's 2011 study *McNamara, Clifford, and the Burdens of Vietnam*.

Like others at the time and afterwards, Rearden believes McNamara deserves recognition for having instituted important organizational reforms within the Department of Defense. Noting that at the time the Secretary took office, the JCS "elaborate but ineffectual strategic planning process had failed to apply the necessary discipline in determining military requirements, cut excessive expenditures, and eliminate unnecessary duplication in Service programs," he credits McNamara with having transformed the Department of Defense. "Not only did the administrative and managerial reforms he institute reshape Pentagon business practices," he writes, "they also had profound effects in the areas of weapons procurement, forces structure, and military doctrine. More than any other Secretary of Defense, he fundamentally transformed the way the country thought about and approached armed conflict."

Most controversial in the post-McNamara era was, of course, the JCS' transformation (critics might say emasculation) under the Goldwater-Nichols Department of Defense Reorganization Act of 1986. By designating the Chairman of the JCS as the President's "Principal Military Advisor," Goldwater-Nichols stripped the JCS of much of its power, to the dismay of many. Doing so, Rearden

writes, ended "the days of corporate decisionmaking and consensus recommendations. In effect, the Service chiefs became a committee of senior military advisors to the Chairman."

The scope of Rearden's study is remarkable, encompassing foreign policy crises and wars; major challenges in strategy and force structure; the political perspective; and the history of specific programs and acquisition efforts, both successful and unsuccessful.

Remarkable for a book of this size and scope, *Council of War* has surprisingly few errors or typos, and those it has are minor. Overall this is a solid, significant contribution to the history of American national security policy and practice, and it deserves a wide readership among defense professionals, academics, and public-minded individuals of all sorts. Indeed, for those inside the Beltway toiling in the Department of Defense (particularly on the Joint Staff), *Council of War* is just the thing to while away that Metro trip on the way to and from the Pentagon.

*Dr. Richard P Hallion, Florida Polytechnic University*



**The North African Air Campaign: U.S. Army Air Forces from El Alamein to Salerno.** By Christopher M. Rein. Lawrence: University Press of Kansas, 2012. Maps. Photographs. Notes. Appendices. Bibliography. Index. Pp. x, 290. \$34.95 ISBN: 978-0-7006-1878-1

This is Dr. Rein's first book and is part of the University Press of Kansas' Modern War Studies series. An Assistant Professor of History at the U.S. Air Force Academy, Rein earned his doctorate from Kansas in 2011. This work appears to be an extension of his dissertation.

Rein begins by thoroughly reviewing primary as well as secondary sources concerning development of U.S. Army Air Corps doctrine before World War II. For those interested in doctrine, this chapter alone makes the book worth reading. In fact, this book in many ways is more about doctrine than operations. Using the Army Air Forces' presence in North Africa in 1942 and 1943 as a backdrop or case study, Rein carefully examines the application of air power. He particularly emphasizes employment of the Boeing B-17 and Consolidated B-24 heavy-bomber groups in an interdiction role as opposed to the strategic-bombing favored by generals heavily influenced by the thinking that emerged from the Air

Corps Tactical School in the 1930s.

He proceeds in chronological order. The second chapter discusses the Western Desert (British nomenclature for confronting Axis forces west of the Nile into Libya). He reviews the earliest American involvement by small numbers of B-17s and B-24s as well as the introduction of U.S. Curtiss P-40s and North American B-25s operating within the British command structure. Eventually, this concentration of American air power would emerge as the original Ninth Air Force, whose staff assets later were transferred to the United Kingdom to focus on tactical air support in France.

In the third chapter, Rein covers the execution of Operation Torch in November 1942 that resulted in the invasion of North Africa controlled by Vichy France. Here, American air units came under command of Twelfth Air Force. Rein briefly departs from his discussion of Mediterranean operations to take the strategic-bombing advocates to task for failing to allocate enough B-24s to the anti-submarine campaign in the Atlantic. The fourth chapter deals with multifaceted aspects of air power in helping push the remaining German and Italian forces into Tunisia where they were defeated eventually. The impact of transport and reconnaissance assets is duly recognized.

The final two chapters examine Sicily and Salerno, the initial invasion of the Italian mainland. In the Salerno chapter, he sharply criticizes the squandering of B-24s in the August 1943 attack on the Ploesti oil-refinery complex in Rumania. He argues that those aircraft used effectively in an interdiction campaign would have accelerated the ground forces' progress.

Rein concludes that these mistakes in asset allocation with strict differentiation between strategic and tactical platforms were at last recognized by defense officials as an inherent weakness in command structure when Tactical Air Command and Strategic Air Command were consolidated into Air Combat Command in the early 1990s. Whether one agrees or disagrees with him, he raises interesting points well worth considering by those responsible for developing air power doctrine.

*Lt. Col. Steven D. Ellis, USAFR (Ret.), Docent, Museum of Flight, Seattle, Washington*



**Glider Infantryman: Behind Enemy Lines in World War II.** By Don Rich and Kevin Brooks. College Station: Texas A&M University Press, 2012. Maps. Illustra-

tions. Photographs. Notes. Bibliography. Index. Pp. x, 272. \$19.95 paperback ISBN: 978-1-60344-962-5.

Don Rich, with the help of Kevin Brooks, shares his experiences as a member of the 327th Glider Infantry Regiment of the 101st Airborne Division from the beginning of World War II to its conclusion in Europe. Readers familiar with Stephen Ambrose's *Band of Brothers* chronicling the exploits of Easy Company of the 101st's 506th Parachute Infantry Regiment, will appreciate another soldier's perspective. Besides assisting Rich in organizing his memories, Brooks, a freelance writer based in Illinois, frames the infantryman's numerous detailed accounts of small-action combat with considerable information about the larger strategic situation.

After a discussion of entering the Army and subsequent training as a bazooka man, the pace quickens in chapter three after the division arrives in the United Kingdom and prepares for the invasion of Normandy in June 1944. Chapter four concerns the invasion. While quite prepared to enter combat for the first time in a towed glider, Rich and most of his regiment crossed the English Channel courtesy of the U.S. Navy. They arrived on the afternoon of June 6 at Utah Beach, the far right flank of the Allied forces and engaged the Germans among the hedgerows over the next few days.

In chapter five, Rich describes the circumstances where he was wounded near Carentan while trying to get in position to fire his bazooka at an enemy bunker. Evacuated to England, he recovered and returned to his company before Operation Market Garden, discussed in chapter six. Market Garden, the ill-fated effort to capture a series of bridges in a bold drive across the Netherlands in September, marked the only time Rich entered combat aboard a glider. By then, his company had suffered considerable casualties. Friends from training had been replaced by less experienced soldiers, a trend that continued until the war's conclusion in May 1945.

The book continues with Rich's experiences on the *island* where the 101st helped hold the line as part of the northernmost Allied advance in the Netherlands. After finally getting a break toward the end of 1944, the 101st was rushed to Bastogne to hold the Belgian crossroads town and deny the Germans the ability to advance easily toward the Meuse River during the Battle of the Bulge.

Having blunted the enemy assault, Allied divisions, including the 101st, even-

tually went back on the offensive in early 1945. The division later moved into the Alsace region of eastern France. From there, it proceeded into Bavaria where Allied intelligence was concerned that Nazi zealots would make a last stand in the mountains. Fortunately for Rich, the enemy accepted its fate, and resistance was negligible.

Maps are essential in understanding military history at any level. Numerous large-scale maps are provided to enable the reader to appreciate the circumstances in which Rich found himself confronting the enemy at close quarters. While the real-time description of events makes for easy reading, the reconstruction of conversations raises questions about accuracy. Overall, those interested in small-unit accounts should find this book to their liking.

*Lt. Col. Steven D. Ellis, USAFR (Ret.), Docent, Museum of Flight, Seattle, Washington*



**History of Rocketry and Astronautics: Proceedings of the 41st History Symposium of the International Academy of Astronautics, Hyderabad, Andhra, India, 2007; v. 38 of the AAS History Series, and v. 27 of the IAA History Symposia.** By Anthony M. Springer, Ed. San Diego, Calif.: Univelt, 2012. Photographs. Drawings. Notes. Index. Pp. xiii, 424. \$95.00, \$75.00 (soft cover) ISBN: 978-087703583-1

This volume follows the now-standard IAA format of having a diverse collection of international papers examining technology, operational art, and significant individuals, blending works by professional historians, astronautics pioneers and social and cultural commentators. Its papers were presented at the IAF-IAA 2007 meeting held in India—a country with a long history of rocketry that has led to it being a modern space power that has orbited its own satellites. Indeed, black-powder battlefield rockets employed by India's Tipu Sultan toward the end of the eighteenth century inspired William Congreve to develop British equivalents that, used during the War of 1812, are memorialized in the words of the American national anthem.

Commendably edited by NASA's Anthony Springer, it is organized around two broad themes: one, a series of papers on Sputnik and its influence (reflecting that these papers were presented a half-century after its launch on October 4, 1957), and the other a series of papers on

the history of rocketry and astronautics in India; though many other topics are covered as well.

Of all the papers, I found the following of particular interest:

—Asif A. Siddiqi's reexamination of the origins of the Sputnik program. He casts new light on internal Soviet space decision-making in the early-to-mid 1950s, elaborating upon earlier work he has done that has rightly established him as the dean of Soviet space studies.

—Michael J. Neufeld's exploration of Wernher von Braun's change-of-heart from favoring a direct approach and landing on the Moon to favoring a lunar-orbital rendezvous. While covered by others, Neufeld has added important new information and insight into the background and progression of von Braun's decision-making on this issue, one of the most critical for the entire Apollo program.

—Cristophe Rothmund's detailed history of France's first efforts to develop cryogenic rocket engine technology, which led to its employment on the later Ariane space launch system.

—S. Krishnamurthy and B. R. Gurusprasad's analysis of the rockets of Tipu Sultan, placing their development and use within the context of rocketry evolution in South Asia and its subsequent technology-transfer to Britain.

—Andrew S. Erickson's masterful analysis of India's space and rocketry program, which confirms that Erickson, a professor at the Naval War College, is as adept at analyzing Indian work as he has demonstrated with his analysis of work in aeronautics, astronautics, and naval power by the People's Republic of China.

These are but a few of twenty essays, many of which continue the series' detailed examination of Soviet rocketry. One can argue that this is sadly fitting for this era, now that the United States has so foolishly abrogated its own lead in manned space flight that American astronauts must rely on Soviet-era boosters to get a ride to the International Space Station.

As with all the volumes in this remarkable series, this one is a great value for its admittedly high price, and so is highly recommended.

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



**Aichi 99 Kanbaku "Val" Units 1937-42.** By Osamu Tagaya. Oxford, UK: Osprey Publishing, 2011. Illustrations. Photo-

graphs. Appendices. Index. Pp. 96. \$22.95 ISBN: 978-1-84176-912-7

The exploits of American airmen in the Pacific War have been well-covered in the literature over the years, but those of their Japanese counterparts are little-known to the public. Yet during the first six months of that war, Japanese naval aviators were masters of the skies, racking up one crushing victory after another over the American, British, and Dutch in the air, on land, and on the seas.

In dive bombing accomplishments during this period, the Aichi D3A Type 99, code-named *Val*, was unsurpassed, mainly attributable to the skill and perseverance of its two-man crews. Who were these men and what were their experiences? In this slender volume, Osamu Tagaya presents their stories in the detail for which historians of the Pacific War have been waiting. There is no better qualified person to cover this subject than Tagaya, a recognized authority on the Japanese naval air force in World War II. He has exhaustively reviewed primary sources in Japanese—most of which have been previously untapped—including unit action reports and the recollections of individual airmen and woven them together into a highly engaging account.

Because of space constraints imposed by the publisher for its Combat Aircraft series, Tagaya's coverage of *Val*'s operational history is limited to the first part of the Pacific War beginning with China in late 1939 and ending in June 1942 with the Battle of Midway. In a projected second volume, he will carry the story forward from the Solomons campaign through the end of the war. It will also include a list of sources for both volumes, making up for the lack of such a bibliography in this first offering.

While Tagaya focuses on the individual experiences of the *Val* airmen, he also puts their exploits in larger context, not only as participants in their joint missions with the other IJNAF carrier-based aviators flying missions with them in their Mitsubishi A6M Zeros and Nakajima B5N *Kates*, but also in broader terms of IJN planning and operations. Beginning with a concise history of dive bombing in the IJN, he moves chronologically from initial operations in China to planning and training for the Hawaiian operation, the Pearl Harbor attack, the Southern Advance, the Indian Ocean operation, the Battle of the Coral Sea, and finally Midway and the Aleutians.

The only comparable volume on the *Val* is Peter C. Smith's *Aichi D3A1/2 Val*, published in 1999; but, in my opinion, Tagaya's account is more readable,

focused as it is on the human dimension. In addition to seventy photographs, this Osprey volume includes fifteen color plates of individual D3A1s flown in the March 1940-May 1942 period, with an accompanying narrative for each one. I, for one, eagerly await the concluding volume.

*William H. Bartsch, Reston, Virginia*



**Implosion: Lessons from Security, High Reliability Spacecraft, Electronics, and the Forces Which Changed Them.** By L. Parker Temple III. Hoboken, N.J.: Wiley-IEEE Press, 2013. Notes. Figures. Tables. Index. Pp. xxii, 346. \$54.95 Paperback ISBN: 978-1118462423

During the latter half of the twentieth century, the commercial market for solid state electronics expanded rapidly. As equipment designers found ever more applications for these miniaturized, lightweight, power-saving devices, an explosion of demand drove their production rapidly upward. Cost per component dropped significantly as demand increased. Within this macro-phenomenon, a small niche market developed in which the U.S. Department of Defense and the National Aeronautics and Space Administration paid a premium for solid state electronic parts, components, subsystems, and systems with especially high reliability for use in intercontinental ballistic missiles (ICBMs), space launch vehicles, and orbiting satellites.

*Implosion* provides a detailed, analytical account of what Temple characterizes as a complex Darwinian evolution of solid state electronics from the quantum theory of electrons, through invention of the transistor, to high-reliability parts for U.S. national security and military space systems. Beginning with the Minuteman ICBM in the 1960s and extending over another couple decades to ever more durable satellites, an unseen hand responded to market forces and, at times, political pressures to create space-qualified or "Class S" parts. Even as increasing complexity of parts threatened reliability in the 1970s, the Air Force's Rome Air Development Center (RADC) played a key role in determining the physics of failure, developing standards, and teaching industry how to make parts highly reliable. Of course, stringent requirements combined with increasingly small production runs to drive up cost.

Control or containment of cost sowed the seeds for unintended and unanticipated consequences in the manufacture and

supply of high-reliability parts. Emphasis by the Reagan administration during the 1980s on commercial space to cut government investment culminated, in the post-Cold War 1990s, with acquisition reform, the consequences of which were superficially understood. As Temple puts it, gutting reliance on standards and specifications, which were based on long experience with testing and failure analyses, cast acquisition of high reliability electronics into the same category as procurement of “bandages, tissues, and toothpaste.” Furthermore, an ill-informed, cost-cutting decision by the Base Closure and Realignment Commission in 1995 closed RADC and ruptured the government-industry connection that had been so crucial to optimizing production of Class S parts.

Drawing from an impressive number of scholarly sources and government documents, Temple identifies eighteen, inter-related trends or forces that variously affected the system producing highly reliable spacecraft. Although waxing and waning over time, interacting in complex ways, each of the eighteen “added its unique contribution to the ultimate chaos made even more devastating by their unintended temporal convergence.” At the dawn of the twenty-first century, numerous anomalies with space launchers and military or national security satellites revealed that the painstakingly constructed system for guaranteeing manufacture of high reliability parts had imploded.

While some elements of the former system were restorable, Temple suggests it will take years—probably decades—to once more optimize the evolutionary mix of “products, processes, and applications” that assure high reliability in spacecraft. When change is the norm, we cannot go back to the *status quo ante*, he reasons; we must go forward with a focus on “sustained, strong systems engineering practices.” From among four potential pathways to the future, he is convinced that “staying the course” is best.

*Implosion* should be mandatory reading for a broad variety of specialists, ranging from space engineers and corporate leaders to politicians and government administrators. Temple has skillfully crafted into an intelligible, gripping narrative insights from history, policy mak-

ing, engineering, management theory, and more to deliver a compelling treatise on how a “technology trajectory” is established, how a “production function” evolves, and how misguided interference, no matter how well intended, breeds disaster.

*Dr. Rick W. Sturdevant, Deputy Director of History, HQ Air Force Space Command*



**Normandy: A Graphic History of D-Day, The Allied Invasion of Hitler's Fortress Europe.** By Wayne Vansant. Minneapolis, Minn.: Zenith Press, 2012. Maps. Illustrations. Pp. 104. \$19.99 ISBN: 978-0-7603-4392-0

Although more of a graphic novel than an actual academic tome, *Normandy* is nevertheless a very accurate, succinct, and engaging account of Operation Overlord through the liberation of Paris. It is an excellent vehicle for children, teens, novices, or fans of graphic novels to learn about D-Day. Vansant demonstrates familiarity with the dominant scholarly and historical accounts of both the Allied and German preparations for the amphibious landings, the airborne assaults, the push inland, Operation Cobra, and the liberation of Paris. The prose conveys the dominant historical narrative in a concise and simple fashion that is suitable for the format of the book. While the text is important, what really counts in this work are the illustrations, since that is the essence of any graphic novel.

The illustrations as a component of the story do not disappoint. The style and authenticity are generally excellent. Vansant depicts the major players and leaders, average grunts, machines, equipment, and backgrounds in a largely realistic manner. The story flows smoothly and the pictures and text complement each other. In spite of the overall artistic merit, there are a few errors in the visual presentations. On page 13 there is a depiction of a heavy bomber that looks like both a B-17 and a B-24 simultaneously, and there is a representation of an American locomotive that is clearly not of World War II vintage or representative of the types

shipped over to replace destroyed European stock. On the following page, there is a panel depicting Eisenhower interacting with the 101st Airborne, and not a single paratrooper has camouflage on his face as many did in the actual photographs of this event. The French and British commandos are shown without helmets at all times, and troops that usually carried Sten guns are routinely depicted with standard rifles. The U.S. Rangers' diamond unit insignia is the wrong color. On page 55, British troops are shown advancing through corn, as many of the accounts reference. However, the British term “corn” actually means wheat, and what most Americans consider corn is not a crop that was or is heavily cultivated in Normandy. Finally, in spite of the generally excellent drawings of aircraft, the FW 190 depicted on page 68 has fuselage-mounted guns that are far too prominent and not as flush as on actual models of that plane. While many of the faces and attributes of people may seem cartoonish or stereotyped, they are normal for the genre.

Considering the dearth of text in this format, there is a significant number of typographical errors, mostly misspellings (airborne, flail tank, mulberry, Operation Charnwood) and the improper use of the word “roll” instead of “role.” There is at least one major factual error on page 92 when Vansant asserts that the Second Tactical Air Force consisted of Spitfires, Typhoons, Mustangs, Lightnings, and Thunderbolts. While there were Mustangs and other American medium bombers in this unit, there were no P-47 or P-38 units. American Tactical Air Forces supplied the aircraft of those types to help close the Falaise Gap, but they were not part of the British 2 TAF.

This book is a fine work for someone looking for a quick overview of the Allied campaign in Normandy or for someone who would appreciate its visual stimulation. It is perfect for a youngster or a novice that needs to get familiar with D-Day and subsequent events associated with the battle.

*John G. Terino, Jr., Associate Professor, Air Command and Staff College*



#### PROSPECTIVE REVIEWERS

Anyone who believes he or she is qualified to substantively assess one of the following new books 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](mailto:scottlin.willey@gmail.com)

## Books Received

*Kelkner, Craig C. Testing American Sea Power: U.S. Navy's Strategic Exercises, 1914-1940.* College Station: Texas A&M University Press, 2007 [2d printing 2013] Notes. Pp viiii, 183. \$24.25 Paperback ISBN: 978-1-60344-989-2

O'Rourke, Kevin and Joe Peters. *Taking Fire: Saving Captain Aikman—A story of the Vietnam*

*War.* Philadelphia and Oxford.: Casemate. Notes. Photographs. Pp. 216. \$32.95 ISBN: 978-1-61200-126-5

Peczowski, Robert. *Messerschmitt ME 410.* Poland: Stratus. (Polish edition) Illustrations. Photos. Pp 120 Paperback ISBN: 978-83-89450-24-1

### Marshall Foundation Releases Mons Pocket iBook at Apple iTunes Books

The George C. Marshall Foundation has published an interactive iBook called *The Mons Pocket*. Written by Steve Bowman and Jack Neufeld with Gen. Paul Gorman, USA (Ret.), it describes the battle of the Mons Pocket in June 1944 during World War II. It contains maps and narrative to describe the positions of the combatants during the battle and tactics used by Gen. Bradley to accomplish his strategy. It is available at iTunes Books. <https://itunes.apple.com/us/book/>

*The Mons Pocket* joins a previously released iBook, *Stolberg 1944: Through the Siegfried Line*, written by Foundation Advisor Gen. Paul F. Gorman, USA (Ret.), on the Marshall Foundation's virtual bookshelf. This book details an important military campaign during WWII. In addition the Foundation has recently published two books about the Marshall Plan.

Written for high school students and social studies teachers, the recently released book, *The Marshall Plan: Promoting Europe's Unlikely Postwar Recovery*, includes many interactive features that make the presentation come alive with visually and historically rich embedded files obtained from the Foundation's extensive proprietary archives.

The second book, *In Search of a Usable Past: The Marshall Plan in Postwar Reconstruction Today*, was written by Dr. Barry Machado and was published by the Foundation as a paperback volume in 2007 following a series of meetings to identify practical features of the still-popular and relevant post-World War II program that restored the economies of Western Europe.

Both books are available at Apple iTunes books also. Appreciating the opportunity now available through advanced computer technologies, the Foundation intends to publish more history and leadership-related iBooks.

For more information, contact Rick Drake at [edrake@marshallfoundation.org](mailto:edrake@marshallfoundation.org)

## 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 submitted in triplicate, 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.

If an article is typed on a computer, the disk should be in IBM-PC compatible format and should accompany the manuscript. Preferred disk size is a 3 1/2-inch floppy, but any disk size can be utilized. Disks should be labelled with the name of the author, title of the article, and the software used. Most Word processors can be accommodated including WordPerfect and Microsoft Word. As a last resort, an ASCII text file can be used.

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 Jacob Neufeld, Editor, *c/o Air Power History*, 11908 Gainsborough Rd., Potomac, MD 20854, e-mail: [jackneufeld@verizon.net](mailto:jackneufeld@verizon.net).

# Coming Up



Compiled by  
George W. Cully

### September 25-28, 2013

The **Society of Experimental Test Pilots** will host its 57th annual Symposium at the Grand Hotel and Convention Center in Anaheim, California. For details, contact the Symposium Chairman, Mr Bill Gray, by e-mail at Laurie@setp.org, or via the Society's website at [www.setp.org/](http://www.setp.org/).

### September 26-28, 2013

Texas Tech University's **Vietnam Center** and the **U.S. National Archives** will co-host the Center's annual conference at the National Archive's central facilities in downtown Washington, D.C. The theme of this year's conference is "Vietnam: 1963." For details, visit the Center's website at [www.vietnam.ttu.edu/events/2013\\_Conference/](http://www.vietnam.ttu.edu/events/2013_Conference/).

### September 26-28, 2013

The annual **Northern Great Plains History Conference** features sessions sponsored by the Society for Military History, and the Society works closely with the Conference Program Chair to provide the strongest possible participation. This year's meeting will be held in Hudson, Wisconsin. For details, contact Dr Margret Sankey at the Political Science Department, Minnesota State University Moorhead via e-mail at [sankeymhst@gmail.com](mailto:sankeymhst@gmail.com).

### October 2-3, 2013

The **Armed Forces Communications and Electronics Association** will host its Fall Intelligence Symposium on the NGA Campus East in Springfield, Virginia. The theme of the classified Symposium is "Decision Advantage in a Changing World." For more details, see the AFCEA website at [www.afcea.org/events/fallintel/13/wel-come.asp](http://www.afcea.org/events/fallintel/13/wel-come.asp).

### October 3, 2013

The **U.S. Naval Institute** will host its 2013 Navy History Conference at the U.S. Naval Academy in Annapolis, Maryland. The topic of this year's conference is "The Past, Present, and Future of Human Space Flight," and the panel will include speakers who have been there and done that. For more details, see the Institute's website at [www.usni.org/events/2013-us-naval-history-conference](http://www.usni.org/events/2013-us-naval-history-conference).

### October 4, 2013

The **National Aviation Hall of Fame** will host its annual dinner and enshrinement ceremony for the latest four honorees to be placed on its rolls at the National Aviation Hall of Fame Learning Center located adjacent to the National Museum of the United States Air Force in Dayton, Ohio. Often referred to as "America's Oscar Night of Aviation," the black-tie ceremony is open to the public. For more details, contact the NAHF at <http://www.nationalaviation.org/>.

### October 5, 2013

The **National Museum of Naval Aviation** will celebrate its 50th anniversary with an evening gala to be held at the Museum in Pensacola, Florida. For more details, see the Museum's website at [www.navalaviationmuseum.org/news-and-events/161-50th-anniversary-of-the-national-naval-aviation-museum](http://www.navalaviationmuseum.org/news-and-events/161-50th-anniversary-of-the-national-naval-aviation-museum).

### October 7-9, 2013

The **American Astronautical Society** will offer its 6th annual Wernher von Braun Memorial Lecture in Huntsville, Alabama. For details, see the Society's website at [astronautical.org/vonbraun](http://astronautical.org/vonbraun).

### October 8-11, 2013

The **Aviation Engine Historical Society** will hold its annual meeting in Nottingham, England. Planned activities during the event will include visits to the Rolls-Royce Heritage Trust Collection, the Imperial War Museum, and the Royal Air Force Museum. For details, see the Society's website at [www.enginehistory.org/Convention/Convention2013.shtml](http://www.enginehistory.org/Convention/Convention2013.shtml).

### October 9-13, 2013

The **Oral History Association** will hold its annual meeting at The Skirvin Hilton Hotel in Oklahoma City, Oklahoma. This year's meeting theme will be "Hidden Stories, Contested Truths: The Craft of Oral History." For details, see the Association's website at [www.oralhistory.org](http://www.oralhistory.org).

### October 10-13, 2013

The **Society for the History of Technology** will hold its annual meeting in Portland, Maine. For more information, visit the Society's website at [www.history-of-technology.org/shot2013cfp.html](http://www.history-of-technology.org/shot2013cfp.html).

### October 17-18, 2013

The **Center for Cryptologic History** will host its 14th biennial Cryptologic History Symposium in Laurel, Maryland. This meeting's theme will be "Technological Change and Cryptology: Meeting the Historical Challenges." For more details, visit the Center's website at [www.nsa.gov/about/cryptologic\\_heritage/center\\_crypt\\_history/news/index.shtml](http://www.nsa.gov/about/cryptologic_heritage/center_crypt_history/news/index.shtml).

### October 27-30, 2013

The **Association of Old Crows** will host its 50th annual international symposium and convention at the Marriott Wardman Park Hotel in Washington, DC. For additional information, ping the Association's website at [www.crows.org/conventions/conventions.html](http://www.crows.org/conventions/conventions.html).

### October 30, 2013

The **Society for History in the Federal Government** will present its annual Richard G. Hewlett lecture and dinner at Clyde's Gallery Place in Washington, DC. For more details, including the lecture speaker and topic, visit the Society's website at [shfg.org/shfg/events/hewlett-lecture/](http://shfg.org/shfg/events/hewlett-lecture/).

### November 21-22, 2013

The **Air Force Association** will host the annual Global Warfare Symposium and Air Force Ball at the Century Plaza Hyatt Regency hotel in Los Angeles, California. For details, see the Association's website at [www.afa.org](http://www.afa.org).

### November 21-23, 2013

The **National World War II Museum** will host an international conference on WWII entitled "1943: Victory in the Balance" at the museum in New Orleans, Louisiana. For more details, see the Museum's website at [ww2conference.com/home/](http://ww2conference.com/home/).

### November 21-24, 2013

The **History of Science Society** will hold its annual meeting in the Westin Boston Waterfront Hotel in Boston, Massachusetts. The meeting will mark the 100th anniversary of the Society's journal, *Isis*, one of the premier international journals in its field. For more information, see the Society's website at [www.hssonline.org/](http://www.hssonline.org/).

# Reunions

**26th Bomb Group** Oct 2-6, 2013, Fairborn OH. Contact: Jan Demuth 3486 Weavers Ft Jefferson Rd, Greenville, OH 45331 937-548-4710 jan.demuth3486@gmail.com

**511th Aircraft Control & Warning Group, 613th, 847th, 848th AC&W and 39th Air Div.** Oct 2-5, 2013, Nashville, TN. Contact: Don Simmons 704 S. Grove Rd, Richardson, TX 75081 972-231-6518 dona7112@sbcglobal.net

**91st Air Refueling Squadron.** Oct 2-6, 2013, Fairborn, OH. Contact: Marvin Hasso P.O. Box 867, Pinconning, MI 48650 989-879-4404 mbhasso@yahoo.com

**MacDill Flyers.** October 4-6, 2013. Fairborn, OH. Contact: Gene Stevens 3380 Greenburn Road Beavercreek, OH 45434 (937) 429-1552 genestevens@sbcglobal.net

**Ranch Hands Vietnam Assn.** October 10-13, 2013, Fairborn, OH. Contact: Jack Spey 4245 South Rome Way Hurricane, UT 84737 (435) 877-1166 maresfwb@aol.com

**512th Antique Aircraft Restoration Group.** Oct 16-18, 2013, Fairborn, OH. Contact: Tom Corbeil 255 West Pebworth Rd, Magnolia, DE 19962 302-697-8067 thomascorbeil@comcast.com

**18th Fighter Wing Assn.** Oct 16-20, 2013, St Louis, MO. Contact: Tom Chapman 7039 S. Clay St, Littleton, CO 80120-2939 303-794-3747 chapman7039@comcast.net

**F-4 Phantom II Society.** Oct 21-25, 2013, Fairborn, OH. Contact: William Crean 842 Waterford Dr, Delran, NJ 08075-2220 856-461-6637 williamcrean@comcast.net

**12th TFW (Vietnam), 12th FEW/SFW (Korea) 12th FTW (Randolph), 306th FTG (12 FTW) USAFA, 479th FTG (12 FTW) Pensacola.** Apr 23-26, 2014, Pensacola, FL. Contact: "E J" Sherwood 480-396-4681 EJ12TFW@cox.net

## 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

**Vietnam/Thailand Air Force "Sky Cops."** Apr 11-13, 2014, Fairborn, OH Contact: Pat Houseworth 540 West Livingston St, Celina, OH 45822 419-586-3076 pathouseworth@gmail.com

**4950th Test Wing/Aria 328 Memorial.** May 6, 2014, Fairborn, OH. Contact: Bob Beach 1616 Ridgeway Dr, Springfield, OH 45506-4023 937-325-6697 w81cz@woh.rr.com

**95th Bomb Grp Mem Foundation.** May 7, 2014, Dayton, OH. Contact: Meg Brackney 216 Northwood Dr, Yellow Springs, OH 45387 937-767-2682 meggyjb@aol.com

**384th Bomb Group.** Oct 16-19, 2014, Fairborn, OH. Contact: Frank Alfter 1306 Adams Way, Beavercreek, OH 45434 937-306-2142 fjalfter@gmail.com

**496th Tactical Fighter Squadron.** Oct 23-26, 2014, Fairborn, OH. Contact: J. Kevin Roll 677 Todd Trail, Newport News, VA 23602 918-815-2629 rolljk@yahoo.com

## Coming Up, continued

### 2014

#### January 2-5, 2014

The **American Historical Association** will hold its 128th annual meeting in Washington, D.C. at the Marriott Wardman Park, the Omni Shoreham Hotel, and the Hilton Washington. More than 1,500 scholars will participate. For additional details, see the Association's website at [www.historians.org/annual/2014/index.cfm](http://www.historians.org/annual/2014/index.cfm).

#### January 14-15, 2014

The **Association of the United States Army** will host its annual Army Aviation Symposium & Exposition at the Crystal Gateway Marriott in Arlington, Virginia. For additional details, see the Association's website at [www.ausa.org/meetings/2014/Pages/Aviation.aspx](http://www.ausa.org/meetings/2014/Pages/Aviation.aspx).

#### February 11-13, 2014

The **U.S. Naval Institute** and **AFCEA** will jointly host West 2014, the largest event on the West Coast for communications, electronics, intelligence, information systems, imaging, military weapon systems, aviation, and shipbuilding. The forum and exhibition will be held at the San Diego Convention Center in San Diego, California. For more details see the website at [www.usni.org/events/2014-west-conference](http://www.usni.org/events/2014-west-conference).

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

#### February 20-21, 2014

The **Air Force Association** will host its annual Air Warfare Symposium at the Rosen Shingle Creek Conference Center in Orlando, Florida. For more information, see the Association's website at [www.afa.org](http://www.afa.org).

#### March 4-6, 2014

The **American Astronautical Society** will present its 52nd Robert H. Goddard Memorial Symposium in Greenbelt, Maryland. For details, see website at <http://astronautical.org/goddard>.

#### April 10-13, 2014

The **Organization of American Historians** will host its annual meeting at the Atlanta Hilton in Atlanta, Georgia. This year's meeting theme is "Crossing Borders." For more info, see website at [www.oah.org/news/20130709\\_2014OAH.html#sthash.QhJ8SrNs.dpuf](http://www.oah.org/news/20130709_2014OAH.html#sthash.QhJ8SrNs.dpuf).



Dear Members:

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 support of the Foundation. The Air Force Historical Foundation will present its highest awards on Wednesday, November 13th, in ceremonies at the Air Force Memorial and Army Navy Country Club. More information, plus an opportunity to purchase tickets or otherwise support the event, will come to you by mail. Here are the major awards and the winners:

The **James H. “Jimmy” Doolittle Award**—recognizing a U.S. Air Force unit’s significant contributions to air power history—will be presented to the **720th Special Tactics Group** of Hurlburt Field, Florida. The 720th’s roots extend back to World War II. Following early disastrous air drops in the European theater, air commando teams were trained to be “first there” behind the lines to control the infiltration of follow on forces. 6,000 miles to the east shadow operations by air commandos in the Burmese jungles helped write the book on the integration of air-power into unconventional warfare. The skill and bravery of this unit’s Combat Control teams and Pararescue Jumpers have become legendary both inside the military establishment and indeed to the general public. The unit’s reputation has grown greatly through sustained superior performance in all subsequent conflicts. The 720th truly lives up to its motto “These Things We Do, that Others May Live.”

The **General Carl A. “Tooe” Spaatz Award**—recognizing an individual for his or her lifetime of contribution to the making of United State Air Force history—will be presented to **General John A. Shaud, USAF (Ret)**. General Shaud’s distinguished military career spans the Cold War Period to the modern Gulf conflicts, including combat duty as an RF-4 pilot in Vietnam. He commanded a wing, two different air divisions, and the Air Training Command. He held significant staff positions at Headquarters Air Force, and retired from active duty as the Chief of Staff,

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Supreme Headquarters Allied Command Europe. In retirement General Shaud has remained totally active in directing the Air Force Aid Society, serving as the Executive Director of the Air Force Association, and Director of the Air Force Research Institute.

The **Major General I. B. Holley Award**—honoring an individual for his or her sustained, significant contribution to the documentation of Air Force history during a lifetime of service—will be presented to **Jacob “Jack” Neufeld**. From 1964 to 1966, Jack served on active duty as a combat engineer officer at Ft. Campbell, Kentucky, and Ft. Belvoir, Virginia. He began his service with the U.S. Air Force in 1967 as a staff historian with the Eighth Air Force at Westover AFB, Massachusetts. In 1970, he joined the Office of Air Force History in Washington, D.C. Over time, he served as chief for each of its branches. In 1985 he was named Chief Historian of the Air Staff and in 1992 was promoted to Director of the Center for Air Force History. His last civil service position was as Director of the USAF Historical Studies Office. He has been the Editor of the journal *Air Power History* since 1993, sustaining that journal’s reputation as the premier periodical documenting the history of air and space power. Jack holds B.S. and M.A. degrees in history from New York University. He did his doctoral studies at the University of Massachusetts (Amherst), majoring in the history of the Progressive Era. He is the author, co-author, and editor of dozens of Air Force histories, including *The Development of Ballistic Missiles in the U.S. Air Force*, *War in the Pacific*, *Coalition Air Warfare in the Korean War*, *the Vietnam War*; *Life in the Rank and File*; *The Makers of the United States Air Force*, and *The United States Air Force: Founding Centennial and 60th Anniversary*. Most recently he co-authored an eBook, for the Marshall Foundation, titled *The Mons Pocket*, detailing the combat of the 368th Fighter Group in World War II.

I noted in my previous message to you that the Foundation has been working on several initiatives that would help achieve our main goal of a stable financial future. Principal among these is the initiative to join forces with the Air Force Association. Its Board of Directors has agreed to examine the possibility of joining forces with the Air Force Historical Foundation, in order to take advantage of various synergies to sustain and promote mutual support of our Air Force. As of this moment these talks between our organizations are ongoing, and I hope to report progress to you in the near future.

As we seek innovative ways to make our organization more useful, attract a wider audience and reach broader participation, we need your feedback to guide us; it is of the utmost importance to our success. Please, let us know your thoughts.



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

Reserve the date!

November 13, 2013

Army Navy Country Club

The Air Force Historical Foundation

Annual Banquet and

Awards Ceremony

Details to follow by mail

*AFSA*  
**THE AIR FORCE SERGEANTS ASSOCIATION**



**One Mission; One Voice! AFSA is your “ACE” in the Sky!**

As one of the nation’s most trusted non-profit organizations, the Air Force Sergeants Association (AFSA) **Advocates, Communicates, and Educates** law makers and the Pentagon on behalf of the **Total Force** (Air Force Active Duty, Air National Guard, Air Force Reserve Command) enlisted members, retirees, veterans and thier families. As your **ACE in the Sky**, our five targets: Health Care, Military and Veterans Programs, Educational Benefits, Air National Guard & Air Force Reserve Issues, Military Families and Survivors.

AFSA is a proud supporter of the Air Force Historical Foundation!

## POW Correction

The paper by Jacob Neufeld and George M. Watson is a *ground breaking* seminal study of an aspect of military history aspect very seldom discussed.

However, I do wish to re-calibrate a statement, which on the surface is 100 percent correct, but which, for some readers unaware of Polish-Russian World War II history, may be misleading.

The authors write that the Soviets in World War II held more than a 1.5 million prisoners : Poles, Germans, and Japanese. And that in the early 1950s there were still foreign prisoners, including Poles, Germans , Italians, etc.

A reader unaware of Polish-Russian history during the Second World War might construe that these Poles had fought with the Germans and against the Russians. Nothing can be further from the truth .

In fact, the Polish prisoners in Russia in the early years of the war had been captured when the Soviets, broke the existing non-aggression treaty with Poland, and in collusion with the Germans invaded Poland. The majority of these, as the authors write, were murdered in places like Katyn.

After the war members of the Polish Underground [Home Army or AK] who were loyal to the Polish Government in London and had fought against the Germans and in 1944 even attempted to assist the Russians were surrounded, arrested and unless they agreed to join the Soviet officered and sponsored "Polish" communist Army were sent to Soviet prisons bereft of any Red Cross or other help.

*Michael Alfred Peszke, MD, Wakefield, Rhode Island*

## Operation Restore Hope

John L. Cirafici's article on Operation Restore Hope in Somalia brought back memories

In October 1992, I traveled with the Air Force to Mombasa, Kenya, as a correspondent, to fly humanitarian missions into Somalia. Home base was at Moi International Airport in Mombasa, where 632 airmen operated sixteen C-130E Hercules airlifters in an ad hoc unit that brought together members of the Air Force Reserve and Air National Guard.

On November 2, 1993, I flew from Mombasa to Beiet Uen, Somalia, in a C-130E Hercules (68-10498) and returned later in the day aboard another C-130E (63-7894). Two days earlier, a C-130E, carrying *Air Force Times* reporter Andrew Compan, among others, was hit by a small arms round.



A Czech-built ZSU-37, four-barrel, 37mm antiaircraft gun greeted our arrival Beiet Uen—it could have downed a Hercules at any time—and all the men we observed had AK-47s. We heard a lot of shooting nearby. Our flight and many others were made possible by a shaky three-way truce among relief organizations, the Air Force, and regional warlords.

Sources told me the United States had two options—"go big" or "go home." In my view, both were wrong. Our modest presence, vulnerable as we were, seemed to be right sized in proportion to U.S. interests, capabilities, and resources.

I was in Somalia on U.S. election day, November 2, 1992, when a challenger defeated an incumbent president, who a month later ordered 18,000 U.S. troops

(not 1,800 as suggested in the article) into Somalia. The "go big" option ended Operation Provide Relief (August 28-December 8, 1992) and began Operation Restore Hope. As everyone now knows, our commitment to Somalia grew rapidly to more than 28,000 troops, stumbled badly during the "Blackhawk Down" era of October 1993—a shining moment of heroism by Americans in battle—and ultimately failed. None of our missions in that trouble-torn country can be attributed to U.S. military members, who conducted themselves with competence and courage. Still, today Somalia is only marginally better governed and its people only marginally better off than twenty-one years ago.

*Robert F. Dorr, Oakton, Virginia*



## Darrell Whitcomb's "Flying The First Mission of Desert Storm" is 2012's Best Article in Air Power History

This year's winner of the Best Article award is Col. (USAF, Retired) Darrell Whitcomb. Darrell has written many books and articles on aviation and the Air Force. Earlier, he served in Southeast Asia as a forward air controller, then as an Air Force instructor pilot, and as a pilot for Delta Airlines. In this article, he looks at the initial air power action of the Gulf War, in 1991.

The first actions of the Gulf War in 1991 were a series of air attacks designed to destroy Saddam Hussain's ability to continue his occupation of Kuwait and to fight the Coalition forces organized against him. In order to do that, the Iraqi air defenses had to be defeated, and the first step in that process—and the start of the war—was to shut down the two early warning radar stations immediately prior to the beginning of the war. Surprise was essential in this task and the best option was to use U. S. Army Special Forces (SOF) in a surprise attack of the two stations to put them out of use. One serious operational problem stood in the way: the Army's SOF helicopters lacked the night navigation capability to bring them to the targets at very low level and undetected. The Air Force SOF's MH-53J Pave Low helicopters and their crews, however, had more than enough ability to reach the radar stations undetected by flying at less than 50 feet above ground and using terrain following tactics. The trick became combining the Air Force SOF's navigation skills with the Army SOF's firepower.

One Air Force officer assigned to General Norman Schwarzkopf's strategic planning cell had put forward the idea of using Army SOF teams, and leading the teams to the sites with Air Force Pave Low helicopters. Thus developed Task Force Normandy, designed for fast, low-level entry into Iraq with witheringly destructive firepower to arrive at the radar sites undetected, destroy them, and open the way through the otherwise heavy air defenses of Iraq for the Coalition's air striking force. In addition to the obvious advantage of combining precise navigation and destructive firepower, the Air Force SOF crews could provide rescue for any Army team that might be shot down, and they could even refuel the Army SOF helicopters on the ground should that become necessary. Our winning article is an engrossing story of how flawlessly this mission unfolded based on the skills of the Air Force aircrews and the capabilities of the Pave Lows.

Mr. Whitcomb's winning article is one of a number of first-rate pieces that appeared in *Air Power History* during 2012. Following closely in the scoring were

William Cahill's "Imaging the Empire: The 3rd Photographic Reconnaissance Squadron in World War II." Also strong in the judges' view, and very close in the scoring, tied in the scoring actually, was "The Other Atomic Bomb Commander: Col. Cliff Heflin and his 'Special' 216th AAF Base Unit," by Darrell F. Dvorak, and William Cahill's "The Korean War and the Maturation of SAC Reconnaissance."

This year's judges for the best article competition were all members of the Air Force Historical Foundation's Board of Directors: Ken Alnwick; Charles L. Johnson; and Bill Strandberg.

## Air Power History's 2012 Best Book Award

Richard K. Smith and R. Cargill Hall are the authors of *Five Down, No Glory*, selected as the best air power history work for the year 2012, thus winning the Air Force Historical Foundation's Best Air Power History Book award for the year. The award is given annually after a three-judge panel carefully considers and rates all of the books that were reviewed in the Foundation's journal, *Air Power History*, during the year. Criteria for selection call for the book to be of high quality, contribute to an understanding of air power, and for the author or authors to have had a connection to the U.S. Air Force or be a member of the Air Force Historical Foundation.

This team of two experienced historians produced a thoroughly engaging story of Frank Tinker, an American pilot, graduate of the Naval Academy, who, after a short stint with the Army Air Corps in flying training and then as a Naval aviator, flew as a contract pilot for the Spanish Republican air force during the Spanish Civil War of the late 1930s. In Spain, Tinker associated with Ernest Hemingway, got to know many of the Soviet "volunteers" who also flew for the Republican cause, and became the top American ace.

R. Cargill Hall is Emeritus Chief Historian of the National Reconnaissance Office, and previously served as an historian at the Air Force History Office. He is the author of *Lunar Impact: A History of Project Ranger*, and *Lightning Over Bougainville: The Yamamoto Mission Reconsidered*. Richard K. Smith served with the U.S. Merchant Marine, then completed degrees in history at the University of Chicago. Smith is the author of the award-winning *First Across! The U.S. Navy's Transatlantic Flight of 1919*.

The judges' voting was very close, with Lt. Gen. George Loving's *Bully Able Leader*, his story of flying with the Fifth

Air Force during the Korean War barely being edged into second place. We had a number of other fascinating books on this year's nomination list, as well; all of them are worth reading.

A pair of books describes the adventures of two World War II B-24 crews, one flying from a base in Italy, the other in the Pacific. *The Final Mission of Bottoms Up* recounts the story of *Bottoms Up* and its crew, lost over former Yugoslavia; the crew bailed out at low altitude after a desperate attempt to save the airplane. The airplane crashed in what is now Croatia. Some of the men were rescued, while the others finished the war in a German prison camp. In *Finish Forty and Home*, most of the crew survived the necessary number of missions for return to the States, but the flying was hazardous, many of their friends were lost, as was one of their aircraft. The B-24 was a difficult plane to fly, and these two books are exceptional studies of how the Air Force's people completed training and coped with the constant presence of death as they carried out their mission tasks, and then how they readjusted when they got home. Both are well worth reading, and they should be read together.

Colonel Joe Kittinger's *Come Up and Get Me* relates the life of a test pilot and one of the main participants in the Air Force's high altitude balloon flight program of the 1950s that developed techniques for astronauts to use in manned space flights. For fifty years, Kittinger held the record for high altitude balloon flight and free fall jump from a balloon at 102,800 feet. The free fall lasted for 4 minutes 36 seconds, during which he reached a speed of 614 mph. Kittinger was also the technical advisor on the record-breaking balloon ascent and bail out made by Felix Baumgartner in 2012 (that broke Kittinger's altitude and free fall speed record). *Come Up and Get Me* is an enthralling book.

This year's judges included Dr. Michael Rouland, a historian with the U.S. Navy Historical Office in Washington, DC; Dr. Daniel Mortensen of the Air Force Research Institute at Maxwell AFB, Alabama; and Mr. Scott Shaw a research staff member at the Institute for Defense Analyses in Alexandria, Virginia. These three had a particularly difficult job, as several of the books considered scored highly.

I am most grateful to the three judges, who spent many hours on this task, and to the several authors and those who supported and advised them during the time they spent researching, writing, contemplating their projects, and revising the texts.

The award will be presented at the annual Air Force Historical Foundation's awards gathering in November.

The list of the remainder of the books nominated for this award follows, and the judges and I recommend all, as well as those mentioned above, to anyone who has an interest in air power and the Air Force:

Fogg, Richard and Janet. *Fogg in the Cockpit: Howard Fogg—Master Railroad Artist, World War II Fighter Pilot—Wartime Diaries, October 1943 to September 1944.*

Scarce, Phil. *Finish Forty and Home: The Untold World War II Story of B-24s in the Pacific.*

Boyer, Walter J. *How the Helicopter Changed Modern Warfare.*

Kittinger, Joe and Craig Ryan. *Come Up and Get Me: An Autobiography of Colonel Joe Kittinger.*

Tambini, Anthony J. *F-5 Tigers over Vietnam.*

Whitcomb, Darrel. *Call-Sign Dustoff: A History of U.S. Army Aeromedical Evacuation from Conception to Hurricane Katrina.*

O'Connor, William B. *Stealth Fighter, A Year in the Life of an F-117 Pilot.*

Okerstrom, Dennis R. *The Final Mission of Bottoms Up: A World War II Pilot's Story.*

Quinn, Chick Marrs. *The Aluminum Trail: How and Where They Died.*

*John F. Kreis, Chairman, Publications Awards Committee*

## The Two Air Forces' Award

I wished to write to you and the Board of the Air Force Historical Foundation to express my appreciation, having been selected as this year's Royal Air Force winner of the Two Air Forces' Award. I was presented the award last week in London at the annual general meeting of the Royal Air Force Historical Society. To have been selected for the award was very much unexpected, but then to receive your kind letter of congratulations and the Two Air Forces' trophy was a complete surprise. Indeed, I would be delighted to accept your offer of a year's free membership in your Foundation.

The timing of the presentation was also a remarkable coincidence as I was promoted into a new assignment just a few days earlier. Now, fulfilling the role of international engagement group captain on the Air Staff, I find myself working very closely with the United States Air Force, whether with those personnel stationed here in Britain, U.S. attaché staff in London or colleagues across the United States. It is clear even from my short time in the post, that the incredibly close working relationship between the RAF and the USAF is as strong and productive as it has ever been.

So may I conclude by assuring you and the Board that my selection for the

award and your generous contribution of the trophy has spurred me on to ensure that I seize every opportunity to further develop that already close relationship between our air forces.

*Group Captain N. Tucker-Lowe, DSO, MA, MCMI, RAF, Whitehall, London*

**Editor's Note:** Dated July 12, 2013, this letter was addressed to Maj. Gen. Meyerrose, President of the Air Force Historical Foundation.

## New commander takes charge of 69th Reconnaissance Group

8/15/2013 - (Below, at left) Col. Phillip A. Stewart, 9th Reconnaissance Wing commander, hands off the 69th Reconnaissance Group guidon to Col. Lawrence Spinetta during a change of command ceremony Aug. 14, 2013, at the 3 Bay hangar on Grand Forks Air Force Base, North Dakota. Spinetta replaced Col. J. Scott Winstead, who recently retired from active duty after 26 years of service. Col. Spinetta has volunteered his time to be the Treasurer of the Air Force Historical Foundation in recent years. (U.S. Air Force photo/Staff Sgt. Susan Davis)





## Col. George "Bud" Day, USAF (Ret.) (1925-2013)

Colonel Day served in World War II, the Korean War, and the Vietnam War. He died on July 27, 2013 at the age of eighty eight.

Day was born February 24, 1925, in Sioux City, Iowa. In 1942 he enlisted in the U.S. Marine Corps and served thirty months in the North Pacific. After the war he joined the U.S. Army Reserve, from 1946 to 1949, and received a commission from the Iowa National Guard, went on active duty, and earned his wings at Webb AFB, Texas, in 1952. He served two tours in Korea as an F-84 pilot. He was an assistant professor of AFROTC at St. Louis University, Missouri, from June 1959 to August 1963.

Day volunteered for a tour in Vietnam and in April 1967 he joined the 31st Tactical Fighter Wing at Tuy Hoa AB. flying F-100s. Major Day was made commander of Det. 1416 TFS at Phu Cat AB. Their F-100Fs were evaluated as Fast FACs (Forward Air Controllers), call sign *Misty*. On August 26, 1967, he was shot down and captured by the North Vietnamese. Despite being badly hurt, he nearly managed to escape and got to within two miles of a U.S. Marine firebase, but was recaptured and tortured. He shared a cell with U.S. Navy Lt. Commander and future Senator John McCain. Following his release from prison in March 1973, after five years and seven months in captivity, he was reunited with his wife, Doris, and four children at March AFB, California. In March 1976, President Gerald Ford awarded Colonel Day the Medal of Honor for his personal bravery while a prisoner in North Vietnam. Day was also awarded the Air Force Cross Medal. He retired in 1977 to resume his law career. Day wrote two books detailing his experiences as a POW: *Return with Honor* and *Duty, Honor, Country*. In 1996, Day filed a class action suit for breach of contract against the U.S. government on behalf of retirees who lost their medical care benefits at age sixty five and told to apply for Medicare. He won the case but lost in the U.S. Court of Appeals. Congress redressed the situation by establishing the Tricare for Life Program.

Colonel Day was a member of the Lutheran Church-Missouri Synod and of the Florida Republican Party. He campaigned for John McCain and was involved in the 527 Swift Vets and POWs for Truth.



## Gen. John Pauly, USAF (Ret.) (1923-2013)

Gen. John Pauly was ninety at the time of his death on August 7, 2013, due to natural causes in Colorado Springs, Colorado.

He retired on August 1, 1980, after serving his last assignment as commander Allied Air Forces, Central Europe and commander United States Air Forces in Europe. Pauly was graduated from the U.S. Military Academy at West Point, New York in 1945, where he earned his commission and pilot wings. He next attended B-25 Mitchell and B-17 Flying Fortress transition training and junior officers staff school prior to reporting to the 60th Troop Carrier Training Group, Munich, Germany in February 1946.

He later served there as an instructor at the Central Pilots School of USAFE and as assistant operations officer for the 11th Troop Carrier Squadron. General Pauly went on to also serve during the Korean War, flying fifty-five night intruder combat missions, totaling 230 combat hours in B-26 Marauder aircraft. After several stateside assignments he was appointed commander-in-chief of USAFE and AAFCE commander in August 1978.

During his career Pauly earned the rating of command pilot, with more than 6,000 flying hours.. His military decorations and awards include the distinguished Service Medal, with oak leaf cluster; Legion of Merit, with two oak leaf clusters; Air Force Commendation Medal; and from the Republic of Vietnam the Air Force Distinguished Order (2d class); and the Gallantry Cross, with Palm.



### **Brig. Gen. Douglas Kinnard USA (Ret.) (1921-2013)**

Brig. Gen. Douglas Kinnard, died of pneumonia July 91, 2013, at a hospital in Chambersburg, Pennsylvania. He was ninety-one.

A West Point graduate, he served in World War II, The Korean War and the Vietnam War. A dissenter against the Vietnam War, he wrote eight books, including, *The War Managers* (1977) reporting the opposition of many American general officers. He was especially critical of the “body counting” as a measure of success. In 1948, he earned a Master’s degree in politics from Princeton University. He served with NATO as a staff assistant in France and commanded an artillery division in Germany before his assignment to Vietnam. In spring 1970, he led an incursion into Cambodia, which sparked antiwar protests in the U.S. He retired from the military and returned to

Princeton to earn a Ph.D. He then embarked on a teaching career at the University of Vermont, the University of Oklahoma, the University of Richmond, and the Naval War College. In 1984, he served briefly as head of the Center of Military History.

General Kinnard’s medals include the Distinguished Service Medal, the Legion of Merit, the Distinguished Flying Cross, two awards of the Bronze Star, and four awards of the Air Medal. He is survived by his wife Wade Tyree Kinnard and son, Frederick. (*Photo courtesy of the University of Vermont.*)



### **Maj. Gen. I. B. Holley Jr., USAFR (Ret.) (1919-2013)**

Professor I.B. Holley Jr., of Duke University, died on August 19, 2013, at the age of ninety-four. Born in 1919, Holley earned his undergraduate degree at Amherst University.

He enlisted in the Army Air Corps in 1942, shortly after the attack on Pearl Harbor and soon established himself as a superb aerial gunner instructor. Following the war, Holley joined the Air Force Reserve in 1947, rising to the rank of major general in 1976. In a succession of positions, in the Office of the Secretary of the Air Force, as mobilization designee to the commander of the Keesler Technical Training Center, and from 1975 until his retirement in 1981 as mobilization designee to the commander of Air University, Professor Holley strove for excellence in education. During that

time he wrote several manuals on military procurement and worked with the Air Staff to improve training. He has lectured on military doctrine and technology before all four military branches of the U.S., the NATO staff college in Rome, and the Royal Air Force.

At Duke University, he touched the lives and academic careers of thousands of students. In numerous other ways—as a member of advisory panels and committees on ROTC and Air Force and NASA history, lecturing to Air University faculty and Air Staff research associates on research methods, training other officers for the Ph.D. in military history, presenting papers and speaking on military topics from leadership to space operations. For more than sixty years he has helped give the Nation’s youngest service an appreciation for its rich and varied past. Few individuals have contributed more to the study of history in the U.S. Air Force than Dr. Holley. In 1968, he served on the Townsend Hoopes Committee, which recommended creating the Office of Air Force History.

From the beginning of his scholarly career, Holley has been concerned with the influence of thought on military organization and on war. His book, *Ideas and Weapons* (Yale University, 1953), grew out of his studies at the end of world War II. It evolved into a dissertation at Yale University and has since become a classic of air power history. In this work and his later writings, Holley has emphasized the crucial role doctrine plays in air forces. Equal in importance to content, he argued was the process in a military organization by which doctrine came to be implemented. In 1982, Gen. Charles A. Gabriel, the Chief of Staff, called on the Air Force to continue the “study of military history, combat leadership, the principles of war and, particularly, the applications of air power.”

On October 17, 2007, The Air Force Historical Foundation established the Maj. Gen. I. B. Holley Award to honor individuals who have made “a sustained significant contribution to the documentation of Air Force history during a lifetime of service.” Holley himself was the first recipient of the award.

He retired in 1989, but stayed active, serving on the editorial boards of *Air Power History*, the *Journal of Logistics*, and *Air & Space Power*. He continued teaching undergraduates at Duke.

*Part of this obituary is drawn from the Foreword to Ideas and Weapons, a 1983 new imprint of Dr. Holley's book published by AFCHO, in Washington, D.C.*



### **Gen. David C. Jones, USAF (Ret.) (1921-2013)**

General David Jones who served as Air Force Chief of Staff from 1974 to 1978, and then Chairman of the Joint Chiefs of Staff from 1978 to 1982, died August 11, 2013 at ninety-two from Parkinson's. His tenure as Air Force Chief of Staff spanned an era of austerity following the Vietnam War called the epoch of the “Hollow Force.” Jones stressed readiness and modernization of weapon systems.

David Charles Jones was born in Aberdeen, South Dakota on July 9, 1921. Growing up in Minot North Dakota, he often rode his bicycle to the nearby airfield and fantasized about becoming a combat pilot. Following graduation from the local high school he attended the University of North Dakota and Minot State College. He left college in April 1942 to join the U.S. Army Air Corps and received his commission and his pilot's wings in February 1943.

After serving as a flying instructor in New Mexico, Arizona, and Texas, Lieutenant Jones was assigned to the 3d Emergency Rescue Squadron of the Fifth Air Force in Japan in 1945. He began as a unit pilot, flying Catalina flying boats, and rose to command the squadron. He was promoted to captain in April 1946. From 1948 to 1949, Jones was a unit instructor and then assistant operation and training officer with the 2236th Air Force Reserve Training Center, Godman Field, Kentucky. Also during this period, he attended the Air Tactical School at Tyndall AFB, Florida, the Atomic Energy Course at Keesler AFB, Mississippi, and the Armed Forces Special Weapons Course at Sandia Base, New Mexico.

Jones was assigned to the 19th Bombardment Squadron at March AFB, California, in January 1950 and promoted to major in February 1951. During his three-and-one half years with the 19th, he rose to aircraft commander, then operations officer, and finally commander of the squadron. He flew more than 300 combat hours over North Korea. In May 1953, he transitioned from bombers to tankers, taking command of the 22d Air Refueling Squadron at March AFB. Promoted to lieutenant colonel in June 1953, he remained at March but returned to bombers the following year as commander of the 33d Bombardment Squadron.

Jones next served at Headquarters, Strategic Air Command (SAC), Offutt AFB, Nebraska, during SAC's build-up period. Assigned in September 1954 as an operations planner in the bomber mission branch, he remained there until January 1955, when Gen. Curtis E. Le May selected him as his aide. Promoted to colonel in April 1957, Jones became director of materiel and later deputy commander of maintenance of SAC's 93d Bombardment Wing at Castle AFB, California. Following a stint at the National War College in 1960, Jones was assigned to the Air Staff's operations directorate for four years. As chief of the manned systems branch, he worked on the B-70 bomber project. He then served as deputy chief and chief of the Strategic Division. After F-100 and F-4 training, Jones assumed command of the 33d Tactical Fighter Wing, Eglin AFB, Florida, at its activation in 1965 and brought it to operational status.

Jones then served in key staff assignments with U.S. Air Forces Europe (USAFE). In October 1965 he became USAFE inspector general, responsible for inspecting units at more than ninety installations in ten countries. He was promoted to brigadier general in December 1965. In January 1967 he became USAFE chief of staff and, in June, deputy chief of staff for plans and operations. He received his second star in November 1967.

In February 1969, Jones was assigned to Headquarters, Seventh Air Force, Ton Son Nhut Airfield, Republic of Vietnam, as deputy chief of staff for operations and became vice commander in June. Promoted to lieutenant

## In Memoriam

general, he returned to SAC in August 1969 as commander of the Second Air Force, headquartered at Barksdale AFB, Louisiana. In April 1971, General Jones returned to USAFE as vice commander-in-chief. He assumed command of USAFE and the Fourth Allied Tactical Air Force in August and was promoted to general in September. In his North Atlantic Treaty Organization (NATO) capacity as commander of the Fourth Allied Tactical Air Force, General Jones directed an international planning team that integrated central region air forces into a more cohesive organization. Key to that effort was his creation of a small operational and planning headquarters, Allied Air Force, Central Europe.

Capping a career that had included operational and command positions in bomber, tanker, training, and tactical fighter units as well as headquarters staff, positions, General Jones became chief of staff of the Air Force in July 1974. A major theme throughout his tenure was “readiness.” He concluded that in any future conflict the United States was unlikely to enjoy the past luxury of long “acceleration lanes” in which “to mobilize, train, and deploy the cutting edge of our combat capability.” He noted that because our non expansionist foreign policy tended to concede the initiative to an aggressor, “we have to remain perpetually ready for a come-as-you-are conflict.” Therefore, to face the reality of a more ready and efficient if not austere Air Force, General Jones pursued a policy of developing high-technology weapons systems. In addition, he reorganized Air Force command structure and substantially reduced headquarters staffs. He supported modernization with such systems as the F-15 and F-16, the A-10, and the EA-3A (AWACS). Much of the modernization program was focused on the European area, where the United States developed initiatives in response to Department of Defense and congressional interest for an increase in the capability of NATO.

After four years as chief of staff of the Air Force, General Jones became President Jimmy Carter’s nominee to the ninth chairmanship of the Joint Chiefs of Staff (JCS). Jones presided over the JCS during a period of increasing Soviet military power and the emergence of militant Islam as a threat to pro-Western regimes in the Persian Gulf region. During his tenure as chairman, defense funding increased especially under President Ronald Reagan in response to the Soviet threat and continuing JCS advocacy of strategic force modernization despite progress on strategic arms control.

Jones accompanied President Carter to Vienna, Austria, in June 1979 for the final stage of the Strategic Arms Limitation Treaty (SALT) II negotiations with the USSR. When the Soviet invasion of Afghanistan raised fears the Soviet forces there might move into neighboring Iran, where an anti-Western regime had taken power in early 1979, President Carter created a rapid deployment force (RDF) for Southwest Asia to counter any such attempt in the region. Subsequently, at the discretion of the secretary of defense, General Jones oversaw planning for the transformation of the RDF into a regional unified command. The planning for what in 1983 became the U.S. Central Command was essentially completed during his chairmanship.

Jones also oversaw the planning for the rescue of the U.S. embassy personnel taken hostage in November 1979 by followers of the Iranian leader Ayatollah Ruholla Khomeini, and he survived the criticism for that rescue mission’s failure. During his second term as chairman, Jones worked to make the chairman, rather than the corporate JCS, the principal military adviser to the President and the secretary of defense, arguing that such a change of the National Security Act would improve the quality and timeliness of military advice and the combined readiness and effectiveness of the nation’s combat forces. Jones argued for “an absolutely critical need to change this nation’s structure of military leadership,” he told *U.S. News & World Report* in 1982. “Historically, the United States has not paid attention to military organization until a catastrophe occurs.” Jones continued his efforts toward that goal after his retirement as chairman of the JCS and saw it come to fruition with the passage of the Goldwater-Nichols Department of Defense Reorganization Act in 1986.

After retiring from the Air Force in 1982, Gen. Jones served on the boards of many corporations and nonprofit groups, including USAir, U.S. Steel, General Electric, and the American Red Cross. He served as chief executive of the National Education Corp. in 1989 and 1990.

Gen. Jones was a longtime resident of Arlington County Virginia. His wife of sixty-seven years, Lois Tarbell Jones, died in 2009. Survivors include three children, David Curtis Jones, Kathy Franklin, and Susan Coffin, a sister, four grandchildren, and two great-grandchildren.

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by Robert F. Dorr



The mystery aircraft in our Summer Issue was the U.S. Army's H-37 Mojave medium-lift helicopter. The Marine Corps used this rotorcraft under the designation HR2S.

The H-37 was a result of Korean War experience, where transport rotorcraft first hauled troops and cargo around the battlefield.

Resembling a mantis on steroids, the H-37 derived its ungainly appearance from its mission—to lift cargo, both internally and slung beneath the fuselage—and by clamshell doors at the front of the aircraft. Replete with a tail wheel that dangled from the rear fuselage, the H-37 looked like a committee had designed it. Still, soldiers liked it, although it was not always beloved by maintainers.

"It burned oil almost as fast as it did gas," said retired Master Sgt. Cecil Shipp, of Augusta, Georgia, who worked H-37s in Korea in 1964. "We called it 'Shake, Rattle and Roll.' Still, it was a workhorse. It flew pretty well although it was a little sluggish when maneuvering."

The HR2S-1 prototype for the Marine Corps made its first flight December 18, 1953. The H-37 joined the Army the following year.

Eighty-eight feet long with a rotor diameter

just over 72 feet, the H-37 was the largest helicopter outside the Soviet Union. It was powered by two 2,100-horsepower Pratt & Whitney R-2800 Double Wasps, the same piston engines that powered the World War II P-47 Thunderbolt. The H-37 is credited with a maximum speed of 126 miles per hour.

The lift capacity of the H-37 was the reason for its existence and the reason it was replaced when the more robust CH-47 Chinook came along in the early 1960s. Literature about the helicopter proclaimed that it could carry two Jeeps, a 105-mm. howitzer, 26 combat troops, or 24 medical litter patients. In practical terms, any of these loads was more than it could carry very far.

The career of the H-37, re-named the CH-37 in 1962, was truncated by the arrival of new helicopters in inventory, particularly the Chinook, and by the advent of the gas turbine engine, which was more efficient and economical than piston power. Some veterans recall that the cost of operating the H-37, relative to other choppers, was close to being prohibitive.

Marines and soldiers began retiring their CH-37s in the mid-1960s. Today, no airworthy example exists but a handful remain as museum display items, including one at the Army's museum at Fort Rucker, Alabama.

Our follow-up photo from Shipp depicts Army CH-37A 57-1655 in a hover, wearing the vertical yellow stripes that identify an aircraft flying into the Joint Security Area at Panmunjom, where Korean War armistice negotiations continue today.

Our "History Mystery" winner is Earl Lock of Lexington, Kentucky—the only reader to win this contest three times in its 24-year history. His prize is a copy of the just-published book "Mission to Tokyo," a history of B-29 Superfortress crews in World War II.

Responding to several reader requests to make this contest easier (this is the fun part of the magazine, remember), we'll challenge you this time around to write a sentence about our new "History Mystery" aircraft. Remember the rules:

1. Submit your entry via e-mail to robert.f.dorr@cox.net. Entries may also be sent via postal mail in any format to Robert F. Dorr, 3411 Valewood Drive, Oakton VA 22124.

2. Write a sentence about the aircraft shown here. Include your address and telephone number. One contest entrant had to be disqualified this time around because she did not include a phone number.

3. A winner will be randomly chosen from the correct entries and will receive an aviation book.

And let's get serious about those historical treasures in your attic or basement. Some readers

say they just don't remember where their color slides are. That's not a good way to assure the preservation of history. Dig out your slide or snapshot of a rare aircraft and lend it to *Air Power History* for this contest.



## This Issue's Mystery Plane



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