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THE PARADOXICAL PARADIGM: AVIATION
LEADERSHIP, 1918-1926: HOW WILLIAM MOFFETT
CHANGED THE NAVY AND HOW BILLY MITCHELL
PREVENTED THE FORMATION OF A SEPARATE AIR
FORCE

by

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The conclusions and recommendations made in this paper, including errors or flaws are solely the responsibility of the author. Opinions expressed and conclusions drawn from this study are mine alone, and do not reflect the position or opinion of my advisor or the faculty of the Air War College.

Abstract

This paper scrutinizes the senior aeronautical leaders in the early inter-war period. The author's thesis is that the Navy embraced the new technology of aviation, and the entire Navy changed as a result, while the Army rejected aviation, relegating it to a separate "special" category that inevitably led to independence. The author's contention is that Rear Admiral William Moffett's superior leadership and acute understanding of his organization brought about the metamorphosis of the Navy into a modern combat force, while the Army aeronautical leaders' misunderstanding of their organization was responsible for the technology being rejected. The author also proposes that Brigadier General William Mitchell, far from the often proclaimed spiritual father of the modern Air Force, was the inept leader primarily responsible for the United States NOT forming an independent air force during the interwar period.

This study addresses two questions: Why was an independent air force that included both Army and Navy aviation not established by the United States during this period; and did the aeronautical leaders of 1918-1926 succeed or fail in their goal to develop a potent air arm for the United States?

Why study this period and these leaders? As a leader's challenge in guiding an organization in a changing world is not new, the modern leader is wise to examine the dynamics of leadership through the study of history. The challenge to leaders in times of great change was just as vivid in 1918 following World War I, as the challenge leaders

face today at the end of the cold war. Rapidly advancing technology, especially space and information war technology, are raising questions as to the traditional services' role in national defense. This study examines how our predecessors dealt with similar issues and explores the organizational dynamics and leaders' role in bringing change to large organizations.

Chapter 1

Introduction

We should gather our air forces together under one air commander and strike at the strategic points of our enemy—cripple him even before the ground forces can come in contact. Air power is coordinate with land and sea power and the air commander should sit in councils of war on an equal footing with the commanders of the land and sea forces.

—Major General Mason Patrick
US Army Air Service, 1925

Between 1918 and 1926, independent air forces were established by major powers throughout the world. For example, in 1918 the Royal Flying Corps was combined with the Royal Naval Air Service to form the Royal Air Force¹ and in 1923 the Italian Air Force received its charter as an independent service.² Separate air forces, these countries reasoned, would provide independent thought and action that would eventually harness the full potential of the airplane.

In the United States, an independent air force was not realized until much later and when it was realized, the new service excluded naval aviation. Why was an independent air force not established by the United States during this period? Despite the fact that an independent air force was not established, did the aeronautical leaders of 1918-1926 succeed or fail in their goal to develop a potent air arm for the United States armed forces?

Following World War I up through 1926, when the Air Corps Act established Army aviation as a semi-independent component of the War Department, the two branches of the armed forces had a unique opportunity. The Army and the Navy had three distinct choices. The choices were to mutually create a separate and independent air force, or, for each of the services to embrace and absorb aviation as part of its core mission, or, reject aviation and place it into a separate, “special” category within their own service.

Under the ideals and direction of their senior aeronautical leaders, the two services reacted to aviation technology in totally separate and distinct ways. The Navy chose to embrace aviation and over the next two decades it came to dominate, even define the Navy’s maritime strategy. The Army, on the other hand, chose to reject the technology, and in 1926 the Army Air Service became a semi-independent corps within the Department of War, and thirty years later, eventually spun off into a separate service that did not include naval aviation.

This study is about the challenge and organizational decisions aeronautical leaders faced in the early inter-war period, 1918-1926. This was a time when technology was rapidly advancing, budgets were tight, roles were evolving and the possibility of becoming involved in a major conflict looked remote. This paper evaluates the military’s aeronautical leadership in the context of the internal conflict that occurred as America’s armed forces made the transition from World War I into the modern, effective fighting force that won World War II. Airpower, a new technological dimension of warfare, was a major part of that transition—and was the most controversial aspect of the armed forces realization that they had to change. Chapter one analyzes Army aviation and looks at the effectiveness of the Army’s two senior aeronautical leaders, Major General Mason

Patrick, Chief of the Army Air Service and his deputy, Brigadier General Billy Mitchell, Assistant Chief of the Army Air Service. Chapter two looks at Navy aviation and its leader in the inter-war Navy and analyzes the effectiveness of Rear Admiral William Moffett, Chief of the Navy's Bureau of Aeronautics. Chapter three offers overall conclusions and will thoroughly explore organizational change theory. It also explores the theoretical dimensions of leadership and how leaders may understand the dynamics of bringing about the desired change within large bureaucratic organizations.

The challenges leaders faced after World War I were just as vivid as the challenge leaders face today at the end of the Cold War. New technology, especially space and information warfare, will raise mission and organizational questions within today's traditional military departments. A leader must understand the dynamics of change, strive to be effective in advancing an idea to shape that change toward a desired end, and then lead a large military bureaucracy toward realizing the change. Vision is perhaps the most important aspect of leadership—for vision and goals act as the beacon and control system that keeps organization hurling forward on course during times of change rather than spinning out of control into chaos.³ Yet vision is useless without a leader having a complete understanding of their organization and to change it.

The study of this early interwar period of aviation history provides a wealth of valuable insight towards a greater understanding of a leader's key role in change.

Notes

¹ Tony Mason, *Air Power, A Centennial Appraisal* (London, U.K., Washington, D.C.: Brassey's, U.K., Ltd., 1994), 3.

² *Inquiry*. Part III, 1736.

³ Tom Peters, *Thriving on Chaos; Handbook for a Management Revolution* (New York, N.Y.: Alfred A. Knopf, 1988), 403-404.

Chapter 2

Army Aviation

I do not think...you could call me before a committee about anything relating to the War Department about which I would have as much uncertainty in my own mind as I would about aircraft.

—Hon. John W. Weeks
Secretary of War, 1925

The Army Air Service

The Army Air Service was officially formed in 1920, with the passage of the National Defense Act. It functioned under Secretary of War as a combatant arm of the Army.¹ In practice, the service had functioned since early 1919 as a separate arm as it had during World War I, pending passage of the act.² The Chief of the Army Air Service was responsible for air schools and boards, the formulation of air doctrine and the preparation of aeronautical training and maintenance regulations. The Chief was also responsible for the development and procurement of all aircraft and aeronautical equipment for the Army.³ The service was chartered to act as a combat arm of the Army, to fight against enemy aircraft in defense of U.S. shores, and to serve as a combatant arm against enemy ships attacking the United States coast.⁴ The Chief operated under the supervision and control of the Army Chief of Staff until the Army Air Corps Act of 1926 made the service a corps, and placed it directly under the Secretary of War.

Brigadier General William Mitchell

In March 1919, Brigadier General William “Billy” Mitchell became Assistant Chief of the Army Air Service, serving as deputy to its first Chief, Major General Charles C. Menoher, a career infantryman. Mitchell was a distinguished veteran of World War I, having been appointed air officer of the American Expeditionary Force as a lieutenant colonel in June 1917, and becoming air officer of the I Corps with the rank of colonel in May 1918. In September 1918, Mitchell led the successful combined French-American bombing mission of 1,500 aircraft against the Saint-Mihiel salient. His outstanding leadership and combat effectiveness earned him a star. Mitchell was appointed Brigadier General in October 1918, and given command of the combined air services for the Meuse-Argonne offensive.⁵

Mitchell was a logical choice to help Menoher form the new air service. Mitchell sensed that great possibilities lay ahead for this new combat arm. Menoher too had the unique opportunity to lead and mold this new fighting force for the Army if only he had understood aeronautical principles and technology. But, Menoher had no interest in flying and soon delegated all aeronautical planning, education and doctrinal development duties to Mitchell.⁶ Mitchell was a strong airpower advocate and theorist who used his war experience, his position within the Army Air Service and his imagination to envision what possibilities aviation held for future wars.

Mitchell was a visionary theorist who believed that a strong, independent air force was vital to American security. He believed that airpower would eventually make armies and navies obsolete.⁷ Mitchell believed that airpower in and of itself could be both independent and decisive. “We believe when we are fighting an air battle over the sea, it

is nothing that the sea forces have anything to do with. When we are fighting a battle in the air over the land, the Army has nothing to do with it on the land,” Mitchell said.⁸ Many of his hypotheses were proved correct after his death, most notably the prediction that a carrier-based strike against the Hawaiian islands by Japan was possible. His ideas on strategic bombardment and massive airborne operations were used with positive results during World War II.⁹ As Mitchell formulated his ideas, he took it upon himself to begin a campaign for a unified and separate air force that would break what he saw to be an obsolete dependence on the ground-focused Army General Staff.¹⁰

Frustrated by the General Staff’s unwillingness to support his ideas, or an independent service, Mitchell subsequently embarked upon a massive public campaign to effect change by using the media to bring the weight of public opinion upon the Congress. Mitchell’s tenacity and knack for publicity soon led to conflict with the Navy, conflict with the Army and the eventual departure of Menoher from his position as Chief of Air Service.¹¹

Mitchell had helped engineer a joint Army-Navy test of aerial bomb damage to obsolete battleships. The test was to be carefully controlled by the Navy and the results kept close-hold. Instead, Mitchell took control of these tests and used the results as a publicity stage to herald the decisiveness of the airplane over the battleship. Mitchell’s involvement in the Navy’s ordnance tests and the publicity he generated by his sinking of surplus battleships enraged the Navy.¹² His claim that the airplane had made the battleship obsolete generated publicity and an unfavorable reaction from both the Navy and War Departments.¹³

Menoher was under pressure from the General Staff to bring Mitchell under control, so he relieved Mitchell from his doctrine, training and planning duties, leaving him assigned with nothing specifically to do. However, instead of diminishing Mitchell's influence within the Air Service, this freedom simply gave him more time to write, talk and formulate his arguments.¹⁴

The showdown that inevitably had to come between Menoher and Mitchell came on the heels of the Navy ordnance test publicity. Mitchell's conflict with the Navy over the meaning of these tests (obsolescence of the battleship) and Menoher's failure to control Mitchell in his relentless publicity campaign (vis-à-vis aviation's superiority over surface ships) led to Menoher's dismissal in 1921.¹⁵

Menoher's replacement was quickly named by the War Department—and it was not the controversial General Mitchell, who the airpower advocates longed for, but rather a traditional Army ground officer with a proven track record of success in both the Army and in managing Mitchell.

Major General Mason Patrick

Major General Mason Patrick's appointment as Chief of the Army Air Service on October 5 1921 was significant in the airmen's quest for autonomy, but Patrick is scarcely remembered by the service he helped found.¹⁶ Patrick, a 35 year veteran and a career officer of the Corps of Engineers, was no stranger to airpower. Patrick had served General Pershing as commander of the combined air service of the American Expeditionary Force in May 1918, and was quite familiar with Mitchell and the airpower enthusiasts within the Army Air Service.¹⁷ Patrick was just the sort of traditionalist the

airpower enthusiasts expected to see the Army General Staff place in charge—he was a conservative ground officer who at first saw the prime functions of the Army Air Service to be conducting reconnaissance for the infantry and to spot for the artillery.¹⁸ From the Army General Staff’s perspective, Patrick was the perfect choice, a logical and traditionally minded officer charged with bringing order to the increasingly boisterous, outspoken and frustrated Army Air Service. Specifically, he was told to get control of both the Army Air Service and Mitchell.¹⁹

Patrick immediately sent Mitchell on a fact-finding tour of the new European air forces during the winter of 1921-1922.²⁰ The duties got the vocal airpower advocate out of Washington long enough for Patrick to consolidate his position within the service. Although an inspection tour of foreign air forces was the official reason for his departure, Mitchell was probably sent on the tour to get him out of the way while the delicate negotiations between the Army, Navy and foreign military representatives concerning aviation in the Washington Naval Limitation Treaty negotiations were underway.²¹ The tour refined Mitchell’s theories and strengthened his convictions that an independent air force was essential.²²

After Mitchell returned to his post in Washington, Patrick kept him away from the Nation’s capital, politicians and news media by sending him on cross-country tours to visit, inspect and talk with the service’s airmen.²³ This strategy served not only to provide Patrick with a temporary respite from Mitchell’s controversial airpower intrigues in the nation’s capital, but was absolutely essential in Mitchell’s creation of what came to be a common airman’s vision of an independent air force performing an independent strategic mission. Even later, Patrick assigned Mitchell to perform an airpower

assessment of the Pacific, similar to what he had done in Europe.²⁴ Relieved from day-to-day duties, and able to view airpower from a broad, international perspective, Mitchell perfected his vision.

Meanwhile back in Washington, Patrick worked hard to understand both the men and technology of the organization he was leading. At the age of 59 he earned his pilot wings and the respect and admiration of the men he led.²⁵ Patrick rightfully thought that earning an aeronautical rating as a pilot would help him both in the understanding of his command and in winning the confidence of the many young men he was trying to lead.²⁶

As Patrick gained experience in aviation, he began to see all the possibilities that aviation held. Mitchell acknowledged that his boss was becoming an airpower enthusiast too. “The present Chief of the Air Service,” Mitchell said before a congressional committee, “...has had more experience with aviation than any former chief that we have had. His views, in the main, are the same as mine, varying only in degree.”²⁷ While Patrick came to view the issues surrounding airpower in the same way as his vocal assistant there were fundamental differences that worked in Patrick’s favor. Whereas Mitchell’s frustration led him to loudly lash out at all who disagreed, Patrick quietly worked through the Army bureaucracy in an orderly and much more subtle way.²⁸ This did not mean however that Patrick was a conformist—when he had disagreements with the General Staff, particularly over the issues of aircraft safety and pilot training, he would forcibly call the deficiencies to their attention.²⁹

Patrick too recognized the value of public pressure. He encouraged Mitchell’s vision of the future and ensured it was carried throughout the Air Service by his assistant. By quietly encouraging not only Mitchell, but also air unit commanders like Major Henry H.

Arnold to “sell” the Air Service to any influential public and private contacts they knew, Patrick greatly furthered the vision of autonomy. Later Patrick appointed the young Arnold as his public affairs chief. This move was totally consistent with what had come to be Patrick’s shared vision of an independent air force.³⁰

Patrick bared senior officers (majors and above) from entering the Army Air Service in order to keep his own senior officers’ vision firmly focused on the air.³¹ Patrick insisted that the shortages of field grade officers be corrected by internal promotions of his airmen, not by the transfer of willing field grade officers into the Army Air Service. This move preserved the unique Air Service culture and vision. Furthermore, barring senior officers from transferring into the Army Air Service was extremely popular, allowing aviators to serve in positions of greater responsibility than they otherwise would have been allowed.¹ Mitchell, too believed that “No one should be allowed to go into aviation unless he begins in the bottom rank, as a second lieutenant and works up. To put them in at the top is to ruin aviation.”³²

In early 1924, the House of Representatives established a committee to make a thorough review of national aeronautical policy. When Air Service officers appeared before the committee to testify, the Air Service testimony reflected the evolutionary program desired by Patrick.³³ Patrick’s evolutionary ideas were logical, practical and well defined.

“There are, on the one hand,” Patrick stated in his testimony, “enthusiasts who believe that the coming into being of aircraft have practically scrapped all other combat agencies; and on the other hand, conservatives who consider aircraft as merely auxiliaries to previously existing combat branches. The truth, of course, lies somewhere in between

those two views.”³⁴ Patrick’s views on air theory were equally balanced “I believe that as time goes on the importance of aircraft in national defense will greatly increase. I try to ...visualize what would take place if we should be so unfortunate as to engage in another war. I am satisfied that one of the first warlike acts would be an effort on the part of the belligerents each to obtain air supremacy; to sweep the enemy out of the air, in order that he might be free to operate his fleets, his armies, and his own aircraft. It is quite possible that such a move would take place very soon after or almost immediately upon the declaration of war. It would be necessary for every nation to have in being an air force that could be used thus offensively, or if attacked by air that could be used in order to defend itself.”³⁵

Patrick favored merging the Army and Navy aviation arms into one service in about five years (1929-1930). In the mean time, he wanted autonomy under the Secretary of War, in an Air Corps that was a separate service from the Army. Patrick used the example of the Marine Corps to illustrate the ideal independent organizational structure within the War Department that he sought.³⁶

The War Department

Secretary of War John W. Weeks recognized the value of airpower and had devoted much time and effort to study the subject. But he did not believe in an independent air force. He voiced the concerns of the War Department about the direction Mitchell and even Patrick were headed with Army aviation. Countering Patrick’s argument for greater autonomy, Weeks cited unity of command as an essential principle of war. Weeks stated that aviation must remain as closely integrated (under the General Staff) into the Army as

were the Infantry, Field Artillery and the other combatant arms. Weeks particularly saw Mitchell's call for an independent air force as potentially disastrous in time of war because an independent air force would overlap both the Army and Navy. This overlap would result in duplication of responsibility, division of command within theater, confusion and by implication, fratricide.³⁷ Weeks' conservative approach to aviation reflected the prevailing thoughts of the post war Army.

The post-World War I Army was an organization deeply frozen in pre-war tradition. The Army's culture prevented it from effectively analyzing and learning from its first world war experiences. The Army's outlook governed the behavior of the officer corps, dictating loyalty to Army superiors, or for Air Service officers, a rebellious "higher" loyalty to an independent air force³⁸ that paradoxically served in many ways to the airmen's detriment and practically served to stifle the realization of independence.

Ground officers were a society comprised of professionals who developed an outlook and culture that held loyalty, the traditional Army skills of horsemanship and reverence to the Infantry in high esteem. The individual soldier fighting the enemy was the ideal—and destruction of the enemy's army was the grand objective. The successful mobilization of manpower was seen as the core task, the key ingredient for achieving this objective. Ground officers in all branches held the traditional Army esteem of the infantry, equitation skills and loyalty to superiors as the ideal. These traditional values formed the essence of the Army, and the way in which the Army viewed the world. As a result, the Army remained stagnant. For example, field artillery clung to small caliber horse drawn guns and taught animal management and equitation up through 1941, horse cavalry remained through 1942, armor had retained a light (15 ton) and very inadequate "infantry

support” tank right up to 1940.³⁹ The Army’s Tank Corps, which had been so promising in World War I, was by 1920, abolished and made part of the Infantry.⁴⁰ Loyalty to superiors and to the Army meant conforming to orthodox doctrine and priorities. Even forward thinkers like future generals George S. Patton and Dwight D. Eisenhower, both strong advocates of returning to an independent mechanized armored corps within the Army kept quiet and went back to their traditional “loyal” roles in the face of this culture of conformity.⁴¹ Officers that didn’t conform were ostracized or courts-marshaled.⁴² The exception to this culture of conformity was the Air Service.

The Army found aviation, in the words of John W. Weeks, Secretary of War, “...a very difficult question on which to reach a conclusion.”⁴³ Weeks went on to tell a congressional committee that “I do not think...you could call me before a committee about anything relating to the War Department about which I would have as much uncertainty in my own mind as I would about aircraft.”⁴⁴

The Army did not accept aviation as an inherent part of an Army officer’s duties. The Army commissioned pilots directly from “civil life” as well as through transfer from other branches and from West Point.⁴⁵ Mitchell thought that it was “...impossible to develop a proper aviation personnel when it is merged with ground personnel in the way that it is, both from a standpoint of career, command of units or reserves.”⁴⁶ Mitchell, in fact looked not to the Army, but to the civilian aviation enthusiasts for inspiration. Mitchell vocalized the opinion of at least some of the Army Air Service members when he claimed that “It was not the War Department that created the air development of this country during the war; it was those civilians who came into the service and those interested in aviation in Congress.”⁴⁷

Perhaps the most telling insight into the Army's view can be seen in this exchange between Congressman Lee and Weeks before the 1925 Lampert committee of Congress. Lee: "If a man goes into the Air Service and in a short time becomes a qualified flyer, and there become a large number of these qualified men, and then after a period they are unfit or disqualified from flying because of age, how are those men going to fit into the general scheme of officers?...[I]t seems to me they have not the general qualifications that an ordinary officer has."⁴⁸ Secretary Weeks: "Well, I think that is a matter that the future would have to determine."⁴⁹ In 1925 flying was still very much a young man's job. It seems incredible that the Secretary of War would tell Congress that the Army had yet to develop a plan to integrate aviators into the Army as they matured in age and rank.

Army aviators saw themselves as a breed apart. Mitchell went so far as to state: "The air-going people actually form a separate class. They are more different from landmen than are landmen from seamen."⁵⁰ They considered themselves a separate and distinct community, an "...airgoing community," according to Mitchell that "consists of the pilots and observers...military, civil, and commercial..." Mitchell explains, "...they understand each other's problems, are constantly exposed to the dangers of aeronautical work, use an aeronautical vernacular, and have their own traditions..."⁵¹ Mitchell even thought that airmen "...talk a different language..." a "vernacular of the air that is different from anything else."⁵²

The Air Service saw technology, rather than manpower, as the key to future victory.⁵³ This closed society with an emphasis on technology drove advances in aviation, but it also further alienated air officers from ground officers.⁵⁴

The two focuses, air and ground, evolved independently during the inter-war period, with little thought given to coordinated plans and actions. For example, the ground forces targeted the enemy army as the center of gravity, while the air forces saw the enemy's industrial capability as the decisive place to strike. Each saw itself separate from the other in mission, purpose and especially in vision of how to win future wars. The Army General Staff—the agency that theoretically should coordinate and reconcile these ideals, remained firmly focused on the ground. Friction between ground and air advocates was inevitable.

In Mitchell's view, the Army was not responding and he was becoming increasingly frustrated. By the middle of the 1920s, Mitchell's cause for airpower was beginning to get out of hand—Mitchell began charging individuals with negligence, questioning the integrity of the Navy and the War Departments and began making direct attacks on their leaders.⁵⁵ Mitchell's frustration at the administration's lack of response was beginning to show—and was reflected by Patrick in Mitchell's performance report: “[Mitchell] is impulsive...shows evidence of temper and a tendency to use measures unnecessarily harsh. His recommendations frequently fail to take into account conditions actually existing and which must be, in a measure, controlling. He is erratic and his opinions...are frequently biased.”⁵⁶ Mitchell nevertheless persisted in his relentless attacks and attained the dubious honor of becoming an airpower martyr by being fired from his position as Patrick's assistant and eventually being courts-marshaled.

Conclusions

What were the real accomplishment—the results of Patrick's leadership and the result of Mitchell's leadership on their service?

Both Mitchell and Patrick were working toward the goal of an independent, unified air force. Mitchell wanted immediate independence while Patrick wanted a Congressionally sponsored bill that would mandate gradual independence within a five year time frame.

Patrick was steadily driving the Army Air Service toward its goal of independence. He quietly worked from within the Army system as an insider at the same time Mitchell was stirring up public opinion and bringing the attention of Congress and the press on the issue. Public opinion was an essential ingredient in Patrick's success. Patrick even encouraged some of Mitchell's forays with the press. Patrick however could not always control the direction Mitchell took in his interaction with the press and the results often turned out differently than what either of them expected. Mitchell used the press as an instrument to focus attention on airpower, but he never really understood the subtleties of the media and his efforts often backfired or had unintended consequences.⁵⁷

Public pressure generated by Mitchell led to the political support necessary for the Air Corps Act of 1926's passage in Congress and signature into law by the President. But this same pressure also led to the law's compromising nature due to the strong opposition Mitchell had generated within the Navy and Army General Staff. Mitchell's relentless attacks against Navy and War Department integrity and leadership had completely polarized opinions within government and with the American public. This, in turn, created strong opposition to an independent air force.

Patrick had carefully worked with key politicians to craft a Congressionally sponsored proposal that would have created an independent Air Corps commanded by a flag officer who would be directly responsible only to the Secretary of War. The commander and his Air Corps would not in any way be accountable to the Army General Staff.⁵⁸ In the end, the wishes of the Navy and the Army General staff were successful in toning down the Congressional proposal from complete independence to limited autonomy within the Army. Although the law failed to achieve Patrick's short term goal, or his long term goal of an independent air force within a department of defense, it made the air arm a corps rather than a service, and gave it limited autonomy.⁵⁹ Further, it provided additional personnel, additional grade structure, a revised promotion system for airmen and guaranteed the primacy of flying officers in command positions. An Assistant Secretary of War for Aviation was established within the War Department that gave the Chief of the Army Air Corps a direct line to the top War Department official. Within the Army General Staff, the Army was required to create an air staff, manned by aviators. Although not totally pleased with the law, Patrick saw it as an interim step toward complete independence for his air force. This law paved the way for independent air operations within the Army and for the eventual independent Air Force of 1947.⁶⁰

In the final analysis, the Army Air Corps Act of 1926 also served to further divide the ground Army from aviation and made a separate air force inevitable. Thoughts of independence persisted after 1926, but were not as all consuming as they had been before—the desire for independence submerged just below the surface of public debate as the airmen developed their theories. Within a separate corps, airmen concentrated on the development of airpower theory and doctrine that, with minor modification, would

provide a decisive advantage in training and equipment during the strategic bombing campaigns against Germany. Despite, or perhaps because of, this limited freedom given to airmen, ground officers continued to ignore the great potential of airpower, while airmen continued to focus on strategic theories that would give them the greatest justification for complete independence most thought was inevitable.

Notes

¹ House, *Inquiry Into Operations of the United States Air Services. Hearing Before the Select Committee of Inquiry Into Operations of the United States Air Services, House of Representatives, Sixty-Eighth Congress on Matters Relating to the Operations of the United States Air Services*, 68th Cong., 1st sess., (Washington, D.C., Government Printing Office, 1925) Parts I-VI. Part II, 621, hereafter; *Inquiry*, Part III, 1737.

² By all accounts the Army Air Service continued to function following World War I, even though it was not officially created until congress passed a bill forming the service in 1920. Robert Frank Futrell, *Ideas, Concepts, Doctrine; Basic Thinking of the United States Air Force, 1907-1960*, (Maxwell AFB, Al.: Air University Press, 1989), 35. See also *Inquiry*, Part III, 1737 for specifics on the law creating the Army Air Service. What was the Army Air Service from 1918-1920 was in fact still formally a part of the Signal Corps. Hurley, Alfred F. *Billy Mitchell: Crusader for Air Power*, (New York, N.Y.: Franklin Watts, Inc., 1964), 49.

³ *Inquiry*, Part III, 1737.

⁴ *Inquiry*, Part III, 1645.

⁵ T. N. Dupuy, C. Johnson, and D. L. Bongard, editors (*The Harper Encyclopedia of Military Biography*, (Edison, N.J.: Castle Books, 1992), 509.

⁶ David E. Johnson, "The Challenge of Change," (unpublished manuscript used at the Information Resources Management College, National Defense University), 17. Col. David E. Johnson (Ph.D., History), U.S. Army, is the Chief of Staff, National Defense University. Col. Johnson's specialty is the history of technological development. This article was written for the NDU Information Resource College Advanced Management Program to help illustrate how deeply conservative organizations (like our Armed Forces) resist technological innovation if the new technology is not completely understood. As late as 1919 Menoher was involved in a Congressional review of proposals for a separate air force. Menoher agreed with the traditionalists such as Pershing that the Air Service should remain within the War Department. Pershing, for example, testified before Congress that aviation—like artillery and tanks—served solely as an auxiliary of Infantry in battle. See also Futrell, 35-36 for more information on Mitchell's duties under Menoher.

⁷ DeWitt S. Copp, *A Few Great Captains: The Men and Events That Shaped the Development of U.S. Air Power*, (Garden City, N.Y.: Doubleday & Company, 1980), 38.

⁸ *Inquiry*, Part III, 1690.

Notes

⁹ Dupuy, Johnson and Bongard, 510.

¹⁰ Dupuy, Johnson and Bongard, 509.

¹¹ Copp, 37. Bingle, 8.

¹² Dupuy, Johnson and Bongard, 509.

¹³ Robert Frank Futrell, *Ideas, Concepts, Doctrine; Basic Thinking of the United States Air Force, 1907-1960*, (Maxwell AFB, Al.: Air University Press, 1989), 35-36.

¹⁴ Futrell, 35-36.

¹⁵ Futrell, 37. One may question why Mitchell was not dismissed from his position rather than Menoher. Mitchell was clearly the catalyst in the Army's being at odds with the Navy. How did Mitchell prevail in this tradition-bound organization? Some speculate that the new Secretary of War, John W. Weeks, sided with Mitchell because Weeks was new to the position and had not become fully acquainted with the issues. Perhaps the secretary of war fully understood the issues and sided with the outspoken Army Air Service Assistant because he thought it in the nation's best interest to force the airpower issue even if it meant generating controversy within the administration and between the War Department and the Navy. Mitchell was the only force within the Army brash enough to take on the Army General Staff's traditional and stagnant views.

¹⁶ Bruce A. Bingle, *Building the Air Force: Major General Mason Patrick and the Army Air Service*, (Air War College, Air University, Maxwell AFB, Al. Unpublished Research Report, 1995), 2. Although Patrick AFB is named after him, he is not widely regarded as one of the Air Force's founding fathers. With no published biography, and scarce passing mention in Air Force "hero worship" type publications such as *Crusade for Airpower*, he is perhaps the foremost of, and yet the most unrecognized, founding fathers responsible for the modern Air Force.

¹⁷ Dupuy, Johnson and Bongard, 577.

¹⁸ Futrell, 28. These thoughts came from Patrick's comments in Pershing's World War I after action report.

¹⁹ Bingle, 8.

²⁰ Hurley, 73-124.

²¹ Futrell, 38.

²² Hurley, 71-79. While on the trip, Mitchell met and shared ideas with the world's greatest airpower theorists of the day, including Douhet and Trenchard.

²³ Hurley, 80-84.

²⁴ Hurley, 86-89.

²⁵ Bingle, 11.

²⁶ Futrell, 40.

²⁷ *Inquiry*, Part III, 1896.

²⁸ Copp, 34.

²⁹ *Inquiry*, Part III, 2776. The full quote of General Mitchell regarding Patrick's forceful interaction with the Army General Staff over the issues of pilot training and aircraft maintenance and safety is: "General Patrick has called those things to their attention from time to time, and I think he has called them to their attention very forcibly."

Notes

³⁰ Copp, 35.

³¹ Johnson, 47.

³² *Inquiry*, Part III, 1694.

³³ Futrell, 44-45.

³⁴ *Inquiry*, Part II, 519.

³⁵ *Inquiry*, Part II, 528.

³⁶ *Inquiry*, Part II, 521, 532.

³⁷ *Inquiry*, Part II, 625, 626, Part III, 1762.

³⁸ Johnson, 14.

³⁹ Johnson, 40.

⁴⁰ Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy*, (New York: Macmillan Publishing Co., Inc., 1973), 409.

⁴¹ Johnson, 39-40. Both Maj. George S. Patton and Capt. Dwight D. Eisenhower had written several strong articles in Army service journals arguing for improved tanks and an independent armor corps within the Army—both were ignored and eventually silenced. Eisenhower later recalled that he was told by his superiors that his ideas were not only wrong, but were dangerous and henceforth, he should keep his opinions to himself. Unlike Mitchell, both did keep their opinions to themselves until the war in Europe made their views the orthodox view of a combined arms Army.

⁴² Johnson, 39-40, 50 and of course Mitchell's courts-martial.

⁴³ *Inquiry*, Part II, 621.

⁴⁴ *ibid.*

⁴⁵ *Inquiry*, Part III, 1646.

⁴⁶ *Inquiry*, Part III, 1890.

⁴⁷ *Inquiry*, Part III, 1889.

⁴⁸ *Inquiry*, Part II, 638.

⁴⁹ *Inquiry*, Part II, 638.

⁵⁰ William Mitchell, *Winged Defense; The Development and Possibilities of Modern Air Power—Economic and Military*, (New York and London: The Knickerbocker Press, 1925), xviii.

⁵¹ *Inquiry*, Part III, 1891.

⁵² *Inquiry*, Part III, 1925.

⁵³ The Air Service developed an outlook uniquely its own. While embracing technology, the Air Service outlook was made just as uncompromising by the prevailing "religion" of an independent air force and belief that bombing would produce quick victory through the destruction of industrial capacity rather than the destruction of an enemy's army.

⁵⁴ Johnson, 47.

⁵⁵ Copp, 39.

⁵⁶ Quoted in Burke Davis, *The Billy Mitchell Affair*, (New York, NY, Random House, 1987), 193.

⁵⁷ William F. Trimble, *Admiral William A. Moffett, Architect of Naval Aviation*, (Washington, D.C. and London, U.K.: Smithsonian Institution Press, 1994), 9-10.

Notes

⁵⁸ Copp 50.

⁵⁹ Bingle, 67-68.

⁶⁰ Bingle, 69-74.

Chapter 3

Navy Aviation

[The Navy regards] aviation and its future as a component part of the fighting Navy; that aviation will be...a regular part of the Navy; that the men who are in aviation...will finally get to commanding ships and commanding fleets...

—Admiral Robert Coontz
Chief of Naval Operations, 1921

The Navy Bureau of Aeronautics

The Navy Bureau of Aeronautics was established by an act of Congress in 1921.¹ The bureau was charged with all matters relating to the design, procurement, development and maintenance of naval and Marine Corps aircraft, with implementing and enforcing the Navy Department's aviation policies.² It brought together responsibility for aviation that had previously been dispersed throughout several bureaus of the Navy Department. The interspersed nature that existed before 1921 created confusion, lack of close coordination, undefined responsibility and non-cooperation in naval aviation.³ The choice to create a Navy Bureau of Aeronautics in 1921 was largely due to Billy Mitchell. Mitchell's calls for an independent air force and his predictions about the battleship-killing capability of the airplane convinced senior naval officers to get their own house in order or run the risk of naval air being absorbed into a united air service.⁴

Rear Admiral William A. Moffett

Rear Admiral William Moffett became chief of the Navy Bureau of Aeronautics in August 1921.⁵ He was the logical choice to head the new Navy Bureau of Aeronautics because of his proven ability as a commander and his enthusiasm for naval aviation. As commander, Moffett had established aviation training at his Great Lakes Navy Station and had been one of the first naval commanders to use airplanes in spotting and scouting operations with the battle fleet.⁶ He was a seasoned officer who had commanded ships at sea and had over thirty-five years experience in the Navy.⁷ He was excited about aviation's possibilities and even considered himself an airpower enthusiast, but he looked at airpower realistically and believed that "...claims for it that can not be substantiated do it more harm rather than good."⁸ "Nobody believes in aviation more than I do" Moffett said, "or is for it any stronger than I am; but I know both sides of it, the naval as well as the other."⁹ This statement, as well as the following quote reflected Moffett's balanced view of aviation, "I do not claim too much for aviation." proclaimed Moffett, "I want to keep my feet on the ground when I make statements."¹⁰ Moffett indeed knew both air and sea operations and he completely understood the men who were adherents of naval surface and naval aerial warfare.

After Moffett's selection to head the new bureau, Moffett turned his attention to filling the many staff positions that would be responsible for leading naval aviation into the future. When the new bureau began functioning on September 1, 1921, Moffett had filled the positions with a careful balance of aviators, engineers and experienced line officers. Moffett sought mature judgment, a balance of experience and enthusiasm for both the Navy and for aviation.¹¹

Moffett's appointment was key not only to the way naval aviation was accepted within the Navy, but also in the way the entire Navy developed. Moffett saw aviation as an integral, organic part of the naval fleet. To him, aviation was of value so far as airplanes contributed to the overall effectiveness of the Navy, its ships and its sailors. Moffett saw the tactical, strategic and political implications of naval aviation and dedicated his career toward bringing aviation into the fleet as an integral part of the Navy.¹² "Aviation is new." Moffett said before a Congressional panel "People of the Army and Navy are very conservative, especially as they get older. The older ones will always control in any organization. You must accept that as a fact." Moffett continued, "We have a great advantage in our Navy, I think, in indoctrinating and letting people in responsibility, including command of the fleet ashore and afloat, realize the importance of aviation, because if they hear us who are a part of the [line] Navy talk about aviation they learn a great deal about it."¹³ Indeed, Moffett and his staff created an aura of respectability and credibility that gained the respect of senior officers of the fleet.

Moffett believed that aviation was a third dimension to warfare. "I do not think [the next war] will be fought solely in the air. I think air will have a great deal to do with it. Air is another army. It is the new army that has come. I do not think it is going to displace anything."¹⁴

The Department of the Navy

The Secretary of the Navy, Curtis D. Wilber welcomed the development of naval aviation. "As you know, this country has always been first in the developments of any new instruments. The old turret ship, and the Monitor, was the precursor of the modern

dreadnought. I have talked with the [senior] naval officers...and I find the most cordial recognition of the air service as an important and useful adjunct to the Navy.” Wilber insisted that the senior Navy leadership understood the current use and future use of airpower. “We have a forward-looking corps of officers,” Wilber insisted.¹⁵

The post World War I Navy was an institution open to new strategic thought and calculations.¹⁶ During the two decades following World War I, the Navy saw Japan as the most likely threat to the security of the United States, naval leaders built their doctrine, forces and equipment around a possible war in the Pacific. Acceptance of a likely war in the Pacific strongly influenced the Navy’s building plans and budget allocation. This way of thinking led the Navy to develop concepts for the use of aircraft carriers¹⁷ and led directly to advanced development of amphibious warfare.¹⁸

In the two decades that followed World War I, the Navy’s strategic thinking was dominated by their planning to project American military power across the Pacific in a war with Japan. This would require re-taking many Japanese-held islands, to the rescue of the Philippines. The Navy began focusing on solving the problems of how to bring superior air power against the land based air of the islands, how to assault the strongly defended island bases, how to free the fleet from dependence on rearward bases and how to defeat the Japanese fleet. Solving these problems required a fleet buildup with emphasis on aircraft carriers and improved carrier planes, developing an amphibious doctrine and suitable landing and beaching craft, and developing a logistics doctrine whereby the fleet and other forces in effect carried their bases forward with their advance.¹⁹ These considerations shaped the way senior naval officers thought about airpower.

Moffett had convinced the Navy to build a prototype aircraft carrier in 1919. While construction was underway, the July 1921 grandstanding of the Navy's ordnance tests by Mitchell²⁰ and his boys and the sinking of the powerful battleship *Ostfriesland* had a catalytic effect on Moffett. The sinking convinced him that the best course for the Navy was to build a well-balanced fleet, with a mix of heavy and light ships, "all of which are to be coordinated in their activities and protected by aircraft." Moffett wanted to move ahead forcefully with aircraft carriers and he immediately pressed the Navy for approval to build "...no less than seven big ones." Thus, in the immediate aftermath of the bombing experiments, the aircraft carrier became the cornerstone of Moffett's grand plan for the development of aviation."²¹ In 1919-1921 the collier *Jupiter* was converted into the *Langley*, at 19,360 tons, the Navy's first carrier prototype. Two battle-cruiser hulls, which otherwise would have been scrapped under the Washington Naval Limitation Treaty were converted into 33,000 ton carriers, *Lexington* and *Saratoga*, both commissioned in 1928.²² Thus, thanks largely to Mitchell, the Navy early on recognized the importance of aviation.

While the Army was struggling with what role aviation would play in the War Department, the Department of the Navy had developed quite a different, more corporate and uniformly held view of aviation. One of the early options discussed by senior naval officers (and supported by some Congressional leaders) had been to set up an independent "aviation corps," analogous to the Marine Corps, within the Department of the Navy to control naval and marine aviation.²³ Although this sort of autonomy is what many in the Army would have welcomed for Army aviation, both the Navy establishment and naval aviators flat-out rejected this option, for the Navy, unlike the Army, saw aviation as an

essential core part of its mission. The Navy began to recognize that the future of the Navy was tied inseparably to naval airpower.

In the Navy's view, espoused by Admiral Robert Coontz, Chief of Naval Operations in 1921; "[The Navy regards] aviation and its future as a component part of the fighting Navy; that aviation will be...a regular part of the Navy; that the men who are in aviation...will finally get to commanding ships and commanding fleets...."²⁴ In other words, in the near future, Coontz envisioned the normal line officer's progression to be from aviation to ship and fleet command. One cannot imagine any Chief of Staff of the inter-war Army paralleling this statement with projections that young Army officers should start off in aviation, then go on to command Divisions, Corps and Field Armies.

Moffett insisted that naval aviators be considered, and consider themselves an integral part of the fleet. "If the aviation personnel is a part of the fleet, a part of the Navy; if all the future career of that personnel is wrapped up in the success of the Navy; if their life is to be a naval life, their thought will naturally become exclusively naval, the same as the thought of any other naval officer."²⁵ Among friends and close colleagues, Moffett gave a rare and frank glimpse into the reason for some of his strongly held beliefs that aviation should remain a part of the fleet. Moffett explained that he had "lived and bled in the Navy in the old days when we had an engineering corps; the line and the staff; the deck force and the black gang. I never could sleep if I were to impose on my friends that particular handicap [of being compartmentalized into a separate corps]. I do not recommend a separate corps." Naval aviation was, as Moffett had said time and time again, a vital "arm of the fleet"—inseparable from the Navy's basic role as the nation's first line of defense.²⁶

The Navy accepted aviation as an inherent part of the Naval line officer's duties. Naval aviators were selected solely from line officers of the Navy and Marine Corps. By 1925 the navy limited rated officers to naval academy graduates who had completed three years of sea duty before being eligible for aviator training.²⁷ In fact, Moffett was trying to reach the point at the Naval Academy which every midshipman will have school work in connection with aviation and will have at least been in the air before he leaves the academy."²⁸ Moffett was certain that the Navy had "...to consider the subsequent careers of officers that are assigned to aviation duties. If the Navy supplies from young officers its own aviation personnel, it sees to it that they are trained for their naval duties as well, and that at the proper age they continue their naval careers in the more normal duties of seagoing officers."²⁹ "Our plan in the Navy" according to Moffett's testimony before Congress, "is to keep officers in aviation for a certain number of years and then have them go back in the regular service, bringing in more at the bottom and letting them go at the top. In time that will result in all officers in the service having a very intimate knowledge of aviation."³⁰

While the Navy saw aviation as a core part of a young officer's duties, naval aviators subsequently saw themselves as Navy officers first and foremost. They did not desire independence from the Navy—they knew they were an inherent and important part of its war fighting mission³¹. Even outspoken airpower advocates, such as Richard E. Byrd, saw himself as a naval officer first, and an aviator second. According to Byrd, naval aviators felt that they were a core part of the Navy, "only a few officers out of the whole bunch" of naval aviators favored a unification of Army and Navy aviation into a separate and independent air force.³² Moffett summed up the general feeling of naval aviators

when he remarked to a group of naval aviators: “Hell, we won’t secede from the Navy. If we are half as good as we think we are, we’ll take it over.”³³ With the advent of Admiral Ernest King (Chief of the Bureau of Aeronautics 1933-1936) to be Chief of Naval Operations in 1941,³⁴ one may argue that Navy aviation did take over the Navy within just a few years.

Conclusions

In 1921, the National Advisory Committee for Aeronautics submitted a report to the President of the United States that summed up the different approaches to aviation that had been taken by the Army and the Navy. “The Naval Bureau of Aeronautics...functions differ from those of the Army Air Service, due to a fundamental difference in organization, in that the Army Air Service is a combatant arm of the Army with its own production and supply services, etc., whereas the Navy has no separate combatant arms, naval aviation being an integral part of the fleet.”³⁵

As an inherent part of the Navy, naval aviators influenced the development of carrier warfare. A school of carrier and aviation-oriented officers had emerged in the Navy during World War I, and managed to sustain themselves against the extreme pressures of both the battleship admirals within the Navy and of the extreme airpower enthusiasts outside.³⁶ This success was directly attributable to William Moffett.

Moffett was the key ingredient in the Navy that pulled together the Navy’s focus on the Pacific theater in their strategic planning, together with Mitchell’s advocacy of airpower as eclipsing seapower in strategic importance. Moffett took these volatile forces and formed from them a consensus within the Navy. This consensus was not only

between the senior officers of the fleet, but it also appeared to include the vast majority of naval aviators themselves. The consensus was that airpower was an essential part of the Navy's mission, for without airpower, the Navy was in jeopardy of becoming quickly obsolete. Moffett seems to have been able to serve as a bridge between the aviators and the traditional fleet admirals so that both understood where aviation fit into the Navy and where the Navy fit into airpower.

Had the Navy not focused on a Pacific scenario, perhaps Moffett would have had a tougher battle to convince the Navy brass of airpower's value. Mitchell's publicity and pressure helped Moffett to get action from the Navy in pursuing the development of airpower in the fleet. Had a less credible man been at the helm of aviation, the senior officers may have paid little attention. Had the wrong man been at the helm, naval aviators may have begun to feel alienated and begun to look to their disgruntled brethren in the Army Air Service for common bonds. Naval aviation during the formidable period of 1919-1926 was a delicate balance between the desires of the aviators, their visions of the role of airpower, and the traditionalist's view of the world. Moffett was profoundly successful at striking that balance, keeping conflicts in check to produce a mutually acceptable view of where the Navy was headed in the future.

Largely due to Moffett's efforts, the U.S. Navy took the lead from the British Royal Navy in the field of carrier aviation. The Royal Navy had established an early lead in naval aviation. In 1917 the first deck landing was made at sea, and the first enemy naval Zeppelin was destroyed by a ship-launched Navy aircraft.³⁷ Also, that same year, the Royal Navy placed the world's first contract for the construction of the first aircraft carrier designed as a carrier from the keel up.³⁸ In April 1918 that early lead came to an

almost complete halt when the whole conduct of air operations, the provisioning of aircraft and all air personnel was transferred from the Admiralty to the new Royal Air Force (RAF). During the inter-war period, the RAF, fearful of its continued existence, prioritized and allocated very little in either talent or resources to naval aviation, what the new RAF came to see as a purely ancillary air function.³⁹

The British suffered from having divided the responsibility for the development of naval aviation between two services, the Royal Navy and the RAF. In contrast, the American Navy had created an effective organization, the Navy Bureau of Aeronautics under Moffett that was a strong bureaucratic machine to look after the interests of naval flyers.⁴⁰ From 1921 onward U.S. Navy aviation forged ahead and the British Royal Navy which had established so commanding a lead in aviation began to fall behind.⁴¹ The American Navy benefited from an aeronautical administrative system that allowed enthusiastic innovators a high degree of autonomy. This proved effective in keeping the innovators on board, provided decision makers with a wide range of options that they could choose from, and allowed the thinkers scope for independent reflection.⁴² U.S. Navy aviators invented the tail hook and cable arrester system and developed the first effective catapult system to launch aircraft from a carrier.⁴³

Had carrier ships come entirely under the command of a united air force, as Mitchell advocated, or had just carrier aviation come under a united air force, as was the case in the United Kingdom, the end result could have been a less efficient and less effective development of carrier aviation. As it was, the U.S. Navy and its imbedded aviators developed its carrier fleet into the formidable force that eventually proved so decisive in the Pacific theater in World War II.

Notes

¹ William F. Trimble, *Admiral William A. Moffett; Architect of Naval Aviation*, (Washington and London: Smithsonian Institution Press, 1994), 77. This significant insight into the thoughts of the Chief of Naval Operations is taken from Hearings Before the Committee on Naval Affairs, 1921. A quote that this author was tempted to use instead of this was “We have a forward-looking corps of officers.” 1925, The Hon. Curtis D. Wilber, Secretary of the Navy, elaborating on why the Navy organized its aviation the way that it did, House, *Inquiry Into Operations of the United States Air Services. Hearing Before the Select Committee of Inquiry Into Operations of the United States Air Services, House of Representatives, Sixty-Eighth Congress on Matters Relating to the Operations of the United States Air Services*, 68th Cong., 1st sess., (Washington, D.C., Government Printing Office, 1925) Parts I-VI. Part I, 371, hereafter, *Inquiry*. . This significant insight into the thoughts of the Chief of Naval Operations is taken from Hearings Before the Committee on Naval Affairs, 1921. A quote that this author was tempted to use instead of this was “We have a forward-looking corps of officers.” 1925, The Hon. Curtis D. Wilber, Secretary of the Navy, elaborating on why the Navy organized its aviation the way that it did, . *Inquiry* , Part III, 1646.

² *ibid.*

³ *Inquiry*, Part I, 343.

⁴ Trimble, 75.

⁵ *Inquiry*, Part I, 342.

⁶ Trimble, 81.

⁷ *Inquiry*, Part I, 342.

⁸ *Inquiry*, Part III, 1659.

⁹ *Inquiry*, Part I, 387.

¹⁰ Trimble, 146.

¹¹ Trimble, 83.

¹² Trimble 4.

¹³ *Inquiry*, Part I, 361.

¹⁴ *Inquiry*, Part I, 362.

¹⁵ *Inquiry*, Part I, 371. Of course, as stated later in this chapter, the Navy’s “forward looking” officers had been spurred forward by Mitchell.

¹⁶ Allan R. Millett and Williamson Murray, *Innovation in the Inter-war Period*, (Washington D.C.: Office of Net Assessment, The Pentagon, Contract No. MDA903-89-K-0194, Final Report, June 1994), 567-568.

¹⁷ E.B. Potter, Editor, *Sea Power; A Naval History*, second edition, (Annapolis, Maryland: Naval Institute Press, 1981), 236-237.

¹⁸ Millett and Murray, 142.

¹⁹ Potter, editor, 242.

²⁰ Moffett and Mitchell came to intensely dislike one another. An interesting story of the first and only face to face meeting between the two follows. In November 1921 Mitchell and Moffett met for the first time at a joint and combined special committee to consider the quantitative and qualitative limitation of aircraft for the Washington Conference an arms limitations. When the subcommittee met for the first session on

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November 30 1921 "...Mitchell breezed in with a secretary, all ready to take the chair..." Moffett asked, "...by what authority he pretended to assume the chairmanship. [Mitchell] mumbled something about rank." Moffett asked, "...since when...does a one-star brigadier rate a two-star admiral?" Moffett had made his point and took the chairman's chair. At the next meeting, Patrick represented the Army, having sent the irrepressible Mitchell out of the country while the sensitive international discussions were underway. Trimble, 93

²¹ Trimble, 89-90.

²² Potter, Editor, 236-237. Until the Pearl Harbor attack, the value of the carrier as the main weapon system for attack was not generally recognized. The aircraft carrier was first accepted by the Navy as an observation platform and as a means to protect the battle fleet from attack by other aircraft and from enemy battleships.

²³ Trimble, 66.

²⁴ Trimble, 77.

²⁵ *Inquiry*, Part I, 381-382.

²⁶ Trimble, 162-163.

²⁷ *Inquiry*, Part III, 1646.

²⁸ *Inquiry*, Part I, 382.

²⁹ *Inquiry*, Part I, 383.

³⁰ *Inquiry*, Part I, 382.

³¹ *Inquiry*, Part I, 379. Officers in naval aviation according to Moffett's testimony before Congress were "practically unanimous" in opposing an independent air force. The parade of young Navy aviators that were called to testify before Congress backed Moffett's statement.

³² *Inquiry*, Part III, 2367.

³³ Trimble, 18.

³⁴ T. N. Dupuy, C. Johnson, and D. L. Bongard, editors, *The Harper Encyclopedia of Military Biography*, (Edison, N.J.: Castle Books, 1992), 404.

³⁵ *Inquiry*, Part III, 1647.

³⁶ Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy*, (New York: Macmillan Publishing Co., Inc., 1973), 249.

³⁷ Donald Macintyre, *Aircraft Carrier: the Majestic Weapon*, (New York, N.Y., Ballentine Books, Inc., 1968), 12.

³⁸ Macintyre, 18.

³⁹ Macintyre, 24.

⁴⁰ Allan R. Millett and Williamson Murray, *Innovation in the Interwar Period*, (Washington D.C.: Office of Net Assessment, The Pentagon, Contract No. MDA903-89-K-0194, Final Report, June 1994), 336.

⁴¹ Macintyre, 24.

⁴² Millett and Murray, 364-365.

⁴³ Macintyre, 24.

Chapter 4

The Role of Leadership in Change

We believe when we are fighting an air battle over the sea, it is nothing that the sea forces have anything to do with. When we are fighting a battle in the air over the land, the Army has nothing to do with it on the land

—Brigadier General William Mitchell
US Army Air Service, 1925

Leadership and Change

The interwar aeronautical leaders Mason Patrick, Billy Mitchell and William Moffett faced the dilemma of how to fit their new technology into national defense strategy. New technology, whether it be the submarine, armored tank, mechanized combat forces or the airplane has given rise to conflict between the “existing” and the leader’s vision of the “possible.” New technology, especially space and information warfare, will continue to raise mission and organizational questions within today’s traditional military departments, much as aviation did during the post-World War I period. A leader must understand the dynamics of change, strive to be effective in advancing an idea to bring about the desired change, and then lead a large military bureaucracy toward realizing the vision. Vision is perhaps the most important aspect of leadership—for vision and goals act as the beacon and control system that keeps organization hurling forward on course during times of change rather than spinning out of control into chaos.¹

As we have seen, from World War I up through 1926, the two branches of the armed forces had a unique opportunity. The Army and the Navy had three distinct choices. The choices were to mutually create a separate and independent air force, or, for each of the services to embrace and absorb aviation as part of its core mission, or, reject aviation and place it into a separate, “special” category within their own service. Under the ideals and direction of their senior aeronautical leaders, the two services reacted to aviation technology in totally separate and distinct ways. The Navy chose to embrace aviation and over the next two decades it came to dominate, even define the Navy’s maritime strategy. The Army, on the other hand, chose to co-opt the technology, and in 1926 the Army Air Service became a semi-independent corps within the Department of War, and thirty years later, eventually spun off into a separate service that did not include naval aviation.

If today’s military leaders are to make a productive analysis of this early interwar period, then they must examine both the theory of leadership and the dynamics of organizational change in some detail. Aside from the obvious different approaches the services took with aviation, what were the leadership and organizational change dynamics that were taking place to bring about these distinct approaches?

The leadership of an organization undergoing dramatic change must understand both the organization they are a part of and the dynamics of the changes occurring around them. Recognition of these forces of change and resistance to change can then help the leader articulate his vision and plan a winning strategy. Four factors affect the way change is accepted: the leaders vision, the way people view the world from within the organization, the overriding interest, or essence of the organization, and the bureaucratic organizational and planning practices of an organization.

Vision, Goals and Control Systems

Leadership is among the most important factors that determine a military's effectiveness. Napoleon wrote: "The Gauls were not conquered by the Roman legions, but by Caesar. It was not before the Carthaginian soldiers that Rome was made to tremble, but before Hannibal. It was not the Macedonian phalanx which penetrated to India, but Alexander..."² General of the Army Omar Bradley echoed Napoleon's assessment when he wrote of the American fighting man: "Man for man one division is just as good as another—they vary only in the skill and leadership of their commanders."³

The Army defines leadership as the art of influencing others in such a way as to obtain their willing obedience, confidence, respect and loyal cooperation in accomplishing the mission.⁴ Besides gaining willing cooperation, leaders should also make a positive impact on the organization. By setting standards, goals, priorities and establishing a network of communications, a leader can make a difference.⁵

Tom Peters, the respected business management philosopher, talks of the leader's role in making a difference when he challenges the leader to constantly re-create the organization by setting and driving toward new roles and new missions.⁶ The most effective means of establishing this new direction are by creating a vision for the organization, and by obtaining the willing obedience, confidence, respect and loyal cooperation of the organizational members in striving to realize the vision.

A leader can profoundly effect an organization by establishing a strategic vision and by setting long term goals.⁷ "Vision" is simply the leader's acute sense of the possible.⁸ Vision provides the bedrock upon which constant evolutionary, opportunistic change can take place. To Peters, the effective leaders change the basic metabolism of the

organization by relentlessly driving toward the vision of what the organization could be, and must become.⁹

Air Force Major General Perry Smith ties all of these factors together. He sees leadership as blending vision, communication and craft to achieve the desired results. Without vision, leaders become day to day operators, without an ability to communicate, they are impotent, and without craftó the ability to make the vision a reality, they are nothing more than impotent dreamers.¹⁰

Thus, the definition of leadership is not only the ability to get others to willingly follow, but also the abilities to establish a strategic vision, set goals and harness the organization's energy toward realizing those goals. The ability to focus a follower's energy toward making a vision reality is perhaps the truest manifestation of leadership, particularly senior leadership in a large bureaucratic organization such as a military service. This concept of how the leader affects change will be fully discussed later.

The challenge leaders face is more difficult during times of great uncertainty and great change. During these times, vision is perhaps the most important aspect of leadership—for vision and goals act as the beacon and control system that keeps organizations hurling forward on course rather than spinning out of control into chaos.¹¹

If the leader's vision and goals are the beacon and control system that keeps the organization from spinning out of control—then the two aviation organizations were set on very different courses by their leaders. One took the course of a rocket launch, headed straight up, leaving the old organization disappearing in the rearview mirror. The other's approach was to strap a motor, propeller and wings on the organization and then slowly, steadily, lift the entire organization upward.

Mitchell, Patrick and Moffett all had well defined goals and visions. Mitchell was a revolutionary who wanted immediate independence from the Army. He believed that independent air force was a concept whose time had come. In Europe, independent air forces were becoming commonplace, so Mitchell set what was to him, a very achievable goal. The problems occurred when Mitchell didn't understand how to effect change from within the organization, and he went outside to get help from the Congress and the media to help make his vision a reality.

Patrick was an evolutionist. He understood the conservative nature of the Army and he understood the technology of aviation. He set the goal of internal autonomy, followed by a brief transition period, which would in five or six years culminate in independence. Patrick's goal was certainly realistic. However, Mitchell's and Patrick's differing visions led the Army airmen down the path of isolation and separation from the Army.

These Army Air Service visions, which were successfully deployed and accepted by the majority of the airmen, eventually led not only to independence some decades later, but also to a relentless drive to develop ideas and theories that would best justify the complete independence they sought. Specifically, the vision of an independent organization and mission led directly to the strategic bombing theories that were used with success in World War II.

Moffett had taken on what could be termed a metamorphosis vision for the Navy, which, when compared to the simplistic Mitchell and Patrick visions, was truly remarkable. Moffett's vision for aviation led the Navy down the path to total air and sea integration. Integration led to an "air minded" Navy officer corps and to the eventual

development and deployment of successful carrier forces in the Pacific during World War II.

Tom Peters' concept of re-creating the organization is exactly what Moffett accomplished. Moffett approached change carefully so as to ensure the buy-in of the changes he proposed. He did this by insisting that his aviators remained integrated with the naval line officers. Moffett achieved this integration by establishing an inclusive Bureau of Aeronautics. A wide range of officers, both rated and non-rated were part of his activities. Moffett developed a "line officer mentality" among the officers that were in aviation. This approach was completely different from the "elitist mentality" that Army aviators developed. Herein lies the heart of the reason that the Navy accepted aviation and the Army rejected aviation. How did Moffett achieve his vision, while both Mitchell and Patrick failed to achieve theirs?

Leadership and Organizational Change

The scientist and philosopher Thomas Kuhn defines the way in which the members of a professional community view the world as the constellation of beliefs, values, techniques, and ways of looking at and solving problems shared by the members of a given community. This is the essence of what makes a particular community distinctive. Individuals belonging to the same community usually share the same sort of education, professional language, professional experience and culture and will tend to view the world in the same way. They will apply their past experiences in solving problems toward solving new problems—a way to see a new problem or situation as similar to, or like, a problem or situation that was already experienced. Kuhn is speaking of a

paradigm, and he defines a paradigm as the constellation of beliefs and a way of looking at the world that the members of a professional community share and a community consists of members who share a paradigm.¹²

Because of their common experiences, members of a community develop a common way of looking at things, a time tested and group licensed way of analyzing and solving problems. This common approach toward looking at the world and thinking about things is transmitted through rewards, education and practice. It is a way of solving problems by using solid methods that have been well proven in repeated use by the community. This way of looking at things is very stable and usually constant for long periods of time, but is nevertheless subject to change. Change is started by individuals within the community, but community change is made by the community itself rather than its individual members.¹³

A major change, or revolution, in a discipline or community is brought about because some of the similarity relations change. Objects that were grouped in the same set before are grouped in different ones afterward. As change occurs, members find it harder and harder to communicate with other members of the community. Communication breakdown occurs. Members struggle for a time, then eventually recognize each other as members of different language communities, and then begin to translate. At some point in the translation process, a person finds that the translation comes easier and easier, then the person no longer has to translate because he has slipped into the new language without making the conscious decision to do so. A permanent shift in the community's view of the world has occurred.¹⁴

In the early interwar Navy a permanent shift in the way the entire Navy saw itself occurred. This shift was a result of several factors, but Moffett played a key role in all of them. Moffett was primarily a line officer, but he understood the vernacular of the air. As a very credible line officer, he was able to explain the advantages of the airplane in terms that the other line Navy officers could understand. He skillfully used the talents at his disposal to carefully get the line officers to accept the airplane. He imbedded the technology into the Navy, and thereby headed the Navy toward “slipping into the new language.” Moffett had guided fleet aviation to such a point that very little translation was necessary. He was credible with the fleet admirals, and the fleet admirals heard credible line officers “...talk about aviation they learn a great deal about it.”¹⁵ As a result, the Navy aviators looked to their fellow Navy line officers for natural kinship, inspiration and as a source for new comrades in aviation. This line source that aviators looked to for inspiration and personnel was mutually reinforcing. Soon, the two became inseparable.

Moffett also had a great deal of help from the “shock effect” Mitchell created in the press and in the Navy Department. That effect helped Moffett make quicker and easier changes to the Navy’s very essence that could otherwise have taken longer. This relationship between Mitchell and Moffett’s accomplishments in naval aviation will be more fully discussed later. The Army, meanwhile, had created for itself much more difficult circumstances.

Mitchell lived in the realm of airmen exclusivelyó he and most of the airmen in the Army Air Service had totally lost the ability to understand the traditional ground Army point of viewó Mitchell could not relate his vision for an independent air arm in terms ground officers could understand, let alone respect. Army aviation looked to the civilian

aeronautical community for support and as a source of new aviation officers. In the Army of the 1920s Army aviators and ground officers had a very difficult time communicating with each other. The essence of the Army was the individual infantry soldier fighting the enemy's army—any other suggestion was pure heresy.

Patrick was one of the few Army officers who learned to translate what he saw the world from the ground officers' point of view, but he also saw it from the airmans' view—perhaps the only general officer in the Army who had an understanding of both perspectives. He spoke both languages and bridged the gap and attempted to capitalize on Mitchell's energy and vision to serve as the catalyst for change. Yet Patrick had never been an infantryman, nor did he bring into the Army Air Service respected and capable infantrymen who may have helped with the Air Service's credibility. Patrick began losing the ability to communicate with ground officers when he failed to control Mitchell's relentless attacks on the Army and its General Staff.

Leadership and Bureaucratic Essence

According to Morton H. Halperin, noted author and Special Assistant to President Clinton, a bureaucracy will have a particular way of looking at things which will reflect the organization's essence—the view held by the dominant group of what the organization's core missions and capabilities are. This essence shapes an organization's conception of its interests. An organization favors policies and strategies that its members believe will make it, as they define its essence, more important. Conversely, an organization resists efforts to take away from it or weaken those functions viewed as part of its essence, and will be indifferent to functions not seen as part of its essence. The

quest for autonomy has a significant impact on both the political and policy stands and actions of organizationsó most are reluctant to cooperate unless it is in the organizations interest.¹⁶

Autonomy, or turf, is highly valued by all bureaucracies. High autonomy means high support and an expanding role. The overriding concern for turf and autonomy makes it extraordinarily difficult to coordinate the work of different agencies or departments within the same organization which seek autonomy within the organization.¹⁷ Autonomy is a survival issue. Autonomy means that the bureaucracy controls its own destiny, its own resources. It is therefore able to survive.

Why is an organization so resistant to change and innovation? James Q. Wilson, noted business and government organizational analyst, speaks of the core beliefs, core truths, and core self identity that an organization holds as the organization's essence. Changes that are consistent with the existing task definitions (essence) will be accepted, those that require a redefinition of those tasks will be resisted. It is the way core tasks are defined that determines how a proposed change will be received. Changes endure when they do not alter or threaten the core tasks. The way core tasks are defined determines how a proposed change will be received. Most technological changes that are fully accepted do not alter core tasks in any wayó technology just helps the organization perform the same task, in the same way, more effectively. Real innovations alter the core tasksó and these real innovations are often strongly resisted. This bias toward maintaining existing task definitions often leads bureaucracies to adopt new technologies without understanding their significance.¹⁸

Many important changes in an organization are the result of outside, political demands, or are made by outsiders who get their rewards from outsiders (media, congress) If the changes are brought about by insiders, the chance for extreme controversy is highly prevalent and the chances for success are remote. Overcoming this controversy and effecting change within an organization is perhaps the true mark of great leadership.¹⁹

Essence shapes an organization's concept of its interests. Any organization will favor policies and strategies that its members believe will make it, as they define its essence, more important. Mitchell's shaping of the Navy ordinance tests infuriated the Navy, but it also resulted in something much more profound than anger. Mitchell's bombing of battleships was a paradigm-shifting event for the Navy. For the first time Navy senior officers had the inkling that the days of the great fleets were passing. Indeed, for all the retrenching rhetoric that the Navy gave in defense of their fleet, there was the deep realization that aircraft were a threat to their service. The only way to counter that threat was with aircraft of their own. This "catalytic event" produced a shift in the way senior naval officers viewed the world. From that point on, the Navy essence had to include aircraft if it were to remain a viable combat force. Mitchell also made Moffett appear a moderate to his Naval contemporaries, which allowed him to accomplish more with naval aviation than he otherwise might have been able to accomplish without the contrast of a radical Mitchell.

Mitchell served as the lightning rod for forward thinkers, like Patrick, in the War Department who preferred to have their ideas on the future of airpower pounded out by an aggressive and irreverent Mitchell while they quietly worked the system to accomplish

the aims Mitchell espoused. Mitchell's actions generated great publicity and outside pressure. They resulted in increased public interest in aviation in general and in an independent air force in particular. Mitchell insured that the external pressures for change remained focused on the service's handling of aviation. His initial actions greatly furthered the cause of independence through public awareness and interest^ó but the later direction of his actions took an ominous turn to the detriment of his cause. The problems occurred when Mitchell and many other airmen felt that their message was not being understood by the ground Army, War Department, Navy Department or the government administration. Lack of understanding led to frustration which, in Mitchell, built up and resulted in inappropriate and unprofessional behavior. This behavior successfully polarized the government, Army and Navy to such an extent that a totally independent air force was not acceptable to those in power. Mitchell was now a threat to his own organization. Mitchell had, in effect, become his vision's own worst enemy as he unsuccessfully attempted to bring about change within the military bureaucracy

The Influence of Threat Analysis

What the two service bureaucracies perceived as the nature of the next threat influenced the issues that the service's leaders focused on in this early interwar period. The Navy envisioned a new type of war in a broad Pacific theater. The Army focused on fighting another very conventional war, very similar to the war the Army fought in World War I.²⁰ These visions of the next war formed the direction that the military services headed and dictated the technology they would accept and use.

The post World War I Navy was an institution open to new strategic thought and ideas.²¹ The Navy's strategic thinking was dominated by their planning to project American military power across the Pacific in a war with Japan. This would require re-taking many Japanese-held islands, to include the Philippines. The Navy began focusing on solving the problems of how to bring superior air power against the land based air of the islands, how to assault the strongly defended island bases, how to free the fleet from dependence on rearward bases and how to defeat the Japanese fleet. Solving these problems required a fleet buildup with emphasis on aircraft carriers and improved carrier planes, developing an amphibious doctrine and suitable landing and beaching craft, and developing a logistics doctrine whereby the fleet and other forces in effect carried their bases forward with their advance.²² These considerations all relied in some way or another on the airplane. Thus, this threat analysis and planning for the next war shaped the way senior naval officers thought about airpower.

The post World War I Army was an organization deeply frozen in pre-war tradition. The Army's culture prevented it from effectively analyzing and learning from its first world war experiences. The individual soldier fighting the enemy was the ideal and destruction of the enemy's army was the grand objective. The successful mobilization of manpower was seen as the core task, the key ingredient for achieving this objective. Ground officers in all branches held the traditional Army esteem of the infantry. Man fighting man on the battlefield supported the Army's perception of its essence and was seen as the most likely scenario for the next war.²³ These traditional values formed the essence of the Army, and the way in which the Army viewed the world. As a result, the

Army remained firmly focused on the infantry soldier, in spite of technology, who would plan to fight in the same conventional way regardless of in which theater he fought.

The Navy's perception of the threat made Moffett's vision easier to actually achieve, while the Army's analysis of the next war could have relegated the airplane to a very minor support role, or could have greatly assisted Mitchell and Patrick in achieving independence.

The Army was a victim of its own successes in World War I. It had little incentive to change following the great allied victory in Europe. The Navy, on the other hand, had suffered a "de-facto" loss to Mitchell's bombers when they realized that the entire fleet was highly vulnerable to airplanes. The Navy had very good reason to change, and change quickly.²⁴

The Influence of Bureaucratic Structure

Bureaucratic organization and compartmentalization greatly influenced the way senior officers within the Army and the Navy thought. The Army was organized in the early interwar period much the same way that it is organized today—into branches of Infantry, Artillery, Engineering, Supply, etc. The organization had over one hundred years experience in compartmentalizing specialties into stovepipe branches. Separate and distinct stovepipe organizational branches established barriers between the differing combat functions. An Army officer's commission and promotions came from the branch, rather than from the Army. Transfer between branches was possible, but transfer was by no means common. The Army Air Service came from this long heritage of branch separation. Army Air Service officers made this branch mentality even more profound,

for they developed an “elitist” attitude that set themselves above the average soldier. Airmen thought themselves special, different, more proficient, more capable of seeing and understanding the “big picture” of combat operations. The variance between what the ground officers saw to be the next war and what airmen saw to be the next war combined with the elitist self image airmen had developed under the influence of Mitchell to create two distinct organizations in the minds of airmen—the monolithic Army, and the elitist Army Air Service.

The Navy had long abandoned the line officer branch separation that existed in their service. This wise move had removed artificial separations between the naval line officers and allowed these officers to freely flow from one specialty to another. A Navy line officer was just that, a Navy officer. He was not an artillery officer, infantry officer or some other category as had been established by the Army. Navy line officers were broader and more open in their thinking because their organizational structure had allowed them the freedom and mind set to think flexibly.

Conclusions

Why was an independent air force not established by the United States during the early interwar period? Billy Mitchell was primarily responsible for the failure of the United States to establish an independent air force during this period. His relentless and sometimes reckless attacks against the Army and Navy polarized the Army and served as a catalyst to energize naval aviation. His activities went well beyond what was necessary or prudent to reach his goal of an independent air force.

Mitchell has enjoyed a latter-day status as hero and airpower prophet. He predicted so many things about the future of the airplane that have come to pass or advancing technology is likely to make come true in the future. The problem with Mitchell was that in the 1920's his theories were utterly disproportionate to the military aircraft available.²⁵

Had Mitchell better understood airpower's capabilities at the time and better understood the organizational dynamics involved in the struggle for independence, he might have better worked with Mason Patrick, the only Army Air Service leader who carried credibility with the Army General Staff.

Rather than the widely acclaimed airpower hero, Billy Mitchell was more of the anti-hero who made it impossible for aviators and ground officers to accept and understand each other's missions. Mitchell had alienated himself from the mainstream Army to such an extent that he had become an impotent dreamer, a dreamer who perhaps did more harm than good to further his cause.

A greater opportunity was missed. Patrick and Mitchell could have taken a different road—a road taken by Moffett. The Army aviators could have set out to change the nature of the interwar Army. Airpower could have become the essential essence of the Army's strategic thinking, but those "could haves" were never considered, largely due to the Army's nature and organizational structure as well as the elitist attitudes developed by Mitchell and his Army aviators.

Mitchell was the quit essential ingredient in the airpower considerations of the early interwar period. He was the catalyst not only to the Navy but also the catalyst in changing the way American airmen viewed the decisiveness of the airplane. Mitchell's views of aviation became the dominant views within the Army Air Service. Mitchell was

perhaps solely responsible for the Army not abandoning aviation, as the Army had abandoned the Tank Corps in 1920, ironically, the same year that the Army Air Service was officially formed. Mitchell is a larger than life figure. He was the essential catalyst that directly led to America's effectiveness in the Second World War, but he was no leader.

Despite the fact that an independent air force was not established, did the aeronautical leaders of 1918-1926 succeed or fail in their goal to develop a potent air arm for the United States armed forces? Billy Mitchell was the catalyst to the Navy as well as the Army Air Service developing potent air forces that greatly influenced the favorable outcome of the second world war. Mitchell's quest for autonomy set the Army aviators down the road toward developing theories that would justify independence. These theories culminated in the strategic bombing campaign used over Nazi Germany.

The Naval high command got Mitchell's airpower message loud and clear—and met the challenge by establishing a Naval Air Service that was capable of operating with the fleet.²⁶ Not long afterwards, Navy aircraft carriers were developed to take advantage of the flexibility inherent in airpower.²⁷ Perhaps Mitchell did more to further the cause of Naval aviation than he was able to accomplish in his own service.²⁸ Certainly Mitchell's actions were absolutely key in the Navy's development and building of aircraft carriers that were primarily responsible for America's successes against the Japanese in the Pacific—without Mitchell prompting the Navy's jump start on carrier aviation, the Pacific war could have turned out quite differently.

One can imagine what might have happened if the Army senior leadership had gotten the perception that large field armies were becoming obsolete and quickly acted as the

Navy did to incorporate the airplane into the Army's very essence. Organizational structure, planning focus and conservative mind-set made the Army officer's way of thinking resistant to such possibilities.

Yesterday, Today and Tomorrow

From the end of World War I up through 1926, the two services of the armed forces had a unique opportunity. The opportunity was to jointly create a separate and independent air force, or, for each of the services to embrace and absorb aviation as part of its core mission, or, reject aviation and place it into a separate, "special" category within their own service. Under the ideals and direction of their senior aeronautical leaders, the two services reacted to aviation technology in totally different ways. Was this a unique experience in our nation's history, or, will there be similar opportunities to react to changing technology that this study may help the military leader realize?

Today, the military services face the dilemma of assessing where space and information attack systems fit into the traditional military departments—if they fit at all. This dilemma is not unlike the problems faced by our predecessors who dealt with the issues of the airplane's place on the battlefield and in the organizational structure that would contain and direct aviation. Organizationally and culturally the services are facing a unique opportunity. Space and information war are both likely to have a profound impact on the future of national security. Military leaders of today must begin shaping the organization and culture of the military services to effectively bring about the changes necessary to incorporate these new forms of war. As in 1918-1926, the three branches of today's armed forces have a unique opportunity. The opportunity is to jointly create an

independent space or information war branch of the armed forces, or, for one or more of the existing services to embrace space and information war as part of its core mission, or, for the existing services to reject these new technologies and place them into a separate, “special” category within their own service. The Air Force seems headed down the path of rejection.

As a military service that has traditionally taken pride in advanced technology, the Air Force theoretically is the best service equipped to deal with new forms of warfare. Despite the technological prowess of the modern Air Force, it is culturally and organizationally ill equipped to develop the agile organization required of a future service who’s mission could be the domination and control of all areas above the earth’s surface (air and space—including the full spectrum of light, energy, sound and information that passes above the surface of the earth). The Air Force would be wise to seize the opportunity to develop space and information war, least it theoretically find itself in the same position as Moffett’s battleship Navy of 1921.

With the accelerating pace of technological innovation, the Air Force as we know it will certainly one day become obsolete. Talents held in high esteem today, such as rated skills, could become far less relevant for combat operations. New combat skills are likely to lie in the areas of space and information technology. Perhaps the most lethal warriors of the coming century will be those who are today considered the warfighter’s supporters—the aerospace and computer technology people.

With the United States’ prevalence in the Cold War, quickly followed by its success in the war with Iraq, the military finds itself in a post-war era not unlike the period after World War I. The United States emerged victorious from an intense 40 year struggle of

conflicting ideology. Cold war organizational frameworks, threat focus and ideas served the country well. The war with Iraq validated the lethality of American technology and precision combat power. Besides the down-sizing required by post-war demobilization, the agenda of today's military is firmly focused on improving and perfecting those precision and stealth technologies that proved so successful in the last war. If change is needed for a totally new future direction in warfare, the modern military services have little initiative to undertake great change, particularly radical changes required to posture the organizations for the next century.

Given the Air Force successes in the Cold War and the Persian Gulf, what is required to bring about a realization that the service must change in order to be effective in the future? The shock of a de-facto loss might bring about that realization, as it did to the senior officers of the 1921 Navy. If a modern space visionary and zealot were to conduct a futuristic destructive test on the "capital ships" of the modern Air Force, such a test might involve the destruction of a fleet of obsolete B-52s or F-111s from a space-based system, or through the use of small, computer controlled remotely piloted attack vehicles. If arms' treaties dictated modern capital ship reductions, as they did following World War I, the tests might even include the modern "capital ships" of the Air Force, such as the B-2 or F-117. Perhaps an information war zealot could engineer an even more effective demonstration, such as a fleet-wide stand-down of the Air Force's software-intensive weapon systems (aircraft, missiles and spacecraft) through the triggering of "trojan horses" (inactive software viruses) covertly placed in software updates months, maybe years before. If these tests were conducted, as the Navy ordnance tests were during 1921, in the presence of the service's senior leadership, then a catalytic effect

might be achieved to cause the senior officers of the Air Force to reevaluate the basis for their service and question whether their basic premise of airpower should not be revised. In the aftermath of such tests, perhaps Air Force leadership might reevaluate the latest “capitol ship,” the F-22, and question the need to pour billions into what may soon become relatively obsolete technology. Just as the battleship lapsed as the aircraft carrier superseded it in lethality, so may the air “capital ships” dim in the next century as they are superseded by space and information based systems. However catalytic, the scenarios of such tests as outlined here are highly unlikely.

Changes to the essence of an organization may be wrought from outside the organization, by public and media interest affecting Congress, for example. Given the unlikely emergence of a vocal space or information war zealot to spur public and Congressional interest—external pressures to prompt incorporation of new forms of warfare into the existing services are remote. However, changes from outside the organization may not necessarily be the best, or most effective change for the organization or for the country. Change may best be wrought from within, by those with the vision and credibility to eloquently speak the language of the professional paradigm while keeping their eyes firmly fixed on the future. Such change would have to come from a strong, visionary leader. Such a leader would have the future war concepts of a Mitchell, combined with the leadership, vision, maturity and deep understanding of organizational change of a Moffett. An Air Force leader might begin the process by first grooming and developing today’s best warriors to take the lead in technology that tomorrow will determine control over the battlefield. A transition must immediately shift the Air Force emphasis away from the traditional warrior, the rated officer, and toward

the versatile, agile, free thinker—the officer who will be unbeatable on the battlefield of the future, not because of his physical prowess and motor/reaction skills, but unbeatable because of his intellectual flexibility.

Just as the infantryman was the elite of the post-war Army and the Army's organization and support structure was built to support the infantryman, so has the elite attitudes toward rated officers molded the very essence of the Air Force. The Air Force as an institution is built on the lore of flight. The manned aircraft defines the airman's very nature and mission focus. Indeed, an Air Force without manned fighters and bombers would be anathema to most airmen. While this love of flight and interest in aircraft serves as the overarching theme of this service, the members of the Air Force are loyal to something quite different—their individual career fields. As the Army branch system of 1918-1926 stifled innovative and flexible thinking, so the modern Air Force stove-piping of career fields creates strong conservative interests that, more often than not, favors the status quo.

When the Air Force became a separate service in 1947, the new service made a conscious decision to build a force that did not contain separate branches for line officers. It is easy to see why that decision was made given the narrow focus the Army branch system brought to the Army. The decision that there would be no separate aviation branch, logistics branch, etc. theoretically would have created a “leveling” effect in the Air Force, where people would owe allegiance to the Air Force as an institution, rather than to a more narrowly focused branch of specialists. Despite 50 years of “leveling” the Air Force has yet to develop a common line officer mentality among its airmen. The Air Force is compartmentalized into stove-piped career paths analogous to the old Army

branch system. These stove-piped career paths are also just as self-serving as the Army branches of Mitchell's day. If the Air Force should decide to develop an open, flexible officer career path common to all of its members, how would the leader ensure that the new career architecture would help prepare the Air Force, culturally, for the next century?

The visionary leader attempting to develop a viable fighting force for the next century might do well to consider the approach taken by the Navy in the formative stages of naval air's development. Warfighters might progress from first mastering the core competencies of information attack or space warfare, which requires fresh technical skills, then progress on to the realm of piloting aircraft or managing support functions. Eventually such officers would go on to command "combat wings" of satellites, information warfare squadrons, remotely piloted vehicles, cruise or ballistic missiles—or even aircraft. Line officers would all share a "combat tour" in space or information based systems before going on to other duties, and all would be eligible to return to those duties and eventually command combat as well as support units. In preparation for the new warrior of the next century, the Air Force would be wise to immediately begin severing its glorification of the rated officer with the development of a broad-based line officer course and require it of all future Air Force line officers.

Indeed, many today advocate a basic officer course or basic officer experience that would impart a common, broad, theme as to what it means to be an airman. Given today's paradigm, such a course might include an observer's ride in the back of a fighter jet, visits to the flightline to observe first hand the primary mission of their service. It might also include such catchy phrases as "the mission of the Air Force is to fly and fight," etc. Airpower history might be taught, with a particular emphasis on the struggles

valiant young aviators had to endure to prove the value of the airplane and win the independence of their service in the face of staunch, conservative resistance. Topics, such as historical aircraft, current aircraft and their capabilities, the value of future aircraft, such as the F-22 might be discussed. Indeed, such a course would reinforce an Air Force line officer mentality to the extent that it would strive to develop officer attitudes that mirror the attitudes of those conservative senior flying officers that hold the traditional aspects of their service so dear. This type of course would be detrimental, and would not prepare the officer for future war.

The Air Force would be better served through development of an agile officer corps—a free-flowing corps of professional officers not tied to any one particular career field or any particular mode of warfare. An officer corps that would hold to the ideal of domination and control of all areas above the earth’s surface would give those officers the ideological scope to expand their intellectual horizons. Such an agile officer corps would not come easily—it would require the guidance of a senior Air Force leader with a clear vision of where the service is headed in the future.

The visionary leader would develop an officer basic course to develop the officer, ethically, morally, physically and physiologically for warfare. It would give the officer a deep understanding and appreciation of Air Force history without tying him to the manned airplane. A visionary leader would be proud of the service’s history, and the futuristic vision espoused by the early airpower advocates—but he wouldn’t be trapped into blindly rejecting modes of warfare that did not conveniently fit the historical mission of manned flight.

The vision and foresight of the aeronautical leaders that helped form the Air Force are fertile ground on which to build innovative and futuristic weapons systems. The visionary leader must build upon the rich Air Force's heritage of innovative thinking and technological advancement to promote a culture of innovation and free thinking that will allow the service to seize and use those technological advancements. He would glorify the ideals of futuristic thought that have been a proud part of the Air Force heritage, rather than the manned machines that enabled their visions to become reality. The visionary leader would make a clear connection between the innovator and creative thinker and the warrior, for the warrior of tomorrow is likely to have more in common with the innovative thinker than with the rated warrior of today.

A visionary leader would begin major planning for space and information warfare. What the bureaucracy perceives as the next threat will influence the issues on which the service's leaders focus. Space and information war must become a central planning theme in all major war plans and training scenarios. Follow the planning with senior officer exercises to test and refine the plans and to help identify the development efforts required of these new forms of warfare. Planning for space and information war will inevitably lead to space and information war doctrine and requirements for new, relevant weapons systems for the coming century. Space and information war doctrine must be inseparable from the corpus of Air Force warfighting doctrine. A separate space or information war doctrine that is not integral with the service's basic warfighting doctrine would be counterproductive to the evolution of the service.

Most importantly, the visionary leader would never allow space and information warfare to be given special or unique status within the Air Force—the best warriors of

today must be charged with the responsibility to develop combat capability in these futuristic areas. Space and information war must be made a prominent mission of the Air Combat Command—which would train, equip and deploy these assets to the warfighting commanders. Space and information warriors must be the best and brightest—the best rated officers of today must be selected for grooming in the space and information arenas through participation in technical training and space shuttle flights.

Four factors outlined in this historical study and recommendation affect the way change is accepted: the leader's vision, the way people view the world from within the organization, the overriding interest, or essence of the organization, and the bureaucratic organizational and planning practices of an organization. Of all of these, the most important factor is the leader's vision. With the right leadership and vision, the military services will make the cultural and organizational transition into the next century and continue to serve as viable protector of American ideals.

Notes

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²⁰ Maurice Matloff, General Editor, *American Military History*, (Washington, D.C.: Office of the Chief of Military History, United States Army, 1968), 405.

²¹ Allan R. Millett and Williamson Murray, *Innovation in the Interwar Period*, (Washington D.C.: Office of Net Assessment, The Pentagon, Contract No. MDA903-89-K-0194, Final Report, June 1994), 567-568.

²² E.B. Potter, Editor, *Sea Power; A Naval History*, second edition, (Annapolis, Maryland, Naval Institute Press, 1981), 242.

²³ Johnson, 14.

²⁴ Developed out of discussions with Col. Frank Belote, Professor of Conflict and Change, The Air War College, Maxwell AFB, Al.

²⁵ Russell Weigley, *History of the United States Army*, (New York, New York, Macmillan Publishing Co., 1966), 413.

²⁶ Davis, 52. The Navy's spokesman for the board, Admiral Albert Winterhalter agreed with Mitchell's assessment of the venerability of ships to aircraft and the very pressing need to develop a defense strategy so that the fleet could protect itself from air attack. This soon led to the Navy's development of aircraft carriers.

²⁷ R. J. Overy, *The Air War, 1939-1945*, (Chelsea, Mi.: Scarborough House, 1991), 7; and Trimble, 90-91. In the immediate aftermath of Mitchell's destroyer bombing publicity, the aircraft carrier quickly became the cornerstone of Admiral William A. Moffett's grand plan for the development of fleet aviation. In fact, funds for the construction of the Navy's first aircraft carrier were appropriated by Congress in 1920, and the first carrier, the *Langley* was completed in 1922. Mitchell repeatedly argued for large aircraft carriers before Congressional committees—but Mitchell, of course, intended for the carriers to be under an independent air force service's control.

²⁸ Alfred F. Hurley, *Billy Mitchell: Crusader for Air Power*, (New York, N.Y.: Franklin Watts, Inc., 1964), 68.

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