

REMEMBERING THE B-17



And Its Continuing Relevance to Today's Debates

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Preface

In this Special Report, we look at the B-17 and its role in World War II. The report has been generated by the opportunity to honor a B-17 crew in a ceremony this June in France. We start in the report by remembering the Greatest Generation and a piece by the Honorable Bill Anderson, which does so with grace.

But the thrust of this report is to bring this generation back to earth and to place the B-17 decision in the context of the 1930s. The B-17 barely made it through the decision-process of the 1930s and was not built in the numbers necessary to ensure that it was used effectively and appropriately.

Only after the Germans and the Japanese taught the United States a great deal about air combat, did the B-17 concepts of operations get adjusted with appropriate technology and operational approaches to become effective.

It is this from this perspective of operational hard landings, that today's situation can learn a great deal. Hopefully, it will not come through the crucible of war but from the standpoint of pro-active wisdom.

Reflections on the Greatest Generation: Shaping the Future

2013-02-06 by Bill Anderson

Recently, my wife and I had the pleasure of attending the dedication of the US Freedom Pavilion at the National World War II Museum in New Orleans.

This new addition to the Museum...made possible by the generosity of The Boeing Company and other donors...displays some of the significant flying assets that were at the center of the allied victory during the war. We've been supporters of the Museum for many years, and have had a number of opportunities to participate in a wide range of events there.

While the events are always interesting and informative, the true draw for us is the opportunity to meet surviving members of the Greatest Generation.

Whether combat vets, Red Cross volunteers, those who labored in the factories, the fields, or organized scrap drives to support the war effort, the chance to talk to them and their families, sharing the common experiences of growing up in the shadow of an entire generation of American patriots, is the true experience of the WWII Museum.



Honoring those who served and continuing to serve the country facing global threats is the challenge. And as we move through tough budgetary choices, will we balance the budget on the backs of those who serve? Credit Image: Bigstock

This trip to New Orleans was no different...providing hours of opportunity to hear stories of selfless service.

As we stood on the third level observation deck at the Freedom Pavilion, almost close enough to the war planes suspended above the floor to reach out and touch them, we soaked in the details of sacrifice, commitment and a clear sense of purpose. We spent time with Catherine Stevens, wife of the late Senator Ted Stevens, and Irene Hirano Inouye, wife of the late Senator Daniel Inouye, reminiscing.

We shared stories about the service of both men during World War II and the opportunities I had to work with them while I served in the Pentagon and, of course pondering the future of the USAF in the Pacific. We met a delightful couple from Metairie, LA, learning from the husband what it was like to serve as a belly gunner in the B-17 as we

looked at his aircraft hanging from the ceiling of the Museum. We experienced flying the B-25 Mitchell bomber through the eyes of an Airman who commanded that aircraft in the Pacific theater.

We learned that some of the special guests at the event walked on four legs...getting a briefing from a retired Air Force officer, now an octogenarian, who has dedicated the autumn of his life to training service dogs that are presented free of charge to our wounded warrior heroes returning from Iraq and Afghanistan. An illustration that an Airman's commitment to "Service Before Self" survives long after he hangs up the uniform for the last time.

Finally, we spent time with two members of the fabled Tuskegee Airmen, who had to fight discrimination at home to earn the right to fight for their country over the skies of Europe.

Each story is unique...each tale of sacrifice in its own way amazing...no matter how large or how small.

Organizations like the National World War II Museum are doing great work in preserving as many of these important life experiences as they can.

But, sadly, many of these important tales go untold as we lose more and more members of the Greatest Generation every day.

It's really an obligation for all of us to listen carefully to the tales of these aging patriots...reflect on the lessons afforded to us...and dutifully document what we hear.

Millions of Americans...offspring of the Greatest Generation...have their own, very personal, connection to World War II and to those who served.

For me, my connection is through my father.

My earliest recollections are as a very young boy standing next to my dad...at the time the chaplain for his local American Legion Post...at graveside Memorial Day remembrance ceremonies. I have strong recollections of spending time with a family friend...severely disabled from wounds received during the push from Normandy to Germany. His day-to-day struggles coping with his disability were evident...but his love of country and pride in his service never wavered. I also remember the evenings my father joined his fellow Legionnaires on the Visitation Committee...responsible for performing memorial services for departed comrades.

But, I never fully absorbed how moving that ceremony was until I witnessed it last...this time performed for my dad...as his Legion buddies formally transferred him to "Post Everlasting".

And like many of the Greatest Generation, my father rarely spoke about his service during World War II.

If it weren't for our daughter's 10th grade social studies assignment years ago...to interview a World War II vet...some of my dad's experiences would have been lost forever.

My dad was already exhibiting significant effects of dementia...but his recounting of his time in the service was crystal clear. We learned that he and two of his childhood friends decided to go to the Armed Forces Recruiting Station in Chicago in the early morning hours of December 8, 1941 to enlist in the military.

President Roosevelt had yet to declare war...but these three young men knew it was their duty to serve.

I have often likened their reaction to the many young Americans who immediately after September 11, 2001 put their lives on hold to join the military to fight the Global War on Terror.

We heard about what it was like to do convoy escort duty in the North Atlantic. We listened as my father recounted the story of how the Bogue (CVE-9) Hunter/Killer Group conducted a 27 hour search for U-Boat 172...successfully engaging the target and sending the enemy craft to the bottom. And, we got a glimpse of the lighter side of his experience as well...spending Christmas 1943 on shore leave in New York City, celebrating at the Hotel Piccadilly, Times Square, New York City.

So, with all the issues we face as a country today, why am I wasting print reminiscing over times so far in the rear-view mirror?

Well, many have drawn comparisons between the challenges of the Great Depression/World War II and today.

With good reason...similarities abound.

Financial turmoil, unemployment, serious concerns about immigration, and threats from abroad are common to both eras. And one could conclude that those similarities would manifest themselves into the same spirit of selflessness and common purpose we saw generations ago.

Yet for some reason that spirit seems to be eluding us.

And one should certainly wonder why. There are differences...mainly in the length and depth of our challenges...which may hold the answer.

Certainly, we are not experiencing lines around the block for people to get a meal at the local soup kitchen.

And, though we have many patriotic young Americans answering the call to military service, it is a very small portion of the population as a whole.

So, we may all feel the financial pinch and understand that we have Americans in harm's way...but for many of us it's really somebody else's problem. We're all aware that tough decisions are going to have to be made in the near term...or risk a train wreck for our grandkids.

The battle cry these days seems to be "we need to make sacrifices...just as long as it's not me who has to do the sacrificing."

I'm not sure we are living up to the legacy of the Greatest Generation.

And as we move through those tough choices, will we balance the budget on the backs of those who serve?

When it comes to our warfighters and vets, for the most part in the past promises made meant promises kept. We trained and equipped our military to have overwhelming advantage...as they should.

And we made a deal with them...they agreed to defend us and our way of life, and we made certain benefits available for them and their families.

That is the sacrifice of those of us who live safely under the protections they provide. Selflessness requires that we ratify that commitment to those who sacrifice the most for the common good.

It's dangerous to attempt to summarize the impact of the deeds of an entire group of people in just one thought.

The length and breadth of the impact of the Greatest Generation makes such an attempt more treacherous still.

But, in my mind, there is one short quote that sums up succinctly what the Greatest Generation stood for...what they taught us all about service and humility...and about how each viewed their individual role in a set of events much bigger than any one person.

That quote comes from the incredible book by Tom Brokaw, [The Greatest Generation](#).

Brokaw interviewed many who served during that time...documenting their amazing stories for posterity.

In one of those interviews, a vet provided to us all a clear view of the motivation of a generation that faced significant and multiple challenges over a lifetime. That vet said, "I was a young man growing up in America. I knew the difference between right and wrong. Wrong couldn't win. So, I fought." Duty, Service, Family, God and Country. Maybe there is a lesson in here for all of us...as relevant today for a generation searching for ways to work together to tackle our current challenges as it was to a world in crisis seven decades ago.

The Honorable William C. ("Bill") Anderson served as Assistant Secretary of the Air Force for Installations, Environment and Logistics and the Air Force Senior Energy Executive under President George W. Bush from 2005 to 2008. The author can be contacted at CO2RCR@hotmail.com. SK1 Harold E. Anderson served aboard the USS Osmond Ingram, DD255/ADV9, from April 1942 until June 1944. During his time aboard, the ship was presented with five battle stars (four for anti-submarine warfare and one for the invasion of Southern France) and the Presidential Unit Citation.

Remembering the B-17: Does Washington Ever Change

2013-04-15 by Robbin Laird

My family and I will be participating in an event honoring the B-17 crews this summer in France.

In preparing for the event and my presentation on the B-17, I have had the chance to read through many books, and diaries of participants or analysts of the B-17, in the Pacific and in Europe.

The crew we are honoring were forced down in France during a July 4, 1943 bombing raid on France.

What I have been working on is recovering the sense of what 1943 felt like for a bomber crew flying that year.

We know the end of the war, and something of its history. The men flying the plane on that day in 1943 knew neither.

(For a brochure announcing the event see the following: [B17 Returns to France](#)).

The Role of the B-17

In effect, the B-17 was the American response to the U-Boat assault on the Atlantic bridge. While the U-boats attacked the American resupply of the allies in the United Kingdom, the Flying Fortress took the fight deep into Nazi Germany and also attacked Nazi forces in occupied Europe.

1943 was a tough year for the Flying Fortress. Formations of bombers operated deep in Nazi territory without fighter escorts. Until the P-51 "Mustang" showed up later in the war, brave bomber crews operating in daylight worked in formations to fight off the Luftwaffe on the way to bombing runs and on the way back.

The bombing of Nazi forces and the support structures throughout Europe was intensified throughout Europe. The Flying Fortress were frequent visitors to France and part of the effort to destroy forward deployed Nazi forces arrayed against the allies operating at sea and from England.



B-17s Flying a Mission Over France. Credit: US National Archives

As one Fortress gunner described the bombing run against Le Bourget on August 16, 1943, "Soon after daylight the formation was crossing the gray-green water of the English Channel. My anxiety and tension mounted, as I knew we would face the fierce German fighters, for on this clear day we would invade the lair of Goering's best. The veterans had made certain we knew what usually happened to new crews on their first meeting with Jerry. They were not expected to come back — it was as simple as that."

A Busy Day for the Mighty 8th: July 4, 1943

One such crew, which did not come back from their mission that day, is being honored in a ceremony in Noirmoutier Island, France. On July 4, 1943, a crew of 10 men crash-landed during a mission against Nazi forces in France. The men were captured and, as was the Nazi way, they were not protected by the Geneva Convention but moved into camps designed for all who opposed the Third Reich.

And the report that day on the bombing activities of the 8th Air Force:

8th Bomber Command Mission 71: 192 B-17s are dispatched against aircraft factories at Le Mans and Nanes, France; 166 make a very effective attack; US claims 52-14-22 Luftwaffe aircraft; US loses 7 with 1 damaged beyond repair and 53 others damaged; casualties are 1 KIA, 9 WIA and 70 MIA.

83 other B-17s are dispatched against submarine yards at La Pallice, France; 71 hit the target between 1201 and 1204 local; US claims 0-1-0 Luftwaffe aircraft; US loses 1 and 1 is damaged; casualties are 10 MIA. Bombing is extremely accurate.

B-17 Operations

The aircraft was rugged, well fortified and able to land in some cases with three engines or less.

Battle damage photos are truly amazing of planes coming back with major parts of the aircraft missing.

But it was designed to operate as a fleet and in formation flying to provide for the ability to protect and defend the planes engaged in the mission.

Operating as a fleet was always challenging.

- De-confliction of airspace was a basic problem, which was difficult to manage
- There were mid-air collisions;
- There was fratricide by fire when B-17 gunners were attacking enemy fighters;
- This was severely aggravated by low visibility conditions or night operations;
- Pilots detested the severe risks of collisions or mishaps because B-17 formations were not really suitable for night flights;¹
- Enemy fighters aimed to create havoc in the fleet formations;
- The high-low stacks within the formation meant that the high stack especially suffered from dealing with very low temperatures, but coping with cold was a core problem facing crews throughout missions.

The plane and the fleet evolved its concepts of operations over time, dependent on operational geography and the impact of dealing with the reactive enemy.

And in this case the Japanese and Germans learned from each other with regard to what worked and what did not against B-17 formations.

Among the various concepts of operations evident in B-17 actions were the following:

- Daylight Strategic Precision Bombing from the UK;
- Bombing Deep Within Germany for Strategic Effect;
- Tactical Bombing Support for Preparation for D-Day;
- When Italian Bases were Established Targeted Fuel Facilities Supporting the German War Machine;
- Shuttle bombing missions to support Soviet tactical operations, on the way back, and strategic targets on the way to Russia.

Not surprisingly, the B-17 evolved over time to correct deficiencies and to add capabilities as the Luftwaffe changed tactics to attack the heavy bomber formations.

This is the normal path for combat airpower is to evolve over time, to overcome problems or to work more effectively in concepts of operations, and war is an interactive deadly game which requires technical adaptation.

The Coming of the B-17

In the rearview mirror, building the B-17 seemed a slam-dunk.

¹ John Comer, *Combat Crew: The Story of 25 Combat Missions Over Europe: From the Daily Journal of a B-17 Gunner* (p. 216). John Comer. Kindle Edition. (2012-01-0

But in neither Inside the Beltway nor inside the battle of the services was the B-17 a certainty.

If one goes back in history, one discovers that the B-17 almost did not happen.

And interestingly, the confluence of two decisions made without any reference to one another would have a decisive effect on the war.

In Berlin, Hitler decided against building a medium bomber in the mid-1930s or for that matter building a new variant of the U-boat which could really operate like a submarine. And on the U.S. side, the Army Air Corps stumbled forward by barely funding the B-17 as a prototype plane.

The United States in the 1930s was much like now. Even more so than now, the US was a reluctant investor in new military technologies.

Past is prologue for many decision-makers and funders of military equipment; but the future is always coming and requires change.

There was no separate Air Force, but the air element was part of the Army and of increasing interest to the Navy for coastal defense missions. The Army Air Corps later the Army Air Force held a competition for a new bomber in 1934, but the baseline bomber of the day was a two engine plane which was designed more or less for ground support, and certainly not for long distance bombing.

When the Army Air Corps held a competition for a bomber, the B-17 lost among many other things because it was in the words of a senior Department of War official “too much of a plane for one man to handle.”

Nonetheless, the B-17 won the initial fly off and based on its initial performance, the Army Air Corps ordered 65 even before the competition was over.

But on the second flight the plane crashed and the B-17 was formally excluded from competition because it had crashed (due to pilot error)



October 30, 1935; B-17 crashes on take-off from Wright Field, Ohio, due to locked control surfaces, killing early military aviator and test pilot Maj. Ployer Peter Hill.

The Douglas B-18 Bolo was the eventual winner, and the Army ordered 133 of these less capable planes.

But several leaders in the Army Air Corps believed in the plane and found a way to at least keep the plane in play. The Statute that shaped the way for the procurement of aircraft was the Air Corps Act of 1926. The Act provided for competition among designs and encouraged aircraft development. It also permitted the Secretary of War to buy experimental aircraft at his discretion and without competition and to award it to the lowest responsible bidder in a competition.

The Act also established policy for different types of contracts, including making cost-plus percentage of cost contracts illegal. It encouraged the use of cost-plus incentive type contracts in order to accommodate design changes.²

But when some leaders of the Army Air Corps wished to surge production, but they were blocked. In the face of congressional criticism, Air Corps officers felt it was “impractical” to do so unless the Secretary of War was personally willing to “accept the responsibility to Congress” for decreasing the total number of aircraft in the 1938 budget. Estimates for the four-engine bombers were thus deferred until fiscal year 1939.

As a consequence the B-17 units, considered vital to the nation’s defense, were not procured until the crisis had already arrived.³

And the War Department insisted on B-18s Versus B-17s. B-18s were underpowered and inadequately armed and were replaced as the fortunes of war determined the outcome – B-17s and B-24s were the wartime bombers

“The B-18 was, as a practical matter, obsolete when it left the assembly line.”

But it was cheaper!

But keeping the B-17 as an experimental airplane meant that it was not being built in operational meaningful numbers.

And the effect was stark at the beginning of the war.

As Doug Birkey, of the Air Force Association has written:

As the ARCADIA Conference drew to a close, the Joint Chiefs of Staff approved the dispatch of American heavy bombers to England on January 13, 1942.30 Executing this order was far from simple because there simply were not any bombers or crews to deploy. The AAF was husbanding an extremely limited supply of aircraft between world-wide operational requirements and training efforts in the United States. As Hap Arnold remarked, “We were dispersing our military power even before we really had it.” The situation was so bleak that future strategic bombardment icon Curtis LeMay only had three B-17s to train thirty-five crews. He had to establish round-the-clock flight operations for his airmen.⁴

Who was responsible for not moving forward with the B-17?

² Major Nannette Benitez, *World War II Production: Why Were the B-17 and B-24 Produced in Parallel?* Air Command and Staff College, March 1997.

³ Irving Brinton Helley, Jr. *Buying Aircraft: Materiel Procurement for the Army Air Forces* (Washington DC: Center for Military History, 1989)

⁴ Douglas A. Birkey, *Aiming for Strategic Effect: The Evolution of the Army Air Force’s Strategic Bombardment Campaigns of World War II*, April 2013
Second Line of Defense

The evidence available indicates that the failure of the air arm to present its best case to Congress arose in part from the position of the Air Corps within the War Department.

“...It was repeatedly asserted that advances in air strength were desirable but not advisable if such gains could only be made at the expense of other arms and services.⁵

And there was always the [dominant Army opinion](#) that only ground forces won wars.

Although opinion in the Army Air Corps placed special stress on strategic bombardment as the prime mission of an air force, the dominant view in the War Department General Staff was officially stated as late as October 1938 in these terms: “the Infantry Division continues to be the basic combat element by which battles are won, the necessary enemy field forces destroyed, and captured territory held.”

There were significant doctrinal differences beyond a ground-centric focus.

First, there were bomber versus fighter advocates. E.g. Chennault insisted on the priority of pursuit over bombardment. In 1938, “The War Department decided that the funds earmarked for the purchase of the first 67 B-17s could buy as many as 300 attack aircraft.... Consequently, the purchase of B-17Cs, already on order, was postponed beyond June 1940.”⁶

In turn, this led in part to downplaying how the two capabilities might be effective combined elements for operations.

This also meant that the B-17 would fly without long distance fighter escort until the P-51 showed up later in the war, and this would create a very destructive situation for the bomber crews.

And then there was the Navy. The USN saw bombers as useful for coastal defense but not for maritime operations. CNO Admiral King argued that the Navy was responsible for all air operations out of sight of land.

And not to be outdone, there were even journalist critics who understood combat better than the men doing it. Upon observing an initial bombing run in August 1942, the air correspondent for the Sunday Times, Peter Masefield, wrote that “American heavy bombers are fine flying machines, but they are not suited for bombing in Europe. Their bombs and bomb loads are too small, their armor and armament are low.” Not content with this, he went on to advise the American leaders that their planes were better suited for ASW duty.⁷

Leadership in spite of such challenges was crucial.

There were the “few great captains.”⁸

⁵ Irving Brinton Helley, Jr. *Buying Aircraft: Materiel Procurement for the Army Air Forces* (Washington DC: Center for Military History, 1989)

⁶ Bernard C. Nalty, *The US Army Air Forces in World War II* (Honolulu, Hawaii, University Press of the Pacific, 2005)

⁷ Martin Bowman, *B-17 Flying Fortress Units of the 8th Air Force* (Osprey Publishing, 2000)

⁸ DeWitt S. Copp, *A Few Great Captains* (McLean Va: EPM Publications, 1980 [↩](#))

There were the farsighted leaders like General George Marshall (who visited the Boeing plant in 1938 and was deeply impressed with the plane) and there was the commitment of industry. The Boeing leadership team literally bet the future of the company on the plane and literally the test pilots and engineers bet their lives.

Does any of this sound familiar?

It certainly does not seem like a Star Wars moment where you have entered a time warp “a long time ago in a galaxy far, far away....”

Remembering the B-17 Era: Are We Lindbergh or Andrews?

2013-04-18 by Robbin Laird

In my second piece on reflections on the development of the B-17 and its stumbling entrance into history, I would like to focus on one of those set of historical oddities one finds while studying a subject. In this case, it is the intersection of intelligence with policy or really intelligence in search of a policy.

Two developments in the mid-1930s, which happened about the same time, defined the battle for understanding as the world was moving towards War.

The first was the Italians flying across the Atlantic, US airpower advocates trying to use the event to highlight the developments of airpower, and military intelligence running from the opportunity to learn what they did not want to know.

The second was a real American hero, Charles Lindbergh, looking closely at the NAZI regime and seeing their dedication to building up air power and concluding correctly that the Nazis were building unprecedented airpower, but lapsing into the unfortunate conclusion that this was an inevitable thing, one which America would have to accept. In Lindbergh's case, it was first hand knowledge but which severed a policy purpose – isolationism, not knowledge designed to inform the public or decision makers.



In October 1938, Lindbergh was presented by Goering, on behalf of the Fuehrer, the Service Cross of the German Eagle for his contributions to aviation.

It must be remembered that Lindbergh in his Spirit of St. Louis had only crossed the Atlantic in 1927. Then by 1933, the Italians were demonstrating the advances in airpower by doing an around the world set of flights.

From 1 July – 12 August 1933, he led a flight of twenty-four flying boats on a round-trip flight from Rome to the Century of Progress in Chicago, Illinois. The flight had seven legs; Orbetello — Amsterdam — Derry — Reykjavík — Cartwright, Labrador — Shediac — Montreal ending on Lake Michigan near Burnham Park. In honor of this feat, Mussolini donated a column from Ostia to the city of Chicago; it can still be seen along the Lakefront Trail, a little south of Soldier Field. Chicago renamed Seventh Street Balbo Drive (it still bears the name) and staged a parade in his honor.

During Balbo's stay in the United States, President Franklin D. Roosevelt invited him to lunch and presented him with the Distinguished Flying Cross. He was awarded the 1931 Harmon Trophy. The Sioux even honorarily adopted Balbo as "Chief Flying Eagle".

Balbo received a warm welcome in the United States, especially by the large Italian-American populations in Chicago and New York. To a cheering mass in Madison Square Garden he said, "Be proud you are Italians. Mussolini has ended the era of humiliations." After this, the term "Balbo" entered common usage to describe any large formation of aircraft. Back home in Italy, he was promoted to the newly-created rank of Marshal of the Air Force (Maresciallo dell'Aria).

http://en.wikipedia.org/wiki/Italo_Balbo

Meanwhile, back in the depths of the Army Air Corps and the battle for the future of airpower, airpower advocates were drawing on the Italian achievement to try to waken American policy makers to what airpower might be able to do in the period ahead.

As DeWitt S. Copp put it in his classic study, *A Few Great Captains*:

Behind the welcoming crowds, the official receptions and speechmaking, the epic venture also illustrated an aeronautical axiom. The bemedaled Balbo, with massive head, glittering eye and rakish red goatee, stated it clearly when he declared in a public report to Mussolini: "The air forces can, like the navies, confront the problem of moving squadrons. With the Atlantic flight, Italy has furnished proof of these possibilities. I believe that with this aviation policy ... aviation can make gigantic strides in all senses whether with reference to the improvement of machines or to the preparation of the flyers or the organization of the meteorological, logistic and technical services which are all too insufficient."

Andrews and the Italian airmen met at a reception, and perhaps they discussed the future, for Colonel Andrews had said essentially the same thing in a paper written at the War College titled "The Airplane in National Defense.": "We often hear about the limitations of military aviation. But, year by year, these limitations are becoming less with the improvement in airplane design and manufacturing and, more important, with the improvement in aids to navigation and piloting."

"Many people are prone to judge our possibilities in time of war by limitations which peacetime operations impose upon us; limitations due to lack of funds for carrying out some project in its entirety. Others, whose experience in military aviation ended with the World War, can see no improvement in military aviation, but live in the past so far as the activity is concerned."⁹

Such an event might create the "wrong impression" Inside the Beltway or Inside the Nation, so intelligence management of these events was crucial.

⁹ DeWitt S. Copp, *A Few Great Captains* (McLean, Va.: EPM Publications, 1980, p. 127.

*At the time of the Balbo flight, two actions by the War Department indicated exactly what Andrews had in mind. The Italian venture had been over a year in the planning. During it, the US Assistant Military Attache' in Rome, Captain Frances M. Brady, had sent back detailed reports to Army G-2, the Military Intelligence Division, on the equipment, training methods, and logistical plans the Italians were perfecting. Apparently, none of this information was passed on to the Air Corps, although Brady had specifically made note of obvious interest. It was not the G-2 was attempting to hide the information, simply that, unless there was demand for it, the Air Corps was not on its routing list.*¹⁰

So not bringing the Air Corps into the loop may be a bureaucratic slip up but the role of military intelligence in shutting the door was not.

Following the Chicago visit and a ticker-tape parade up New York's Broadway, Balbo's visit was to be capped by a meeting with president Roosevelt at the white house and a farewell banquet at the Army Navy Country Club. The guest list included the Secretaries of War and Navy, Chief of Staff General Douglass MacArthur, Air Corps Chief Major General Benny Foulois and close to one hundred Army and Navy Officers and their ladies, among whom were Major and Mrs. Dwight D. Eisenhower. It was a grand night for toasting, and the departing visitors received the kind of military send-off that could only add to their prestige and pleasure.

But, behind the smoke of good Havana cigars, there lay in this final gesture of hospitality a War Department failure to capitalize on what had to be an obvious opportunity. The Military Intelligence Division, under Brigadier General Alfred T. Smith, appeared incapable of realizing a promising intelligence opportunity when offered it.

The estimated cost for entertaining the visitors while in Washington amounted to \$1,240 and the Navy asked the Army to pay half. Smith was against paying it. His rationale was that the severely restricted funds of the Military Intelligence Division were "for obtaining military information." Apparently, it didn't enter the Chief of Intelligence's head that the entertaining the Italian Air Minister and his men offered a rare opportunity to gain added insight into Italy's military plans.

Although Mussolini's aggression in Ethiopia was eighteen months away and could not be foreseen, the War Department and its Military Intelligence Division had to be aware that the Italian dictator was building up his armed forces. From an intelligence point of view, with nearly a hundred individual prospects from whom to glean possibly valuable information, it might seem that \$620 was well worth the investment and eminently justified.

Not so, said General Smith. "The funds appropriated for the contingencies of the Military Intelligence Division," he reasoned, "are for the purposes specified in the Act and there is serious legal question as to whether they would be available for such purposes as this."¹¹

This does not seem like It certainly does not seem like a Star Wars moment where you have entered a time warp "a long time ago in a galaxy far, far away...."

But not to be outdone in roughly the same time frame, Lindbergh was become a confident of that other airpower, Germany. In 1936, Lindbergh was invited by the US military attaché in Berlin to come to Germany and do an assessment of the evolution of German airpower.

¹⁰ *Ibid.*

¹¹ *Ibid.*, p. 128.

The letter from Major Truman Smith dated May 25, 1936 which invited Lindbergh (then living in England) said in part:

I need hardly tell you that the present German air development is very imposing and on a scale, which I believe, is unmatched in the world. Up until very recently this development was highly secretive, but in recent months they have become extraordinarily friendly to the American representatives and have show us fare more than the representative of other powers.¹²

Another source noted the following:

While in Germany, Charles and Anne attended the Summer Olympic games as the special guests of Field Marshal Hermann Goering, the head of the German military air force, the Luftwaffe. Lindbergh toured German factories, took the controls of state-of-the-art bombers, and noted the multiplying airfields. He visited Germany twice during the next two years.

With each visit, he became more impressed with the German military and the German people. He was soon convinced that no other power in Europe could stand up to Germany in the event of war.

"The organized vitality of Germany was what most impressed me: the unceasing activity of the people, and the convinced dictatorial direction to create the new factories, airfields, and research laboratories..." Lindbergh recalled in "Autobiography of Values."

His wife drew similar conclusions. "...I have never in my life been so conscious of such a directed force. It is thrilling when seen manifested in the energy, pride, and morale of the people—especially the young people," she wrote in "The Flower and the Nettle."

By 1938, the Lindberghs were making plans to move to Berlin.

<http://www.pbs.org/wgbh/amex/lindbergh/sfeature/fallen.html>

Oops! Developing good intelligence is one thing, moving to Berlin to join in might be considered another. In October 1938, Lindbergh was presented by Goering, on behalf of the Fuehrer, the Service Cross of the German Eagle for his contributions to aviation.

Lindbergh was allowed to fly his own plane over Germany and learned first hand information simply not available to any other Westerner.

He even became the go-between in trying to sell German military engines to France in exchange for hard currency! The policy outcome was probably inevitable from seeing the rise of Nazi military strength and perceived European weaknesses.

(In 1939) Lindbergh saw Nazi victory as certain and thought America's attention should be placed elsewhere. "These wars in Europe are not wars in which our civilization is defending itself against some Asiatic intruder... This is not a question of banding together to defend the white race against foreign invasion." Building on his belief that "racial strength is vital," Lindbergh published an article in Reader's Digest stating, "That our civilization depends on a Western wall of race and arms which can hold back... the infiltration of inferior blood."

<http://www.pbs.org/wgbh/amex/lindbergh/sfeature/fallen.html>

Eventually, Lindbergh got the point, but certainly did not serve in Europe, but in the Pacific.

¹² Walter S. Ross, *The Last American Hero: Charles A. Lindbergh* (New York: Harper and Row, 1964), p. 264

In 1943, Lindbergh convinced United Aircraft to send him to the Pacific as an observer. His work there involved a good deal more than observation though. Lindbergh flew more than 50 combat missions, including one in which he brought down an enemy fighter. The 42-year-old Lindbergh often bested men half his age in feats demanding intense physical ability. Drawing on his extraordinary piloting skills, Lindbergh instructed others on how to conserve fuel and extend their flying range by up to 500 miles.

<http://www.pbs.org/wgbh/amex/lindbergh/sfeature/fallen.html>

As one looks at our own version of the 1930s, with a very turbulent world populated by some pretty nasty leaders, we can simply argue that it costs too much to defend ourselves, and accept the inevitable.

We can be Lindbergh or Andrews.

<http://www.nationalmuseum.af.mil/factsheets/factsheet.asp?id=1065>

Frank M. Andrews was at the center of the long struggle of air-minded officers in the Army who sought to establish an Air Force that could operate co-equally with the ground forces.

He was made first chief of General Headquarters Air Force (GHQ), set up on March 1, 1935 at Langley Field, Virginia, as a combat organization, with a status similar to the Office, Chief of Air Corps, which handled supply and training. During the next four years General Andrews continued in this position to lead the battle for greater organizational independence and for a greater role for the four-engine bomber, the B-17. He sharpened the operational readiness of the air forces with combat-type exercises and record-setting pioneer flights in the United States and Latin America.

During Army-Navy war games in 1938, navigation tests proved that the B-17's ability to intercept an "enemy aircraft carrier" (the Italian Liner Rex) more than 700 miles east of New York City. Also of great significance, but not publicized, was the air arm's interception of the Navy battleship Utah in a military exercise in 1937 in bad weather off the coast of California. General Andrews personally directed the operations of GHQ Air Force in both of these exercises; and was a passenger in the B-17 that "bombed" the Utah. (The navigator on both flights was Curtis E. LeMay.)

Constantly General Andrews and his staff found themselves opposed by policies of the General Staff, such as one based on an oral agreement between the Army Chief of Staff and the Chief of Naval Operations in May 1938 that limited the Air Corps to operational off-shore flights of no more than 100 miles.

The muscle-flexing of Hitler and his German Luftwaffe in 1938 had persuaded President Franklin Roosevelt of the decisive potential of airpower and prompted the U.S. Army to prepare a new study of our Hemisphere defenses. The study, submitted to Army Chief of Staff General George C. Marshall in September 1939, recognized the air threat to the Western Hemisphere and the need for long-range and other aircraft to help defend the Nation. It included for the first time a specific mission for the Air Corps.

General Marshall, who had just replaced General Malin Craig, called General Andrews to Washington to be his Assistant Chief of Staff, G-3, Andrews became the first Air officer to handle the Army's organization and training.

A year later, in November, General Andrews assumed command of the Panama Canal Air Force. The following September he was made commander of the Caribbean Defense Command and the Panama Canal Department. He was the first Air officer to head a joint command, and one of his greatest tasks was to insure effective coordination of Navy-Army-Air Force and Latin American forces. The system of organization developed there by General Andrews was recommended later to other commanders by the Chief of the Army Air Forces, General H. H. (Hap) Arnold.

In November 1942 General Andrews was assigned to command all United States forces in the Middle East. Several months later he was appointed commander of the United States forces in the European Theater of Operations, with Headquarters in London.

In a report to the Secretary of War, General Marshall said that General Andrews, “a highly specialized Air officer,” was assigned this high position after he had been sent to the Middle East “for experience in combat and in contacts with our allies.” The report pointed out that “this order was paralleled by the creation of a North African Theater of Operations, under General Eisenhower.”

Three months later, on May 3, 1942, General Andrews was killed in an aircraft accident in Iceland, while making a trip to installations under his command. He was 59.

Frank Maxwell Andrews was born in Nashville, Tennessee on February 3, 1884. He was graduated from the U.S. Military Academy in June 1906 and appointed a second lieutenant of Cavalry. With the Cavalry he served not only in Virginia, Texas, Vermont, and Hawaii, but in the Philippines, and at Fort Yellowstone, Wyoming and Fort Huachuca, Arizona. In 1917, he transferred to the Signal Corps for duty with the Aviation Division.

It is difficult now to speculate about how great a role General Andrews would have played during World War II and later, if he had lived. One thing is certain, in his 25 years of service in the Air Arm he retained the highest respect of his fellow officers in all the Services while he stimulated great advances in organization, doctrine and weapon systems. As commander of GHQ Air Force for four years he did much to shape today’s Air Force.

Perhaps the greatest tribute ever made to General Andrews was by General Hap Arnold during World War II. He said: “Today, when American bombers fly a successful mission in any theater of war, their achievement goes back to the blueprints of the General Headquarters Air Force. Our operations were based on the needs and problems of our own Hemisphere, with its vast seas, huge land areas, great distances, and varying terranes and climates. If we could fly here, we could fly anywhere, and such has proved to be the case...General Headquarters Air Force was also responsible for our present ideas of organization, maintenance and supply.”

General Andrews made a lasting imprint on the outstanding men on his staff who later became key Air Force leaders – an they, in turn, have made their special marks on the Air Force of today.

– From the General Frank Maxwell Andrews Scholarship in the Air Force Academy.

The B-17 and the Logistics Challenge or Why PBLs Matter

2013-04-21 by Robbin Laird

In researching for my participation in this summer’s B-17 event in France, I have learned many things.

An interesting aspect of thinking about the B-17 as a fleet is the question of how it was supported or the logistics element.

I found this story on the Boeing website which provided perspective on what it was like then and what it is like now as seen from the logistics perspective.



According to Randy Jackson in his piece entitled: “Legend Aloft: How World War II B-17 Bombers Paved the Way for Modern Aircraft Logistics,” the point was underscored the difference between now and then with regard to the logistics approach.

Terry Langerman, Boeing Fleet Performance and Affordability director of C-17 Globemaster III Sustainment, said the speed of parts distribution that businesses like FedEx and UPS afford maintenance crews today is a far cry from what B-17 crews had to deal with during the war. It could take weeks, even months, before a critical part reached theater. Today, the C-17 team can predict the need for spares years in advance.

“During World War II, the U.S. Army transportation and logistics network relied primarily on ships to move supplies to ports in war zones and then onto forward supply bases by railroad and trucks,” Langerman explained. “In support of today’s global war on terrorism, we collect data for the C-17s throughout the entire supply chain and feed that information into a sophisticated supply chain modeling tool. We can forecast the spare parts we’ll need one to two years in advance so we can maximize aircraft availability and mission readiness.”

U.S. Army Air Corps predecessors never dreamed that someday one could access a computerized database a world away and digitally track and move parts into theaters of war at incredible speed. Officials with Boeing’s C-17 Product Support and Services division said the supply chains of today are far leaner than half a century ago. The Boeing C-17 Globemaster III Global Sustainment Partnership (GSP) has resulted in an average delivery rate of 82 percent at the base supply window for all parts and an average customer wait time of only three and a half days. Still, many of the support and supply chain methods perfected to keep the B-17s mission-ready laid the groundwork for future aircraft programs.

“We’ve learned a lot from the aircraft programs of our past,” said Rick Robinson, director of Product Support for Boeing Defense, Space & Security. “Because the B-17 was produced in such large quantities – with 12,731 sent into two theaters – and had 10 crew members requiring different skills, the B-17 essentially led us to new methods of defining and providing support that we use today in our current programs.”

Sean Downey, Boeing director of Maintenance and Modifications for C-17 GSP, agreed.

“The Boeing C-17 is obviously a very complex machine compared to the venerable B-17, but in many ways it’s very much the same,” said Downey. “As the historically premier large airframe producer for the U.S. and the world, we at Boeing have learned more about supporting these massive machines both militarily and commercially than anyone. We have been able to harness the good and bad of those first experiences and develop outstanding support concepts such as the C-17 GSP, F-18 First, and Gold Care for the Boeing 787 – all integrated logistics programs that ensure parts availability and total support to customers.”

It would be useful if today’s policymakers would learn from the transition from the B-17 to the C-17 and not pioneer a path backwards in attacking performance based-logistics systems, which are part of the way forward in shaping modern capabilities.

Much like you would not wish to ride the B-17 forward into combat to day, you would not simply wish to rely on government owned depots and transportation systems.

It is also useful to remember how important air superiority and maritime dominance are in moving parts throughout a global system.

For a look at the challenges of aircraft maintenance and the approach to training in World War Two with the Army Air Force see the following:

Aircraft maintenance, then as now, was a dangerous business requiring strict attention to detail. To illustrate the danger, the 95th Bomb Group lost an entire ground crew when a B-17 blew up on the ground at Alconbury, England.(10:15) In all, nineteen men were killed and four other B-17s destroyed. Clifford Cole, member of the 95th, reminisced, "Here, in a second, went the lives, the efforts, and the careful schooling of some of the Air Corps' most vital assets, the men on the line. They can get more planes, but dedicated, trained maintenance personnel were irreplaceable."(10:14) Flightline actions were, and remain, potentially dangerous and it was recognized that people were the most irreplaceable assets in the service.

Battle damage sustained by B-17s was enormous. For instance, a Bomber Command study covering the period from 21 October 1942 - 31 March 1943 reported that 588 aircraft had suffered battle damage and 512 (87%) were repaired by the command itself.(8:623) This may not seem like a lot, but this was only one theater and one command dealing only with bombers. It did not include different types of aircraft or bombers which had been destroyed. To repair these aircraft, first and second echelon mechanics at base-level were assisted by mobile repair units (third echelon) comprised of 16-19 specialists equipped with a truck, a jeep, and two trailers. These trailers were stocked with tools, equipment, and supplies needed to perform on-the-spot repairs. By the end of 1943, the 8th Air Force had fifty mobile repair units in operation to repair an ever growing number of aircraft in the ETO.(8:624) In June of 1942, the AAF had 1,841 aircraft in the theater. By May 1944, there were over 10,500 airplanes in Europe.

[Army Air Corps Maintainers](#)

Do Numbers Matter? The B-17 and Preparing for World War II

2013-04-28 by Robbin Laird

The great thing about history is we know the outcome. Or I could put that more correctly, we think we know the outcome and we can debate how we got there or we can debate what it means, or whether history is prologue.

With regard to the B-17, we know that by the end of the war built many.

According to [Boeing](#):

Boeing plants built a total of 6,981 B-17s in various models, and another 5,745 were built under a nationwide collaborative effort by Douglas and Lockheed (Vega).

In part, so many were built because many were destroyed in combat.

The destruction was due to enemy fire, operational challenges (such as fratricide) and the absence of effective fighter support for a long period into the conflict.

But the numbers prior to the war were less than modest. And here there is clearly a lesson to be learned.

If you don't have enough of an aircraft, several consequences follow.

- One will not understand what that aircraft is capable of doing;
- One will not shape the con-ops for the aircraft, and the pilots will not be able to demonstrate to combatant commanders what the plane can do;
- And without a con-ops shaping effort, one will not learn what else one needs to work most effectively with the airplane.

In effect, the B-17 was an experimental aircraft going into the war.

The aircraft was procured in small numbers and was surpassed in numbers by a significantly inferior aircraft, the B-18.

It should not be forgotten that warriors are not stupid, when they see a superior product and they are flying in an inferior one, they are clearly aware of it.



MacArthur and his family and his staff left the Philippines for Australia aboard a B-17.

Photo Credit: <http://www.pacificwrecks.com/people/veterans/walker/photos/macarthur-kenney-walker.html>

For example, after Pearl Harbor, the B-18 was pressed into service as a major asset in Hawaii “We were told that there were three B-18s flyable and we would take off and find the Jap fleet. I was scared. I thought of my slim chances of coming out of this flight alive should we run into some Jap fighters. Hell! They’d blow us right out of the sky in the these very vulnerable B-18s.”¹³

By building so few bombers, the bomber advocates versus the fighter advocates ended up making a strategic error of the first order.

The bomber advocates argued for a bomber – the B-17 – which could be heavily fortified and manned by many guns – and by flying in formations could defeat enemy bombers. This may have made sense in the abstract but led to a major success story for the Luftwaffe when this theory met reality.

Indeed, one could argue that this con-ops failure was a major cause of the death of some many airmen from the 8th Air Force. The enemy is always a problem, but not deploying your asset correctly should not be the real cause of wholesale destruction.

Eventually, the P-51 showed up and the package of P-51s and the B-17 proved a very lethal mix for the Germans.

The Pacific theater provides another example of what NOT having a plane in numbers can lead to.

As the Japanese prepared to attack Pearl Harbor, U.S. Army leaders knew that the Philippines was a high threat target for the Japanese.

As a result, virtually the entire B-17 force was deployed to the Philippines to protect it and to be available for its defense.

¹³ Comment from then Private Schaeffer as quoted in Gene Eric Salecker, *Fortress Against the Sun* (Combined Publishing, 2001), p. 54.

Arnold and Marshall sent the B-17 to the Philippines for the long-range defense of the US forces in the Philippines.

To bolster the air arm in the Philippines, in July, 1941 Major General Henry 'Hap' H. Arnold, Chief of the Army Air Forces, proposed reinforcing the Philippine Army Air Corps by sending four heavy bombardment groups and 2 pursuit squadrons to the Philippines. General George C. Marshall, United States Army Chief of Staff, echoed this concern when on 1 December he stated, "We must get every B-17 to the Philippines as soon as possible."

However, by the time hostilities broke out in December 1941, only 107 P-40 Tomahawk fighters and 35 B-17 bombers were in place in the Philippines.¹⁴

What was missing as well was any real knowledge of how to use the B-17.

In the absence of relevant training and exercises the B-17s ended up being useless in the defense of the Philippines. Chief of Staff of the Army Marshall claimed that if Japan attacked, the U.S. would use its bombers to bomb Japan. In November 1941, General Marshall stated that he was confident that the B-17s in the Philippines could easily fend off any Japanese attack and set "the paper cities of Japan" ablaze.

Nice idea but no exercises had trained the Army Air Corps to prepare for such an eventuality.

Meanwhile, Major General Brereton, the newly designated Air Commander of the Philippine Air Forces had a different view. With only one airfield he believed the B-17s were extremely vulnerable to elimination by attack from the air. Which of course turned out to be the case.

Amazingly, in spite of the attack on Pearl Harbor, the B-17s were caught on the ground a day later and in a 45 minute attack Clark Field was rubble.

Then we come to General MacArthur who was a real problem. He seemed little or no understanding of what to use his 35 B-17s for operationally.

B-17 World War II Photos

Getting a Sense of What it Was Like

MacArthur as Army Chief of Staff clearly considered the Army Air Corps as an extension of the ground forces and as a fairly limited coastal defense force. He was at the forefront of resisting the formation of an independent air arm and forcefully underscored that aviation could not independently influence the outcome of war.

His incorrect views created an operational reality.

When his chance came to use the B-17s to strike Japanese airpower on Formosa, with the Zeros on the ground for a long time in Formosa of several hours of fog, he failed to do so.

The one mission which the B-17s could have done, namely to bomb the Japanese aircraft on the ground in Formosa, was not done.

Would MacArthur have changed his views if there were enough B-17s in the fleet to demonstrate the "theory" of strategic bombing or of having an "independent effect"? We will never know.

¹⁴ <http://www.militaryhistoryonline.com/wwii/articles/macarthursfailures.aspx> ↩

But he did use the plane to leave for Australia.

But we do know that the aircraft was procured as an experiment and was considered by many to be just that and not an essential element of the American warfighting capabilities.

In other words, it is nice to have some F-22s, F-35s and B-2s but you better get enough of them out there for Combatant Commanders to understand what to do with them and to reshape the con-ops of their forces. And to then to buy enough of them to shape in real life the effects which these systems can have.

And would be useful to determine what else you might want to have based on operational experience rather than deciding on the basis of PowerPoint briefing slides and word tank debates.

For a briefing which provides an overview on the B-17 see the following:

<http://www.slideshare.net/robbinlaird/honoring-the-b17>

Honoring a B-17 Crew Operating Over France

Noirmoutier, France

July 4, 1943

Robbin F. Laird

And for a photo essay on the B-17 see the following:

<http://www.slideshare.net/robbinlaird/b-17-world-war-ii-photos>