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Tolson, Billy Joe

A HISTORY OF AIR UNIVERSITY

The University of Oklahoma

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**THE UNIVERSITY OF OKLAHOMA
GRADUATE COLLEGE**

A HISTORY OF AIR UNIVERSITY

**A DISSERTATION
SUBMITTED TO THE GRADUATE FACULTY
in partial fulfillment of the requirements for the
degree of
DOCTOR OF PHILOSOPHY**

**by
BILLY J. TOLSON
Norman, Oklahoma
1983**

A HISTORY OF AIR UNIVERSITY

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PREFACE

The Air University, headquartered at Maxwell Air Force Base near Montgomery, Alabama is the post-graduate education center for the United States Air Force. It was established in 1946 to provide continuing professional military education for all Air Force personnel.

Professional military education in the Air Force has a narrower definition than any other education or training taught by Air Force schools, since this definition includes only the required courses designed and administered by Air University. These courses are required at several times during each person's career and are designed to enhance the ability of the military professional. The officer learns to command a squadron or other small unit; then as his/her career advances he returns to Air University to learn to command larger units and serve on the staff of a larger organization; and finally he studies even larger responsibilities.

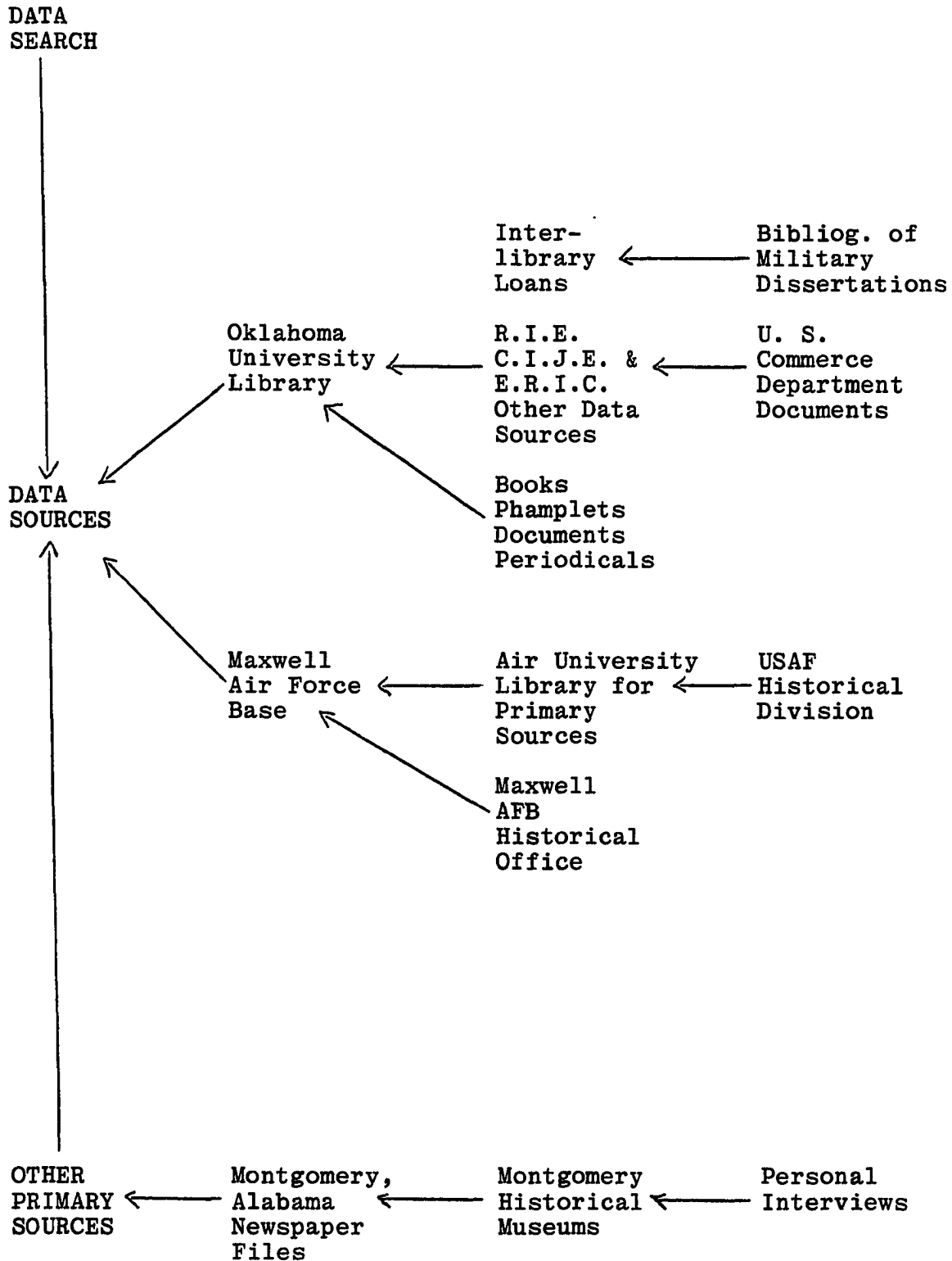
Air University also provides specialized training for certain skills such as teachers, legal personnel, chaplains, and engineers. The University also oversees the AF Reserve Officers Training Corps stationed at over a hundred universities and colleges and several other functions such as the Civil Air Patrol, Leadership and Management Development Center, and Extension Course Institute. Extension Course Institute provides skill training for all Air Force personnel both civilian and military.

This study traces the university's precedents from its eighteenth century roots until its founding in 1946 when the Air Force became a third service on the level of the Army and Navy. It traces the key events and people

that shaped the emerging institution and pays particular attention to the development of the departments and curriculum. The influence of the many advisory boards is examined as well as that of the students, faculty and outside scholars.

Particular concerns stimulated this study. Did the university follow the Athens-English military tradition of the constitution or the Sparta-Prussian tradition of militarism? What are the comparisons of professional military education with the education required of other professions? What curricular practices highlight the problem of training versus education? Finally, have administrative practices and procedures been effective in realizing the mission of the university?

The two library sources utilized most in this study were the libraries at the University of Oklahoma and the Air University. The University of Oklahoma library was also used to make E.R.I.C. and other data based searches. Some of the data on military education was collected and disseminated by the United States Commerce Department. In addition, interlibrary loans were extensively used. The bibliography of doctoral dissertations on the military at the Kansas State University library was searched for pertinent titles to be reviewed on interlibrary loan through the University of Oklahoma library and Tinker Air Force Base library. The Air University library was the main source for primary materials. The Air University library houses the United States Air Force Historical Division which keeps, catalogues and researches all historical data concerning the Air Force. The Maxwell Air Force Base historical office materials were reviewed as were the local newspaper archives in Montgomery, Alabama. Many questions were clarified or enlarged through personal interview with key personnel still living. A flow chart of data sources is as follows:



The encouragement and assistance of many people made this study possible. Committee Chairman Dr. Paul F. Sharp gave his special kind of encouragement, kindness and critical comments as did committee members Dr. Herbert Hengst, Dr. Thomas Wiggins, Dr. J. Clayton Feaver and Dr. Norman L. Crockett. Others contributed in a different fashion. The librarians and researchers at Air University, Texas A & M University, Kansas State University and the University of Oklahoma provided invaluable and generous help in locating materials and suggesting sources. My wife Maxine also deserves much credit, love and praise for spending great effort typing, editing and counseling me during these years of research. Sincere thanks are also extended to the several typists who prepared the manuscript and God who gave me health and strength.

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CHAPTER I*

PRECEDENTS FOR AIR UNIVERSITY

The Air University at Maxwell Air Force Base in Montgomery, Alabama is the post-graduate education center for the United States Air Force. It was established to provide continuing professional military education needed by Air Force personnel. The precedents for military education in the United State were rooted in the European military experience of the eighteenth and nineteenth centuries and provided the basic pattern on which Air University was founded.

During the Renaissance and the early modern era the European military drew officers from the nobility and conscripted soldiers and sailors from the lower classes of society. Most of the nobles felt they did not need an education because they had others who read and wrote letters for them. "As a class, the nobility continued to shun education. . . ." ¹ The nobles became officers by birth, not by education. Many of the officers were figureheads who held the title and pay but were not active, seeking only the station and honor of the position. ² Two outgrowths of this prestige seeking were the practice of dueling for honor and the limitation of awarding medals only to the nobles. The middle-class was not ususally involved in the military, therefore most of "the professional long-service soldiers and seamen. . . were drawn, generally speaking from the least productive elements at the two ends of the social scale." ³

*All footnotes are located at the end of the respective chapters. Footnotes for Chapter I begin on page 25.

At least two reasons explain why the middle-class finally became involved in the military. The first reason was the decreasing number of nobles available to fill the officer ranks due to war deaths. Although it was considered unsporting to kill an officer, many were slain in the long wars of that period of history. Indeed, so many nobles were killed that it opened up the officers corps to the middle classes. The other reason was that the middle class was trying to improve their station in life through education. Unlike theology and medicine, the military never found a place in the medieval university. It was the rise of the education minded middle class that popularized military education.

The bourgeoisie were not usually military, but if any chose to be officers they were examined and had to compete. This was not a great problem because they were accustomed to this in their schools. They could easily find places in the artillery and engineering units which were disdained by the nobility. These middle class had a choice to escape war completely or they could become an officer by buying the privilege. There were advantages to be gained in purchasing a commission, such as prestige and freedom from war taxes, and some business advantages. A regiment's lieutenant colonel, for example, needed business skills as much as military skills. He was paid for each recruit conscripted, however they were obtained, and had the concession for feeding, clothing and equipping the conscripts usually at a personal profit.

As early as the fifteenth century the bourgeoisie began to challenge the government for the right to bear arms of chivalry. Their struggle lasted until the eighteenth century and brought an end to the domination of the military by the nobility. At that time, some wanted democratic armies governed by reason and disbanded when not at war. These were the citizen-armies of the French revolutionary period. Rousseau, for example, wanted a

military in the Swiss pattern which specified everyone should be a soldier from duty, not by profession. Another example is the Napoleonic Code's first law of conscription which stated that every Frenchman is a soldier and owes himself to the defence of his country.

During the eighteenth century different countries took several opposite approaches to military education. The English felt public schools could produce officers without special training. In England first persons of state held military positions, while in Prussia first persons in the military held state positions. France and Prussia were the most militaristic of the European countries of this period and began establishing professional military schools early in the seventeenth century. The only reversal of this militarism occurred during the revolution of 1848 when the German bourgeoisie gained the upper hand. The Frankfurt National Assembly legislated the abolition of military educational institutions and chairs of the science of war were established in the universities.

Professional military education began to develop in France in 1682 at Louvois where cadet companies were trained in military arts. The initial cadet companies failed, were revived in 1726, and failed again in 1833. These beginnings failed because, "as a class, the nobility continued to shun education. . . ." ⁴ The next effort was the Ecole Militaire founded by Baron de Chaos, following the Thirty Years War, for noblemen born without fortune. After 1776 the Ecole Militaire became a higher institute of military education accepting graduates of provincial military schools. Subsequently, Robespierre and the Jacobins later started a new military school, Ecole de Mars, to teach the lower classes where, "To teach the destruction of others was proclaimed the aim of Jacobin military education." ⁵ In July 1794 the Ecole Centrale des Travaux

Publiques was founded for the education of artillery and engineering officers. It was renamed the Ecole Polytechnique in 1795. In 1802 Napoleon brought military education in France to its highest peak up to this time when he re-established the Ecole Militaire. The establishment of the Ecole Militaire paralleled the founding of the U. S. Military Academy at West Point, New York and both followed some of the pattern of previous European schools.

The Prussians established three levels of military education: The Berlin Corps of Cadets Selecta, a Kreigsacademie for nobles, and the twelve best officers were taken into Emperor Frederick's suite to learn directly from him. The later was precedent for a general's staff. The development of three levels of Prussian military education was very important because it became the precedent for the three levels of professional military education at Air University. Frederick divided military officers into three levels, partly because of maturity and ability, but also because of social class distinctions. He selected the younger cadets from all classes, a few from lower and some from the middle. This corresponds to Squadron Officers School which almost all officers attend no matter what their background. Only nobles, with few exceptions attended the Kreigsacademie which was similar to the present Air Command and Staff College. Only the elite officers are allowed to attend this middle level school at Air University. Frederick's general staff can be compared to Air War College which only a few are selected to attend. There is also three levels of education for all American military officers. There is an entry level which has a three tiered hierarchy: the academies for the elite, Reserve Officer Training Corps (ROTC) for the second level college students and Officer Training School (OTS) for all others such as those who came up through the non-commissioned officer ranks. The next higher level are service

schools like Air University which train the middle career officer and then the higher level interservice schools which only the elite are selected to attend.

It was the English, however, who gave the United States two concepts that have had a major impact on the American military system. They were the citizen-soldier and the fear of a large standing army. The United States originally imitated this aspect of the English style, for the American system at first was a military system, not a militaristic system. It conceived of the army as an agency of civil power and not as an end in itself. The English model was militia service only in perilous times. They borrowed from the whole-man citizen-soldier of Athens while France and Prussia borrowed from the Spartan example of soldier-citizen.

Professional military education began its slow evolution in the United States when the revolutionaries discovered their lack of trained leadership. The movement was led by George Washington and Alexander Hamilton, who sought the establishment of a military academy immediately after the Revolutionary War.

Perhaps the most significant contribution to professional military education during the early years, was the support of the various presidents. Thomas Jefferson was perhaps the most influential. Jefferson, who cut the already small regular army in half, also founded the United States Military Academy and was the true father of our whole system of military education. George Washington also was a continual supporter of military education. Two days before his death, in his last official letter, Washington still proclaimed his interest in the establishment of a national military academy.⁶

Following the prompting of their leaders, the Continental Congress appointed a committee on September 20, 1776 to return to Headquarters near

New York, to inquire into the state of the Army, and to determine the best means of supplying its needs. The committee's report concluded that some of the troops had poor leaders and were not subject to the adequate command which good troops needed. The Articles of War and General Orders were found to be frequently transgressed. Some officers, instead of suppressing disorderly behavior, encouraged the soldiers by their examples to plunder and commit other offenses.

The report recommended that the Board of War be directed to prepare a Continental Laboratory, and a Military Academy, and provide these with proper officers. The committee first met on September 24, 1776 and proposed a laboratory (an arsenal in modern terminology) and an academy to produce masters of their profession.⁷ A controversy immediately sprang up between the relative merits of general versus special military schools. The general would teach the whole theory of the art of war, while the special would teach such things as the theory and practice of fortification and gunnery. John Adams proposed a general school. There were also proposals for two special schools specifically for artillery and cavalry. Both types of schools evolved. The Military Academy, Naval Academy and the Air Force Academy are general schools. The Air University is an example of a specialty school.

Many of the early specialty schools began as laboratories for the development and manufacture of weapons. Early in 1777, Washington issued authorization for a laboratory at Carlisle, Pennsylvania. Sometime in 1802 instruction on the use of weapons was begun at these laboratories. The instruction had more to do with the fabrication of materials than the use of materials.⁸ The earliest attempts at West Point were also specialty type training. Congress created an Invalid Corp (those who could no longer fight)

whose duties included training of young officers. They arrived at West Point, New York, about 1779 for this purpose. The Invalid Corp was ineffective, probably because they were given mostly guard duty, and was therefore disbanded at the War's end.

Benjamin Lincoln, Secretary of War for the Continental Congress in 1783, suggested the establishment of five magazines (for storage of weapons) with a military academy at each. This suggestion was followed by a debate about military education that lasted for years. Suggestions ranged from the establishing of five academies to sending officer candidates to Europe for their training. Some argued for a complete liberal education, while others wanted purely technical training. Still others wanted to include military arts instruction with the existing system of higher education.

Congress acted in May of 1794 to begin training artilleryists, engineers and some cadets at West Point. Lieutenant Colonel Stephen Rochefontaine began development of the new corps on June 25, 1795. These efforts continued for only a short time because the possibility of war seemed remote, veteran officers were plentiful, and money was scarce. Alexander Hamilton repeatedly tried to get congress to reestablish a military academy. His most comprehensive proposal resembled the L'Ecole Polytechnique of France.⁹

West Point Military Academy became the first center of professional military education in America. Mr. George Baron, under the instructions of Henry Dearborn, Secretary of War under Thomas Jefferson, renewed classes at West Point on July 20, 1801. Baron lasted less than a year, and was immediately replaced by Jonathan Williams. The present-day Academy prefers March 16, 1802 as its founding date even though instruction occurred before and ceased for a time afterwards. The Naval Academy opened in 1845 and the

Coast Guard Academy in 1876. They followed the format established by the Army at West Point.

Civil and military education were separated before 1825 and were not co-ordinated until agitation for the Morrill act during the Civil War. In 1862, Henry Barnard, the first United States Commissioner of Education, urged the establishment of "A system of Special Schools. . . in which the principles of science shall be taught with special reference to their applications to the arts of Peace and War."¹⁰

The Military Academies were a start, but the military soon felt the need for post-graduate specialized training. These special schools are the direct antecedents for Air University. The Army began a series of specialized schools including: an Artillery School of Practice at Fortress Monroe, Virginia, in 1824; an Infantry School of Practice at Jefferson Barracks, Missouri, in 1827; an Infantry and Cavalry School at Ft. Leavenworth, Kansas, in 1881; and a Cavalry and Light Artillery School at Ft. Riley, Kansas, in 1887. By 1904 there were seven of these special schools. In 1901 two other schools for higher grade officers began instruction: General Services and Staff College, later called Command and General Staff School, at Ft. Leavenworth, Kansas, and the Army War College at Washington, D.C. All of these, as well as the naval and aviation counterparts, can be traced to Emory Upton.

Major General Emory Upton, a protege of General William T. Sherman, went on a tour of Asian and European military establishments in 1876-1878. He observed the German university graduate system and on his return sought to establish a post-graduate professional military university along the German pattern. His tour paralleled the founding of Johns Hopkins University. Upton wanted to establish for the military a great research graduate university after the German pattern.

Although Upton's dream was not realized, the military did begin to develop post-graduate research oriented schools. A Naval War College opened in 1884; Army War College in 1901 and the Air University's Air War College in 1946. The Department of Defense added an Armed Forces Staff College because of the need to integrate all forces in major battles; the Industrial College of the Armed Forces, now named The National Defense University, to teach how to integrate logistical strategies; and the National War College for the study of geo-political and international policy for global deployment. These schools do research and teach tactics for the positioning, arranging, maneuvering of forces in combat. They also concern themselves with strategy, which is the orchestration of tactics, with time, space, geography, politics and events to influence the opponent's decisions. Air University was added as the result of the development of aircraft as a military tool.

The need for air training began with the development of aircraft. The history of aviation is usually traced to September 19, 1783 when the Montgolfier brothers flew the first manned balloon at Versailles, France. Not long afterward Napoleon I encouraged the organization in 1794 of the Aerostatic Corp for the purpose of observation of opposing armies. The idea was used some during the American Civil War when the north established a Balloon Corps in the Army of the Potomac. Aviation for military purposes in the United States gained a more permanent status in 1892 when a balloon section was established in the Army Signal Corps. The section was instituted by the Army's Adolphus W. Greeley who later won distinction as an arctic explorer.

Dirigibles first made their appearance in 1908 when the Signal Corp bought Army dirigible number one. Count Ferdinand van Zeppelin's invention was not used except in a small way until after World War I. The Balloon and

dirigible were soon replaced by another airship which eventually was called the airplane.

As early as 1896 Samuel P. Langley had built a steam driven model plane. However, the full size plane called "Aerodrome A" failed its first flight test in 1903. Glenn Curtis successfully flew Aerodrome A in 1914. In the meantime, however, Wilbur and Orville Wright had flown their airplane on December 17, 1903 at Kitty Hawk, North Carolina.

In anticipation of the delivery of Wright's airplane, the Signal Corp started an Aeronautical Division on August 1, 1907. The Wrights delivered the first plane for tests almost a year later. Several competitors were also striving to produce airplanes acceptable to the Army. Actually, the first army officer to make a solo flight in a powered flying machine did it in the "White Wind" made by Alexander Graham Bell in May 1908. The first plane accepted by the army, however, was a Wright airplane delivered in June 1909. Training for this new weapon soon followed.

In anticipation of the first aircraft, the Army established its Aeronautical Division of the Signal Corps in 1907. The flying school accepted its first students at College Park, Maryland. Two other schools also began training pilots at North Island, San Diego, California in 1912, with ground instruction beginning in 1914. By 1919 Congress was receiving the first suggestions about an Air Service Academy. Instead of an Academy, eleven special service schools for the Air Service were authorized by the War Department on February 25, 1920. One of these began as the Air Service Field Officers School at Langley, Virginia. This was a direct forerunner of Air University.

After the conclusion of World War I the United States Army Air Service began to feel the need for a school to formulate and teach air tactics

and doctrine.¹¹ Although the Air Service had just emerged from a major war only a few of its officers had combat command experience and no institution for aerial combat existed in the United States or abroad.¹² Accordingly, Major Thomas Milling was sent to Langley Field, Virginia, to organize an Air Service School.¹³ The school opened on November 1, 1920, with seven students taking a nine months course. The decision to locate the school at Langley Field was made because it was felt that the presence of tactical air units stationed there would be of material assistance in demonstrating the new tactics which the school would develop.

In February, 1921, the school was renamed the Air Service Field Officers School. The students and staff of the school participated in the bombing exercises against the ex-German cruiser, Frankfurt, and battleship, Ostfriesland. General William (Billy) Mitchell, Assistant Chief of the Air Service, personally directed these tests. The successful bombing of the ships proved conclusively the effectiveness of aircraft against battleships and attracted world wide attention.

Mitchell immediately worked to accomplish his dream of founding a University of Aviation to serve the same purpose for the Air Force that West Point served for the Army and Annapolis for the Navy. Realizing that government financing was unavailable, Mitchell set out to collect the initial cost himself through public subscription. He was successful in this effort as his sister later recalled:

With the assistance of air experts and of noted educators, the plans were carefully worked out. It was calculated that ten million dollars would be required to start. A well known firm of New York underwriters agreed to underwrite this sum, convinced that with his national popularity he would be able to raise it.

The prospectus, of which I have a copy thanks to Colonel J. E. Cassidy who helped to prepare it, was to be released for publication on

February 8, 1928. But my brother felt forced to give up the plan for the reason that "they would only say, more than ever, that I was just seeking self-aggrandizement.

"It must come—it is inevitable," he ended, "but we will have to leave it to the government to do it."¹⁴

Eleven classes graduated while the Air Service Field Officers School was located at Langley Field. In 1928 the War Department decided to move it from Langley to Maxwell Air Force Base in Montgomery, Alabama. Crowded conditions at Langley Field and better flying weather at Maxwell Field prompted this move. The name changed to Air Corps Tactical School in 1929 and the school finally moved in 1931.

The school continued to educate officers for command and staff duties in Air Corps tactical organizations. Instruction in naval operations was added to the course of study in 1934 and soon departments of Air tactics and Strategy, Command, Staff, and Logistics, and Grand Tactics were added. The school staff also prepared correspondence courses.

Another important function of the school was the formulation of doctrine. The Tactical School served as a clearing house, or center, for tactical and strategic plans and for proposals that originated in the tactical units of the Air Corps. For this purpose the Tactical School Library collected ten thousand volumes and eight thousand documents relating to the employment of air power both in the United States and abroad.¹⁵ The Air Tactical School closed June 29, 1940 but was the forerunner of what became the Air University.

By this time, it was evident that a war was near and an expanded educational format was needed. Thus, Colonel M. F. Harmon, Jr., the Assistant Commandant, submitted a study dealing with improvements in the education of Air Corps officers to the Commandant of the Tactical School on January 16, 1940.¹⁶ Harmon argued it had been apparent for some time that a radical

change in the system of military education of Air Corps officers was indicated and recommended that after the necessity for the short twelve-weeks course had been met, the name of the Air Corps Tactical School be changed to Air Corps School. In addition, he believed three courses of instruction should be established: A Basic Course for junior officers with two to four years service, the course to be from three to four months duration; an Intermediate Course for selected officers with eight to ten years service, to last for nine months; and an Advanced Course of nine months duration for carefully selected officers having twelve to fifteen years service. In an attached proposed revision of an existing Army Regulation, Colonel Harmon suggested the name "Air War College" be substituted for the proposed Advanced Course.¹⁷

The proposals contained in this memorandum had previously been brought to the attention of the Chief of the Air Corps who commented that it showed a considerable amount of original thought and had many good ideas. Actually, it was not original but copied closely the divisions of eighteenth century German and French schools.

The need for a tactical school became increasingly evident during the early years of World War II. An Army Air Force with a peacetime strength of about 2,092 officers and 21,500 enlisted men had to expand to a total strength of 2,500,000. There simply were not enough experienced officers. Some organization was obviously needed to perfect and teach the tactics developed in the various war zones and relate the experience of one theater to all the rest. The planning process had begun that led to the establishment of Air University.

There was some consideration given to founding four tactical schools in different locations; one each for Air Defense, Bombardment, Air support, and Air Service. An investigation of available sites was undertaken and the final

decision was to place all four phases of tactical training at Orlando, Florida. The first of these, the Army Air Forces School of Applied Tactics (AAFSAT), was activated on November 12, 1942.¹⁸ A Directorate of Academic Training was established to supervise instruction but the School Commandant was under the supervision of the Director of Military Requirements in Headquarters, Army Air Forces.

AAFSAT and consequently Air University has been a leader in the use of academic training devices on a scale not used in civilian institutions. The AAFSAT course lasted four weeks with a new class entering each two weeks. The first two weeks consisted of lectures, discussions and practice with training devices. These instructional media were needed to simulate, as nearly as possible, actual war conditions and situations. Other reasons for using training aids was the large numbers to be trained, the repetitious nature of the training, the type of training where the ability to make quick decisions in an air combat environment was essential, and where there are too many students for the number of skilled instructors. Also, during wartime there were funds available to design and purchase the needed equipment. Many of the instructors were officers who had just returned from theaters of war overseas. The reason for using instructors fresh from combat was that the information given by them was more current. The introduction of new weapons and tactics was increasing so rapidly that a constantly fresh perspective had to be introduced into the lectures and discussions. Discussions were used to encourage all ideas be incorporated because the winning of the war was crucial. Both newly commissioned officers and enlisted men were trained.

To give recognition and stature to the activities at Orlando, the base was designated as the Army Air Forces Tactical Center (AAFTAC) on October

8, 1943.¹⁹ By this action the teaching and training functions of the Tactical Center were the responsibility of the AAFSAT, under a Commandant. The Tactical units within the school were grouped in an organization known as the Demonstration Air Force. They were to demonstrate, under simulated battle conditions, the tactics developed by the AAF Board and the school. The Board remained at Orlando independent of the school. This structure was maintained throughout the war until on June 1, 1945 the AAFSAT was renamed the Army Air Forces School and the AAFTAC was redesignated the Army Air Forces Center. This involved no change in the structure or functions of the school.²⁰

Early in 1944 planning began on the postwar organization of the air forces. In January of that year the Army Air Forces Training Command submitted a plan to meet the training requirements of the proposed post war separate Air Force.²¹ This plan shaped the direction and format of Air University as well as the entire Air Force for many years. Most of the assumptions on which the plan was based were enacted. The armed services of the United States would be one department in which the ground, air and naval forces would be autonomous and coequal under a civilian secretary appointed by the President.

Plans called for a joint chief of staff and a separate Air Force. The newly created Air Force would be responsible for developing, training and maintaining a military force capable of defending the integrity of the United States and its possessions, of enforcing foreign policy and of supporting the Ground and Naval forces. The Air Force would have complete responsibility for training its own personnel. This provision led to the development of Air University.

The new Air Force would consist of an Air Commander with a General Air Staff. Appropriate commands for training, research and development, supply and maintenance would be established. Tactical units would be divided into numbered Air Force such as the Fifteenth Air Force. The plans also called for a two year Combined Services Academy for Army, Navy and Air Force, and Congress would enact a one-year universal military training law. Neither of the last two suggestions were enacted but a separate Air Force Academy was created in the mid-fifties.

Numerous major recommendations concerning the training and education of officers came out of those postwar plans. Officers of the postwar Air Force would come from an Air Academy, Reserve Officer Training Corps graduates, Aviation Cadet graduates, and graduates of an Officer Candidate School. The only change in this recommendation from previous practice was the creation of an Air Academy.

A two year Air Academy would be established under the supervision of the Training Command following two years at a Combined Services Academy. Graduates of the Air Academy would be granted a Bachelor of Science Degree and be commissioned as second lieutenants in the Regular Air Force. All graduates of the academy would receive pilot training. Those who failed to qualify as rated officers, would continue in the service as non-rated officers. Rated means they are flyers and have preference in promotions as well as other privileges. The Air Academy would admit about 1,200 students each year from the Combined Services Academy.

Graduates of college Air ROTC training units would be commissioned in the Air Force Reserve with the rank of second lieutenant. Those qualifying for air crew training would take that training as second lieutenants. Physically

qualified men with the equivalent of two years of college education would train as aviation cadets and after completing flight training would be appointed as flight officers in the Air Force Reserve. Qualified flight officers were commissioned as second lieutenants in the Air Force Reserve after two years duty. Enlisted men who had completed a three-year enlistment and who had been selected by competitive examination at the two-year college level would attend Officer Candidate School. Upon graduation, they were commissioned second lieutenants in the Air Force Reserve.

To increase the proficiency of the officers in the regular Air Force, schools would be conducted under the Training Command at the Air Force Tactical Center to be established at Maxwell Field, Alabama, with Craig Field, Alabama, Gunter Field, Alabama, and Elgin Field, Florida, as satellite bases. This format has been followed with very little change with the establishment of Air University.

Under the proposed plan, Squadron Officers School, the first school, would be attended by all rated officers, with those non-rated officers expected to command troops. A rated officer is one that is a flyer, either pilot, bombardier or crewman. First lieutenants would attend after three years service. The course was to be three months in length and with about 830 officers in each course. The purpose of the course was to train students in the tactics and techniques required of squadron commanders and group staff officers.

The second course was to be called Tactical Officers School and was a ten months course with captains or majors attending after six years service. The class would consist of 275 students entering every three months. The ratio of rated to non-rated officers was expected to be nine to one, and provision

made for officers of other services to attend. The course content would consist of logistics, tactics and techniques required for the duty of group commanders and higher staff officers.

Advanced Officers School, under those plans, would be the highest and be a refresher course required to prepare officers to attend a Combined Services War College. The rank of students would be major or above with ten years commissioned service. The course would last three months, and be attended by 100 officers.

Technical courses were expected to be provided at various Air Force Technical Schools as well as in post-graduate courses at selected civilian colleges and universities. All non-rated officers and about fifty per cent of the rated officers would have this kind of training while in the grade of first lieutenant. Advanced courses were to be provided for officers in the higher grades. Officers' schools would be operated as seminars at all Air Force bases following a uniform curriculum or through correspondence courses prepared by the Tactical Center.

The Chief of the Air Staff approved the preliminary study and forwarded it to the Chief of Staff of the War Department on September 18, 1944.²² The September 18th memorandum was prepared for public release and therefore reflected Air Force thinking. This important memorandum began, "It is believed that the system of education for career Air Force officers should consist of four parts."²³

The first phase of an officer's education would be undergraduate study at a Combined Services Academy. It was felt that such an Academy would reduce harmful rivalry and inter-services friction by providing a common standard of scholarship and discipline, a common military vocabulary, and

grounding in the customs and traditions of all military services, and an early understanding of the importance of team work in warfare. It was recommended that the curriculum of the Combined Services Academy be largely academic in character and of two years duration, and that entrance be by competitive examination rather than by congressional appointment. The graduates of this institution would go to either West Point, Annapolis, or to a proposed Air Academy. This proposal was never implemented.

The next step in the career air officer's education would be a two-year Air Academy designed to complete the prospective officer's general education and from which he would graduate with a Bachelor of Science degree as a second lieutenant in the regular Air Force. If a Combined Services Academy was not established it was recommended that the course of study at the proposed Air Academy be for four years. While flying training was not contemplated at the Air Academy all cadets admitted should be physically and psychologically qualified for such training. The four year approach was accepted, which led to the founding of the Air Academy about ten years later.

Flight training was looked upon as the third phase of the officers educational career. This training would immediately follow graduation from the proposed Air Academy. Officers who could not complete flying training would be useful as non-rated officers.

The final phase of the educational plan would consist of courses or schools of a tactical, administrative or technical nature. It was a combination of these courses that would comprise the departments of Air University. The importance that the Air Force attached to this final phase is indicated by a statement in the memorandum that:

On the theory that the education of an officer is a continuing process, limited only by his receptivity and terminating only with his

death or retirement, the system should make available all courses needed to bring each officer to the highest state of development in military skill and knowledge of which he is capable. In peace time the periodic interruption of his duties in the field to take the non-technical courses for which he is qualified should be manatory and promotions should be contingent upon his successfully completing them. The taking of technical courses should be at the officer's option but would be encouraged.²⁴

Technical courses were also to be given at various Air Force bases, in civilian technical school, and as post-graduate courses in civilian colleges and universities. Pre-requisites of admission to these courses would be the qualifications of the officer rather than his rank. These courses were, in most cases, either to be designed or managed by Air University.

After discussing the schools that were to be under the jurisdiction of the Air Force, the Chief of the Air Staff urged the War Department to provide three schools for the joint use of all arms and services. A War College was proposed. It was to be a nine to twelve months course on the separate use of Air Forces, Land Forces, Sea Forces, Industrial Mobilization and Demobilization. Attendance was not to be compulsory but on a basis of careful selection at about the fifteenth year of an officer's career. Also, an Army Industrial College was to be re-established in the position it held prior to the present war and operated for the same purposes. This industrial college course would be about the fifteen year level for selected officers who do not attend the War College. An Army-Navy-Air Staff College to teach the strategic and tactical employment of combined forces and related logistical problems was the third school.

By the end of 1944 it was apparent from all the studies that the Army Air Forces were anticipating after the ending of hostilities a single department of the armed forces in which the air element would be a peer of the ground and naval forces. The Air Force planners thought that so far as the education of

career air officers was concerned it would consist of undergraduate education in some form of an Air Academy. Then professional continuing education would be provided in three schools which would parallel Army ground schools.

The bureaucracy slowly accomplished its goal. What started as an Army Air Force study, developed into a war department directive to develop a plan. On August 30, 1945, the War Department directed each of its major forces to submit, not later than October first, a plan for its postwar school systems. Each Commanding General was told that:

The objective is the professional education of military personnel to assure the nation of a competent modern Army prepared for any eventuality.

To accomplish this objective, a progressive and efficient educational system is essential. In addition to providing appropriate theoretical and practical instruction for selected of the permanent establishment, all elements of the army educational system will include training in the art of instructing in order that those completing courses. . . will be able to impart their knowledge to others.²⁵

On the 27th of September of that year the Army Air Force submitted its plan to the War Department with the statement, "This plan has been informally approved as the basis for AAF, planning on the subject."²⁶ This plan, which had originated in the assistant Chief of Air Staff-Training, was based on substantially the same assumptions as were listed by the 1944 study just completed.

In summary, formal training would begin after flying training and after the officer had been commissioned. After a screening process the officers would be divided into two groups. One was to receive primarily operational training in tactics and techniques of warfare while the other group would receive primarily technical instruction. This technical training included supply, engineering, economics, industrial mobilization, and scientific research and development. There would be some cross-training of the two groups to provide

instruction and training in matters of common interest. It was calculated that an officer's professional life with the Air Force would average twenty-five years. Of this, not over five years should be devoted to formal education though the majority of officers would receive less education. All training would be completed during the first twenty years of service. It was planned that progress from one level of training to the other would be subject to increasingly rigorous selection standards to identify those officers who would be trained for higher assignments. The War Department further proposed that the Air Command and General Staff College and the Air War College would be established at Maxwell Field in Alabama.

The recommendations in this plan gave the first documented evidence of the Air Staff's plans for the organization of its postwar educational program. It was clear that the Air Technical Service Command would administer the proposed Air Institute of Technology and that a command variously termed the Army Air Force Center or Army Air Force University would administer three proposed schools or colleges and an Air Academy. No reference was made to the existing School of Aviation Medicine. Thus, plans for Air University progressed from a 1940 study by the commandant of the Tactical School to the AAF Training Commands plan submitted in 1944 to final approval by the Chief of Air Staff. The Assistant Chief of Air Staff-Operations and Training notified the Commanding General of the AAF that:

This office has submitted for the signature of the Chief of Air Staff directives which if signed, will initiate the establishment of our post-war AAF School System. . .Major General Muir S. Fairchild is designated as Commandant, AAF School, upon his relief from present duties. Until General Fairchild assumes command, Major General David Schlatter is designated as Acting Commandant, AAF School. The latter will ultimately become Assistant Commandant. . .²⁷

The Deputy Commander was asked to redesignate what was formerly the Air Corps Tactical School as the Army Air Forces school. He was to establish three major courses in the school and organize the school in such a manner "as to permit ready conversion into a University with three or more colleges. . ." ²⁸ when final approval was given by the War Department. He was also asked to approve Maxwell, Craig and Gunter Fields as the location of the School, with Major General Schlatter as Acting Commandant.

In August of 1945, the Air Technical Service Command with headquarters at Wright Field, Ohio, which was responsible for the Air Force's Engineering School, recommended the school be renamed the Army Air Force Institute of Technology and that the program of instruction be expanded to include a basic course as well as specialized courses in Aeronautical Engineering, Administrative Engineering, Procurement, Logistics, and Maintenance. Other advanced courses would be contracted in several civilian colleges and universities. With the addition of AAFIT, all of the original components had fallen into place and Air University was ready to begin its program.

The creating of Air University was one of those rare opportunities for a new branch of the military to establish an innovative educational institution unique within the military establishment. This was a bold and farsighted attempt to set up a system of education on a university format, with departments for the different disciplines and research as one of its prime objectives. Since officers with college degrees were to be its principal core of students, Air University was to be a post-graduate institution. Some officers hoped that a great university would evolve, but the military and government bureaucracy created a school based on previous patterns. An annual civilian Board of Visitors review, instituted the first year, was innovative and worth

while. The Board was a group of educational professionals, mostly college presidents. Many of the other plans and programs, however, got mired in ancient traditions and did not quite reach anticipated levels of educational excellence.

The assignment of determining doctrine and strategy was denied after awhile, so research was reduced below university standards. It was post-graduate education, meaning past-baccalaureate, not graduate at accepted university levels except at the Air Force Institute of Technology branch. The three divisions of professional military education, which are the main thrust of the university, were not substantially revised from the patterns set hundreds of years before in Prussia and France.

FOOTNOTES FOR CHAPTER I

¹ Alfred Vagts, A History of Militarism (New York: W. W. Norton and Company, Inc., 1937), p. 53.

² *Ibid.*, pp. 62, 69.

³ Walter Millis, Arms and Men (New York: The New American Library, 1956), p. 14.

⁴ Vagts, Militarism, p. 108.

⁵ *Ibid.*, p. 53.

⁶ John Crane and James F. Kieley, West Point (New York: McGraw-Hill Book Company, 1947), pp. 1-2.

⁷ Thomas Elliott Shaughnessy, "Beginnings of National Professional Military Education in America, 1775-1825" (unpublished Doctoral dissertation, Johns Hopkins University, 1956), pp. 33-34.

⁸ Millis, Arms and Men, p. 40.

⁹ *Ibid.*, p. 115.

¹⁰ Henry Barnard, Military Schools and Courses of Instruction in the Science and Art of War (New York: E. Steiger, 1872), Intro. np.

¹¹ The development of tactics is essential. "Tactics, as distinguished from strategy, involves the techniques of warfare, whereas strategy concerns the ends toward which those techniques are applied. For example, it is the province of the strategist to decide whether a bomber force would better be employed in bombing an enemy's production and communications centers than in destroying his ammunition dumps and troop concentrations. It is the problem of the tactician to determine how the bombing mission may be conducted most effectively." Army Air Forces Historical Studies: No. 13, "The Development of Tactical Doctrines at AAFSAT and AAFTAC (Washington: Air Historical Office, Headquarters, Army Air Forces, July, 1944). p. 2.

¹² There is an excellent study concerning the reasons for the establishing of the Air University. It is contained in a dissertation by James C. Shelburne, "Factors Leading to the Establishment of the Air University," Ph.D. dissertation, University of Chicago, 1953.

¹³ John F. Barker, "History of the Air Corps Tactical School," pp. 52-53, included in History of Langley Field, Virginia, 1916-1936, by Letta E. Dixon and Lydia Gordon.

¹⁴ Ruth Mitchell, My Brother Bill (New York: Harcourt, Brace & Co., 1953), pp. 339-340.

¹⁵ Air Corps News Letter, XXII (April 15, 1939), pp. 1-5.

¹⁶ Document No. 4673-77, "Proposed Organization of Air Corps Tactical Schools," Air University Research Studies Institute Archives, Maxwell Air Force Base, Alabama. See also a letter dated August 11, 1939 to Colonel Weaver, Commandant, from Colonel Donald Wilson, subject: "Scope of Instruction at Proposed Air Corps Tactical Center" in Document No. 4684-125.

¹⁷ Ibid. This may be the first instance of the use of the term, "Air War College."

¹⁸ Army Air Forces Regulation 20-14, November 12, 1942. Located at Air University Historical Office.

¹⁹ Army Air Forces Regulation 20-14, October 8, 1943. Located at Air University Historical Office.

²⁰ Army Air Forces Regulation 20-15, June 1, 1945. Located at Air University Historical Office.

²¹ Document No. M-37086-S. Letter, dated January 31, 1944, to the Commanding General, Army Air Forces, from the Commanding General, Army Air Forces Training Command, Fort Worth, Texas, subject: "Initial Post War Air Forces," located at Air University Library.

²² Memorandum, dated September 18, 1944, to the Chief of Staff (Attn: Special Planning Division), from the Chief of the Air Staff, subject: "System of Education for Career Air Force Officers." Located at Air University Historical Office.

²³ Ibid., p. 1.

²⁴ Ibid., pp. 2-3.

²⁵ Memorandum dated August 30, 1945, to the Commanding Generals Army Air Forces, Army Ground Forces, Army Service Forces, from Major General I. H. Edwards, Assistant Chief to Staff, G-3, subject: "Post-War Military Education." Located at Air University Historical Office.

²⁶ Memorandum with enclosures, dated September 27, 1945, for the Chief of Staff (Attention: Assistant Chief of Staff, G-3), from the Commanding General, AAF, subject: "Post-War Military Education." Located at Air University Historical Office.

²⁷ Memorandum dated October 23, 1945, for General H. H. Arnold, Commanding General, AAF, from Lt. Gen. Hoyt S. Vandenberg, Assistant Chief of Air Staff-Operations and Training. Subject: "Establishment of AAF School System." Located at Air University Historical Office.

²⁸Memorandum dated November 1, 1945, for the Deputy Commander Army Air Forces, from Lt. Gen. Hoyt S. Vandenberg, AC/AS Operations and Training, subject: "Establishment of the Army Air Forces School." Located at Air University Historical Office.

CHAPTER II*

A UNIVERSITY IS BORN, 1946-1983

Military education developed over the years from academies in Europe to a complex of modern American military academies, schools and Air University. An Air Force officer, to begin a career, goes to the Air Force Academy or various ROTC units in other colleges and universities. A few begin their career in Officers Training School. Some after-graduation Air Force education is done in civilian institutions, other education is accomplished in the colleges of the Air University which is located at Maxwell Air Force Base (formerly Maxwell Field) in Montgomery, Alabama.

The Air University, located at Maxwell Air Force Base, Montgomery, Alabama, is an educational center comprised of four professional military education schools: the Air War College, Air Command and Staff College, Squadron Officer School and Senior Non-Commissioned Officers Academy.

There are also several specialized professional schools. One of them, the Academic Instructor School, teaches instructors in the techniques needed to accomplish their task. This school is essential because the University uses numerous technical specialists as instructors who may not have instructor skills. The Foreign Officer School educates officers from allied countries in a variety of skills to improve their performance as officers. The Professional Military Comptroller School was designed to help business management while other

*Footnotes for Chapter II begin on page 63

schools teach courses in personnel management, judge advocacy, and special chaplain training. Because Air Force needs are so varied that it is difficult for the Air University to meet them, the Air Force Institute of Technology was established as part of the Air University. The Institute performs two services: it conducts degree level educational curricula and also provides continuing education programs to keep up with the rapid change in technical disciplines.

Today, Air University is responsible to Headquarters United States Air Force for operation of the following activities:

- Air War College, Maxwell AFB
- Air Command and Staff College, Maxwell AFB
- Squadron Officer School, Maxwell AFB
- Air University Institute for Professional Development, Maxwell AFB
- Academic Instructor and Allied Officer School, Maxwell AFB
- Senior Non-Commissioned Officer Academy, Gunter AFS
- Air Force Chaplain School, Maxwell AFB
- Air Force Institute of Technology, Wright-Patterson AFB
- Aerospace Studies Institute, Maxwell AFB
- Air Force Reserve Officers Training Corps (168 college units, 160 high schools.
- Extension Course Institute, Gunter AFB
- Air University Library, Maxwell AFB
- United States Air Force Regional Hospital, Maxwell AFB
- 3800th Air Base Wing, Maxwell AFB
- 3825th Support Group (Academic), Maxwell AFB
- 3826th Command and Control Group, Maxwell AFB

Maxwell Field's site had a long connection with aviation education prior to 1946. Before World War I, "Orville and Wilbur Wright, opened their first flying school on the spot where base operations now stands."¹ This began a continuous use of the Field for instruction from that day to this. The concentration of education facilities at Maxwell began in 1945, when the Army Air Forces School which had been at Orlando Field, Florida moved on November 29, 1945. The postwar Army Air Force built its training establishment around the Air Training Command which controlled Maxwell Field and all such training facilities. This began the events that culminated in the birth of the Air University.

On December 4, 1945 an Army Air Force Board convened to study and recommend the postwar military structure. On January 4, 1946, with the board's recommendations in hand and the concepts gleaned from other service school's experiences, the Army issued the directive establishing the Army Air Forces School as a separate command.

The first commander of the new school was Major General Muir S. Fairchild. He became Commanding General of the Army Air Forces School at Maxwell Field on February 6, 1946 and upon the redesignation of the school, became Commanding General, Air University. His assignment to the post was especially fitting because he had been in the forefront of aviation history from the beginning, having started in the flying service of the Army Signal Corp in World War I. He was the first recipient of many awards including the newly-authorized Distinguished Flying Cross for completion of the Pan-American Good Will Flight in 1927. Attendance at the Army Industrial College and Army War College familiarized him with professional military education as conducted at that time. He was held in such high esteem that he was requested to assist in the preparation of the military and diplomatic phases of the United Nations charter.

Within the month, Fairchild convened the first Army Air Forces Educational conference which discussed this rather unique military organization. Air University's claim to uniqueness included several innovative ideas. One of the most interesting ideas was the establishment of an annual Board of Visitors consisting of civilian experts from the best colleges and universities as well as from other professions. The purpose of the Air University Board of Visitors is to examine the organization, management, policies, curricula, methods of instructions, facilities, and other aspects of the Air University

operation. The board, which meets at least once a year in April, advises the Secretary of the Air Force through the Commander of Air University on matters of policy regarding the mission of Air University.

The Air Force Institute of Technology (AFIT) subcommittee of the board also meets at least once a year, usually in August. The membership of not more than thirty-five is selected from the fields of education, business, industry, the professions, and public service. Members serve for three consecutive years at the invitation of the commander in the name of the Chief of Staff, United States Air Force. The first board of visitors drew upon such national leaders as Isaiah Bowman, President of Johns Hopkins University; Williard Givens, Executive Secretary of the National Education Association; Raymond R. Paty, President of the University of Alabama; Elliott Dunlap Smith, Provost of Carnegie Institute of Technology; Robert L. Stearns, President of the University of Colorado; George F. Zook, President of the American Council on Education; Karl T. Compton, President of Massachusetts Institute of Technology; James B. Conant, President of Harvard; Clarence A. Dyskstra, Provost of the University of California at Los Angeles; Francis T. Spaulding, President of the University of the State of New York; and John W. Studebaker, the United States Commissioner of Education.

The first board reported, "The aim (sic) of all schools in the Air University were stated to us to be to educate rather than merely to teach or instruct."² The board felt general problem solving techniques and abilities should be emphasized so the officer could be resourceful in any unknown future situation. "For in peacetime military education must provide the training in radical resourcefulness which in time of war is given to officers through the frequent necessity of handling problems for which they have no specific preparation in order to complete their missions."³

This panel of the nation's educational leadership called attention to other major concerns. Most of the report reflected concern that the Air University would not distinguish between training and education. "The distinction between such education and mere training should be kept constantly in mind throughout the development of all education at the university."⁴ The board also worried that doctrine might become fixed at the top (Air War College). The board further feared that self-satisfaction and self-assurance were constant hazards to be guarded against. Selective staffing was one of the solutions to the self-satisfaction problem. The board members felt the university should call for men with conflicting views. Impressed by these suggestions, General Fairchild tried to implement them, at least among guest speakers. "General Fairchild established policies which guaranteed guest airpower expert speakers that their comments were off the record. The same policy allowed free questioning of speakers by the students."⁵

The Air University library, another unique feature, was established as a research institute. The library claims to be the largest institution of its type in the world. It not only provides complete bibliographical and reference service to resident faculty and students, it also responds to requests from libraries, base education offices and individuals throughout the world. Certainly, it is the largest and most comprehensive of all U. S. Air Force libraries. It has a unique collection of more than 500,000 military documents, and 550,000 maps.

Air University began with a group of colleges very similar to the other services for professional military education at three levels. There were, however, some unique schools such as the School of Aviation Medicine. After April, 1950, Air University took over the Air Force Institute of Technology,

school of engineering, which was established by the Air Material Command (now Air Logistics Command).

The early years were busy with much to be done to accomplish the birth of a university. Great effort and enthusiasm were exhibited and perhaps that was enough because much was accomplished. The first instructor training course began on March 11, 1946, one day before the Army Air Forces School was renamed the Air University. The reason the Instructor Training Course was the first to begin was because most of the instructors had practical experience but lacked instructional skills. March twelfth inaugurated the activation of the Air Tactical School, Air Command and Staff School and the Air War College. The Air University immediately began the process of staffing and curriculum development.

The Air university also began to reach out and take under its authority the first of several educational organizations. This process continued throughout the years. For instance on April 1, 1946 the School of Aviation Medicine located at Randolph Field, Texas was assigned to the Air University. Transfer of the Special Staff School and the Civilian Institutions Program resulted from a recommendation by the first educational conference. The Air Tactical School already assigned was transferred to Tyndall Field, Florida on May 21, partly because facilities were not completed at Maxwell.

Major General Orvil A. Anderson was appointed first Commandant of the Air War College on June the first. He later served as interim Commander of Air University during the time after Fairchild's resignation. Later in the summer the first Air University Faculty Board met on July 22, 1946 to set the stage for the second Army Air Forces Educational Conference which ended after three days on August 22nd.

The busy events of the first week of September began to unfold. It was September 3, 1946, and the site was Hangar No. 7, Maxwell Field, Alabama. Staff, faculty, students, and visitors alike gathered for the dedication services which formally put Air University into its "airborne" posture. Dedicatory speakers emphasized the Air University's potential role. "The Air University, established in September, 1946 at Maxwell AFB, Alabama, directed the professional education of Air Force officers."⁶ The dedication of Air University was completed with the first classes of the Air War College and the Air Command and Staff School participating. Classes began the next day though the Air Tactical School did not begin classes at Tyndall Field, Florida until January 6, 1947. The first graduation on June 4, 1947 included 185 officers from the two colleges located at Maxwell.

During the later days of the first classes, the first group of foreign officers came for a two week indoctrination course. It was the beginning of the idea that developed into the Foreign Officers School through which thousands of officers from dozens of allied countries would eventually pass. The first group was from the Royal Canadian Air Force.

A steady stream of important visitors inspected the new institution including General Dwight D. Eisenhower who toured on April 26, 1947. He was the most notable visitor during the first year.

There were few changes in 1948 except Maxwell Field was renamed Maxwell Air Force Base and there were three new commanders named. Commander Fairchild was promoted and assigned as Vice Chief of Staff for the USAF. General Robert W. Harper on May 17, and then General George C. Kenney on November 1 replaced Fairchild. Major General Orvil A. Anderson served as acting commander from October 14 until Kenney assumed command.

Kenney was a stocky, bristly-haired former commander of the Southwest Pacific Theater of World War II. He was highly decorated and one of the best qualified air officers in the world who believed air power was the beginning and end of the martial movement. Air University commanders were picked for many reasons but the qualifications were not always educational. Kenney had three years at Massachusetts Institute of Technology and had completed four army professional military education courses. When he first saw a plane fly, he quit college to enter into a project with friends to build a plane. The plane taxied but never flew.

Kenney was an innovator. He was first to fix machine guns on wings, first to develop skip bombing techniques, and first to mount massed guns in the noses of planes to use against ships and ground troops. He always carried two dice as talismen. It is not known whether he rolled the dice to make Air University decisions but he had done so at times in combat.

Within a period of somewhat over two years the new university had four commanders. The constant changing of commanders would become one of the problems the Air University would need to solve.

Another problem, especially in its early years, was the wide range and variety of facilities. The School of Aviation Medicine was located at Randolph Field, Texas to be near pilot training for research purposes. The Institute of Technology was at Wright Field, near Dayton, Ohio because of test laboratories already available and because the Air Material Command headquartered at that field ran the institute with some Air University supervision. Flying requirements of the curriculum lead Air University to use Maxwell and Gunter Fields in Montgomery as well as Craig Field in Selma, Alabama; also Tyndall and Apalachicola Fields near Panama City, Florida. The latter was used for a firing range.

Very little occurred in 1949. There was, however, an Air University Human Resources Research Institute established during the summer and the United States Historical Division relocated from Washington, D.C. early in the fall school term. The 3894th Air University School Squadron was also activated September 6, 1949 to administer the instructors and students records, salaries, travel and all other professional military needs.

General Fairchild showed his continuing interest in the Air University and all Air Force education by convening a USAF Military Education Board (sometimes called the Fairchild Board) on January 19, 1950. He charged the Board to review all officer education policies and programs.

A half-million dollar windstorm loss to Maxwell AFB in the spring did not prevent the Air University from taking over the Air Force Institute of Technology on April 1, 1950⁷ and the Extension Course Institute was established at Gunter AFB on May 1, 1950. The Fairchild Board which included Kenney had recommended these changes. The Air Material Command had been in charge of AFIT and the Continental Air Command had initiated the Extension Course Program which was forerunner of the Extension Course Institute. Air University also wanted all officer training placed under its jurisdiction. Board members thought Air University education should start at the beginning of a career and end at the top school. The decision to leave Officer Candidate School with Air Training Command resulted from the board opinion that Air University should concern itself with doctrine not the masses of wartime officers. The Board left the Reserve Officers Training Corp with the Continental Air Command because the duties were more administrative than educational. The Air Academy was still in the planning stages so they left it under the Chief of Staff's office.

Change came to Air University at this time not because of board planning and careful thought but because war began in Korea on June 25, 1950. The Korean war years brought many changes to Air University such as program cancellations, then renewed shorter courses; a brain drain because the best students and faculty were not spared from war duties; lack of money appropriations for education; and the many new officers who made a career of the Air Force and had to be trained. Wars tend to drive authoritarian commanders to the forefront and the military demand was for brawn and bullets, not brains. The Air War College was suspended for part of two academic terms before being revived to a shortened ten month term in June, 1951.

One of the original purposes assigned the Air War College was to develop strategy. Strategy was taken away temporarily from the university curriculum and handed to the commanders in the field. The rest of professional military education at the university was also curtailed. The shortened (eight weeks) Squadron' Officer Course (formerly Air Tactical School) began at the university for the new influx of reserve officers. It was followed on January 8, 1951 by the shorter fifteen weeks Air Command and Staff School course. And the next day, by the shortened Air War College course of five and one-half months. The reason for the shortened courses was the large influx of new officers. Pilot training superceded almost all else. On September 1, 1950 the University's educational programs at Tyndall and Craig Air Force Base were suspended and the bases transferred to Air Training Command for pilot training. Medical courses were relocated from Randolph AFB, Texas to Gunter AFB, Alabama because Randolph became totally a pilot training base. The Faculty and Staff at the University had always been considered a ready reserve for wartime manpower needs and the ready reserve concept had been used in the

original request for funds to start the university. When war started, the Staff, Faculty and students were called in large numbers into full participation in the war.

In spite of these interruptions several innovations occurred during 1951. A first Air University master plan was developed at United States Air Force Headquarters. This master plan was the first of periodic master plans to be developed every few years until the present time. The new library, Air Command and Staff School buildings and student housing had priority in the master plan.

In addition, the first full-time librarian, Dr. Jerrold Orne, was brought from Washington University and a Research Studies Institute was established separate from the library. The military and civilian manned Curriculum Board which had helped with establishing curriculum and oversight of research at the separate locations was dissolved with the transfer of Aviation Tactical School and Special Services School to Maxwell Air Force Base from Tyndall and Craig.

It was during these trying times that Air University began its Fellowship Program. Under that program graduate students and instructors on leave from their universities could associate on a salaried basis with Air University.

The expanded need for technicians caused the Air Force Institute of Technology, a department of Air University, to become in January, 1951 a resident graduate program with a scientific and technical curriculum. Development of a Resident College and a Civilian Institutions Program to send officers to non-military colleges for necessary training resulted. An Installations Engineering School was also established.

The need for more officers put a heavy burden on all institutions. The Montgomery Advertiser reported on January 26, 1951, for instance, that the Air University would send instructional materials to over 200,000 student officers in the Reserve Officers Training Corp.

It was during this turbulent part of the Air University history in August, 1951 that General George C. Kenney retired and Lieutenant General Idwal H. Edwards became commander. Edwards assumed command of Air University on August 1, 1951. His completion of all the Army professional military education schools and two periods of service as Assistant Chief of Staff for Training on the War Department General Staff provided the military educational background for his duties at the university.

The only significant event during his tenure occurred in 1952 when the Air Force Reserve Officers Training Course (ROTC) was activated as a separate entity and was placed under the jurisdiction of Air University. Every change of command, however, prompted cosmetic changes such as course name changes. For instance, the Air Command and Staff Schools Regular Course became Field Officer Course. The commanders were only going to be around for a short time, so they tended not to make substantive changes. On February 8, 1953 Lieutenant General Edwards retired after thirty-six years of military service. It had become a practice to obtain an assignment near the area you wished to retire.

In spite of frequent command changes the school began to rebuild in 1952-53 to its pre-war strength as the Air Command and Staff School added several courses on war strategy as experienced in Korea. One department was lost at this time, thus slowing the growth. During April, 1953 the Human Resources Research Institute was transferred from Air University to the new

Air Research and Development Command. By 1953, fourteen civilian educational institutions had begun accepting Air Force Institute of Technology courses towards degrees, including prestigious schools such as Stanford and Purdue. Congress had already been petitioned for an enabling act for military schools to give their own degrees. Air Command and Staff School had been organized into three categories: the Squadron Officer Course, the Field Officer Course and the Specialized Courses. Air War College had established a new branch library, and a personal services branch with a post office, business office and issue room. A Senior Officers Correspondence Course now became available to Air War College non-resident students. Only 314 could enroll in Air War College so this was an important addition. The School of Aviation Medicine branch at Gunter Field had grown from its start in 1950 to twenty-one courses in 1953 with 7,900 students in sixty-six classes.

In February, 1953 General John De F. Barker assumed command. Barker seemed to be a logical choice as commander of Air University. It may have been a case of a prophet not receiving honor in his own country. This Vermonter had started as a private and advanced to general. He attended Norwich University and Massachusetts Institute of Technology as well as all the Army service schools. He graduated from the Air Corps Tactical School at Langley Field, Virginia and stayed as secretary moving with the school to Maxwell Field, Alabama. Most of the rest of his career was spent in the field of training or in professional military education. He had been deputy commander since August, 1949, but he was not a lieutenant general and the position was designated for that rank.

It was not until April 15 that Lieutenant General Laurence S. Kuter was appointed Commander. Kuter was the first graduate of the Military

academy at West Point, New York to serve as Air University commander. Under his 1953-1955 command, the greatest and most sweeping changes occurred at Air University. The national environment favored those changes. A former general was now president, the military enjoyed great popularity, and it was a time of growth and prosperity for the whole economy. Buildings were built, curricula was revised, and departments were re-aligned.

Many changes occurred during the post-war 1954-66 time period, when cold war replaced the hotter one. This was a time of change in all professional military education in the Air Force. The first class at the new Air Force Academy began in July, 1955. The first really major program changes at Air University occurred in 1954.⁸ In 1954 the Air Force Reserve Officers Training Corps had grown to 188 units on 206 campuses. Two new dorms were built at Gunter Field and a new less military curriculum was initiated at Air War College. The Field Officer Course was redesigned Command and Staff School, Squadron Officer Course was called Squadron Officer School and both were placed under the Air Command and Staff College. It was announced on February 5, 1954 that seven million dollars of new buildings would be built on academic circle at Maxwell AFB.⁹ On March 18, 1955 the first Bachelor Officers Quarters were utilized in the Air Command and Staff College's new academic area. Soon thereafter, on April 27, a ground-breaking ceremony was held for the new library building.

During these changes and growth, the constant change of commanders continued. Kuter left in 1955 and was replaced by Lieutenant General Dean C. Strother who served from 1955 to 1958. Strother was the first insider who came up "through the ranks," having been deputy commander in October, 1953, promoted to acting commander in May, 1955, and then to commander on June 6,

1956. He was graduated from the United States Military academy in June, 1931 and the National War College in August, 1946.

Academic degrees (B.S.) were awarded for the first time by Air Force Institute of Technology's School of Engineering at their March, 1956 commencement. Thousands had graduated from courses offered by Air University but these graduates were the first to be awarded degrees. "AFIT was accredited by the Engineers Council for Professional Development in time for the March 1956 class of the Resident College to be awarded academic degrees. The college was authorized to give both undergraduate and graduate degrees in engineering."¹⁰ The first Doctor of Philosophy degree was not awarded by the School of Engineering, however, until June of 1969. The Board of Visitors has recommended early and often that AFIT become a graduate school. "In 1949-50 there had been recommendations that the Resident College be gradually converted into a graduate school leaving undergraduate study to civilian institutions."¹¹ No action was taken on those recommendations about AFIT because of the outbreak of the Korean war.

Not until 1956, however, was further thought given to changing the nature of Air University. There was a shift in philosophy towards requiring more advanced education to become officers and to remain as officers. A United States Air Force Education Board, headed by General Edwin W. Rawlings, reviewed the Air University educational programs. The review was completed on October 18, 1956.

Those not pilots were to receive Air University training immediately. The board recommended preference in promotions be given to the non-flying technicians who completed Air University.¹² This shift in philosophy was apparent and may have been triggered by the imminent launch of Sputnik by the

Soviet Union in 1957. The founding of the Air Force Academy also altered the official pentagon thinking from civilian undergraduate and Air University graduate to Academy undergraduate and Air University graduate programs. The Air University, however, never totally divested itself of its undergraduate programs and the Academy arranged for graduate degrees with cooperating civilian universities. In this way, they stayed in competition with each other and with civilian institutions. In fact, the 1956 group recommended both graduate and undergraduate students be taught at Air University until all officers become college graduates. Fifty-six percent of regular officers and forty-six percent of reserve officers did not possess bachelors degrees in 1956. The Rawlings group recommended all officers become college graduates.

The Reserve Officers Training Corps in 1956 had 100,000 students in 188 colleges and universities. They produced eighty percent of the flying officers. It was during this time that their headquarters was moved from downtown Montgomery, Alabama to the campus of Air University. Extension Course Institute at the same time had grown from 28,000 enrolled in 1951 to 150,000. The cost per student at ECI was \$11.00 and one in nine of all Air Force personnel was enrolled. Also in 1956 an advanced Logistics Program was added at Air Force Institute of Technology. Educational TV also arrived in 1956.

On the one hand the Rawlings board sought more education for Air Force officers, but on the other hand there was a public and Congressional backlash against military spending during President Eisenhower's second term. A new Air Force Academy had been built along with major construction at Air University but peace was firmly entrenched and war was far from the minds of most. The cold war just did not generate the same enthusiasm for military

education as real war. Even Eisenhower talked to taming the military-industrial complex.

By the end of 1956 professional military education was in trouble with the military themselves as well as with the American public. One of the continuing concerns was not enough money to do what they wanted to do. Every public bureaucracy seems to be voracious when it comes to money and this educational bureaucracy was no exception. Operating commands also felt they could not pare officers from their mission duties to attend Air University. Then too, many officers were either not qualified or lacked interest in attending the courses. Finally, most officers were of the opinion that too much technical competence in a specialty handicapped an officer who wanted to get ahead in promotions. The 1956 Air Force education board had recommended this trend of promoting non-technical flyers be reversed, but it never happened.

During the post-war years the growth of facilities continued, however, with ground breaking ceremonies for a nine million dollar building to house the School of Aviation Medicine at Brooks Air Force Base, Texas on May 10, 1957. Two years later on October 1, 1959 it was redesignated Aerospace Medical Center and the facility was transferred from Air University to the Air Training Command.

All components of Air University experienced steady growth. Extension Course Institute grew to 165,000 students and the Gunter Field Branch of the School for Aviation Medicine grew from 849 graduates in 1951, to 5,587 in 1957. The workload at the Research Studies Institute reached 2,000 historical documents received per week. The quality of the faculty also improved. At Air Force Institute of Technology for instance there were thirty-four civilian instructors with sixteen doctorates, seventeen masters and one baccalaureate.

The twenty-nine military officers had twenty-six masters and three doctorate degrees.

Lieutenant General Walter E. Todd assumed command of the university on August 25, 1958. Like all his predecessors, he started in the Army outside of the Air Corps, but soon entered flying school. He like some of the other commanders had almost no management experience in the educational field before taking the Air University assignment, though he immediately enrolled in the Institute for University Presidents at the Harvard Business School to familiarize himself with educational administration.

One other event of note occurred in 1958. The School of Aviation Medicine had called the first world conference on space medicine in 1951 and they held another in November of 1958. Their workload continued to increase. Besides the conference, they were involved in ninety research projects.

It was during 1959 that the Universal Automatic Computer (UNIVAC) was first used at Air University. It was used to help manage the correspondence program of the Extension Course Institute. Extension Course Institute had grown from 120 employees offering sixteen courses to 26,000 students in 1950, to 133 offering forty-one courses to 103,000 in 1954, to 161 offering ninety-one courses to 220,000, to the same group offering 135 courses to 248,000 in 1959. The 1955 cost of \$11.10 per student dropped to \$6.50 in 1959 because of the use of the computer system. In 1959 the correspondence enrollment for professional military education stood at 8,260 but only eighteen officers had finished the five year course for Air War College. The course needed revision because it was too long.

The pattern of minor course name changes continued with each commander putting his mark on the University with these changes. The title of

the Academic Instructor School Course became just Academic Instructor School. In 1961, the Academic Instructor School was renamed Academic Instructor and Allied Officer School as it assumed the extra duty of preparing foreign officers for the strenuous courses of study in English. Then in 1962, the Research Studies Institute was redesignated Aerospace Studies Institute. Also, both Air Command and Staff College and Air War College dropped Air from their names and became Command and Staff College and War College.

Air Force Institute of Technology became just Institute of Technology. Lieutenant General Troup Miller, Jr., the next commander, renamed it Air Force Institute of Technology in 1962. One substantive event occurred when Squadron Officer School and Warfare Systems School separated from Air Command and Staff College with their commandants reporting directly to headquarters of Air University.

Miller had taken office in August of 1961 after being promoted. Miller began his military education early. He graduated from St. Lukes School, now Valley Forge Military Academy, Wayne, Pennsylvania before graduating from the U. S. Military Academy in 1930 as a second lieutenant of Cavalry. His flying training began immediately and he spent twelve years in the training and education career field. Then he spent a year and a half in the Army-Navy Staff College from which he graduated in 1944. Following World War II, General Miller was assigned to the Army Air Force School, which was his third assignment to Maxwell Field, Alabama. In March, 1949, he was appointed chief of the plans division of the academic staff of Air University. He graduated from Air War College in 1949, then was transferred to Air Force Headquarters. He was returned to Air University in June, 1960, when he became vice commander.

The Air Force Museum, at Wright-Patterson Air Force Base, Ohio, was placed in the jurisdiction of the Air University on October 1, 1960 and remained so until the same date in 1965. It then returned to the Air Material Command (now Logistics Command) whose headquarters is at Wright-Patterson AFB. Another event in 1960 was the installation of the monochrome closed circuit vidicon TV system.

In August of 1962, George Washington University established a co-operative degree program extended to Air Command and Staff College students. By taking certain courses, and with George Washington credit for ACSC courses, an officer could earn a Baccalaureate or Master of Arts degree in international affairs. Air War College resident students had already been involved in this program for a year. Local schools such as Troy State University and Auburn State University continue such degree granting programs to this day.

By 1962, 18,000 were enrolled in Squadron Officer School correspondence courses and there were 372,000 students with 11,000 graduates each month and 56,000 examinations to be graded by Extension Course Institute (ECI). The load was so great that ECI brought enrollments to a halt temporarily. The cost had dropped to \$3.61 per student.

A new School of Engineering facility was begun in December of 1962 at Air Force Institute of Technology in Wright-Patterson AFB, Ohio as partial response to the space program and in anticipation of the Vietnam conflict. Also, the first Counterinsurgency Course was offered to both foreign and American officers at the Air University Warfare Systems School in September, 1963. The Warfare Systems School eventually became the Air University Institute for Professional Development. The Air University also got involved in

career training for enlisted Air Force personnel through ECI by activating the first Career Development Course through correspondence.

Lieutenant General Ralph P. Swofford, Jr. became commander on January 1, 1964 after Miller retired on December 31, 1963. After completing two years at the engineering school at the University of Missouri, Swofford was appointed to attend West Point from which he graduated in 1930. He was an engineer but went immediately into the flying corps. In August of 1935, he was sent to the Air Corps Engineering School at Wright Field, Ohio. After graduating in 1936, he remained there as assistant commandant of the school. He attended the Air Corps Tactical School at Maxwell Field, Alabama in 1940 while stationed at Wright Field. He also graduated from the Army-Navy Staff College, Washington D.C. in 1944 before finally being transferred from Wright Field where he had served from Lieutenant to Colonel. After serving in several assignments, including two years (1945-47) as chief of staff, U. S. Military Academy, he returned in 1948 to Wright Field where he eventually was named Commandant of Air Force Institute of Technology, one of the schools of Air University. He served four years in that post. He served one year (1959-60) as vice commander of Air University.

He in turn was then replaced by Major General John W. Carpenter, III on July 30, 1965. Carpenter was given an extra star three days later. Although born in Starkville, Mississippi, Carpenter graduated from high school in Stillwater, Oklahoma. He studied engineering at both Oklahoma A&M and Mississippi State College before entering West Point where he graduated in 1939. He also graduated from Air Command and Staff School and Air War College. He taught in Air Command and Staff School for two years after World War II. It was during this time that the George Washington University Cooperative

Degree Program was phased out in 1965. One program was lost but three others took its place. It was in 1966 that Air Force Chaplain School became a part of Air University. It transferred from Air Training Command, Lackland Air Force Base, Texas. The Air Force Junior Reserve Officers Training Corps training program also began in twenty high schools across the nation and Air Force Institute of Technology began a doctoral degree granting program.

It was at this time the Vietnam war heightened in southeast Asia and brought adjustment and, as usual, the mission was more important than education. For one thing, quotas of students were reduced 30 percent. Trying to reduce the war's dampening effect, Lieutenant John W. Carpenter III in 1967 initiated the Air University Research Board to coordinate research.¹³ Also, seven new general officers were requested and assigned to Air University to try to increase the prestige of the program in the eyes of potential students.

Another major step was taken by Lieutenant General Albert P. Clark who took office in July, 1968. College women were first accepted into the two-year ROTC commissioning programs at Auburn, East Carolina, Ohio State, and Drake universities on September 1, 1969. It was then announced on May 15, 1970 that women would be accepted in both two and four year programs in the 1970-71 academic year at all colleges. Maybe being a prisoner of war for three years after being shot down over Europe during World War II softened Clark towards women's rights. More than likely the pressure of the civil rights movement caused the change.

Lieutenant General Alvan C. Gillem II became the twelfth commander of Air University on August 1, 1970. Twelve commanders in twenty-four years represents an average change of leadership every two years. Gillem's educational experience included graduation from West Point in 1940, Air Command

and Staff School in 1948, and Air War College in 1953. His stint as Commandant of Air Command and Staff School in 1956-57 was the last real contact with the University before becoming commander. The most significant event during his tenure was the dedication on January 15, 1972 of the new high-rise bachelor officers quarters at Maxwell AFB.

Cumulative resident graduates of the professional military education programs through June 30, 1970 were: Squadron Officer School, 49,089; Air Command and Staff College, 15,297; and Air War College, 4,045. The Air War College Seminar program had 747 graduates.

Lieutenant General Felix M. Rogers served as commander of Air University from 1973-75. Immediately prior to his assignment, he served for a year as Vice Commander of Air Training Command but was an example of a new breed of officer. Most of the previous commanders had almost exclusive experience in combat organizations with very little in the administration of educational institutions. The exceptions were Barker, who probably had the best qualifications but only filled an Acting Commanders position for a few months; Strother, who was the only one to be promoted from within; and Miller, who had little experience. Swofford was the only one to have extensive educational experience.

Rogers had little educational administration experience but was different in another way. Much of his career had been diplomatic, including four years as intelligence officer at the U. S. Embassy, Madrid, Spain, one year as Defense Advisor, International Security Affairs at the State Department, dealing with the Berlin Wall, the Congo Revolution, and the Dominican Revolution, and one year as Senior Member, Military Armistice Commission of the United Nations Command, Korea in 1970. He held the latter position longer

than any of his military predecessors from any of the services. Diplomacy had become as important or more important than combat skills. World affairs had been taught at Air University for a number of years and would remain an increasingly significant part of the curriculum.

Rogers reported the off-duty education co-operative program had been in existence twelve years. Up to that time, Auburn University, Troy State University, and the University of Alabama had awarded 1,642 masters degrees. George Washington University had started such a program earlier but under administrative pressure had dropped their efforts in 1965.

Lieutenant General Raymond B. Furlong replaced Rogers in August, 1975. Both Rogers and Furlong were products of World War II instead of West Point. Rogers graduated from the University of Maryland and Furlong from Ursinus College, Collegeville, Pennsylvania in 1946 with a bachelor of science degree in chemistry. He also held a master's degree in business administration from Harvard Business School. It was extremely rare up to this time for an Air University commander to have a master's degree but higher education was becoming a rule not an exception by the 1970's. Furlong's only experience in administration of educational institutions was the five months previous to his Air University assignment, when he was Commander of Sheppard Technical Training Center, Air Training Command, Wichita Falls, Texas. Furlong's four year tenure was longer than any of his predecessors.

It was in 1978, while Furlong was commander, that Air University became part of the Air Training Command in a consolidation that brought much consternation and upset to the University. The struggle between training and education continued and the debate sharpened. The swing back to education occurred in July, 1983 when Air University became a major command. It was

during this period also that the curriculum became more military. The format of instruction included more exercises, gaming, and simulation, with more testing and evaluation of students. The Faculty became specialists instead of just seminar leaders. The University also consciously hired civilian instructors who were retired military. The one area of less control was student selection of electives.

Lieutenant General Stanley M. Umstead became commander in July, 1979. Umstead spent a year at Virginia Military Institute before entering the U. S. Military Academy where he graduated in 1951. He attended the command and staff course at the Naval War College, Newport, Rhode Island in 1962, which was unusual at the time, but it is now common practice for officers to cross-train in other services schools. Following the example of the previous commander Furlong, General Umstead earned a master's degree in business administration from George Washington University while a student at the Industrial College of the Armed Forces, Fort McNair, Washington D.C. Umstead's academic and training administrative experience began in September, 1973 when he joined Headquarters Air Training Command at Randolph AFB. He was commandant of Air War College from June, 1975 to September, 1977. After two years, he returned to Air University as deputy assistant secretary of defense in the Pentagon.

The constantly changing parade of commanders continues to this day with Charles G. Cleveland the current commander since July, 1981. Cleveland possesses the most formal education of all the commanders, reflecting the trend toward more education among all Air Force officers as well as all Americans. He graduated from the U. S. Military Academy in 1949, earned his master's degree in political science at Xavier University, Cincinnati in 1966,

and completed the advanced management program at Harvard University in 1969. Along with other American professional military education, he attended the top Royal Air Force service school in England, the Royal Air Force College of Air Warfare. Like the last several university commanders, he first served in Air Training Command before coming to Air University.

The eighties saw six major construction projects launched including renovation of Air War College, Air Command and Staff College, and three new dormitories.¹⁴ It was also in 1980 that the Airpower Research Institute was established to monitor and contribute to operational and exceptional thinking. Air University had entered the decade a growing and changing institution.

Air University was envisioned and originally designed to be a post-graduate institution. The officers came from the Military Academy at West Point and were to take Air University courses to further enhance their military preparedness. Most had been trained in an Army career other than the Air Corp and needed training in the uses of air power.

The officer corps was not limited, however, just to academy graduates. With the entry into the second world war came a large group of officers with little or no college education. They had become officers through a three month officers training school, battlefield promotion or a short session of reserve officer training on college campuses. The courses, at first, were more non-graduate than post-graduate. To remedy this, the Rawlings Board, in 1956, recommended that all commissioned officers be college graduates. That recommendation was accepted and implemented but before that time most of the training was non-graduate.

Curriculum changes through the years were extensive. Many courses were added to teach specialists how to do their specific jobs. These courses

were post-graduate only in the sense of being after graduation. Other than the Air Force Institute of Technology's graduate courses, Air University's subjects are not of higher education quality in the sense of offering standard master's and doctoral programs. This could be, and probably should be, corrected by upgrading the programs, providing academic degrees and oversight by accrediting agencies.¹⁵

Another original objective of the school was to be a center of air doctrine and strategy. This objective was initially fulfilled through writing the first Air Force regulations on doctrine and formulating some of the early strategy. The strategists fell into disfavor with some of the top commanders during the Korean War when some of their strategy suggestions did not seem to work. Many of the bureaucracy leaders were negative toward all academia and jealous of their own prerogatives toward forming strategy, so that part of Air University's responsibility was lessened in favor of Headquarters Air Force.¹⁶ With greater research commitment, research facilities, and long term research oriented faculty instead of the present two to three year faculty terms, research pre-imminence could be regained.

Accreditation was recommended early by the visiting boards but never actively sought outside of Air Force Institute of Technology in the late 1950's and by the Senior Non-Commissioned Officers Academy (SNCOA) in 1973. AFIT became regionally accredited by the North Central Association and SNCOA did with the Southern Association through affiliation with Community College of the Air Force. Extension Course Institute which designs and superintends correspondence and extension courses also is accredited by national groups who accredit such courses. The rest of the Air University departments have always felt that they should not seek accreditation because

no one knows better than they the requirements of military courses of study. They do receive much review from advisory boards and regularly called boards of education. It would be good to add the oversight of accrediting agencies. The argument that others would not know how to judge them is not correct because much of what they teach and do is very similar to their civilian counterparts and the accrediting organizations are used to looking at diverse programs.

Air University has had a habit of establishing succeeding ten year master plans. These are too long. On several occasions these master plans were disrupted by national emergencies such as the Korean and Vietnam wars. A five year or shorter plan would be more realistic especially in peacetime economic conditions and considering the ebb and flow of military popularity. Other reasons for shorter planning time are the frequent change of commanders, the short tenure of the military instructors, rapid technological change, and unsettled global political concerns. Growth of university buildings and curricula have been affected by war and peace more than the long range plans. Most building occurred after World War II and the Vietnam War. The curricula have swung from warlike to more peace oriented courses in the mid-fifties after the Korean War, to more war oriented after the unpopular Vietnam War.¹⁷ A three year plan, with a few long-range objectives, would probably be best. It would match tenure of commander and faculty.

Air University is partly a typical military command structure and partly an academic organization. A commander is in charge of the school with a vice-commander performing military functions and serving as leader while the commander is out of the area. A civilian advisor handles civilian matters. Each school has a commandant and the bureaucratic pyramid extends down to the lowest rank.

Like all Air Force organizations, there is not just one pyramidal shaped organization with a commander at the apex and workers at the bottom with numerous levels of supervision. There is a rank structure as well as a work structure. Anybody with more rank can and will often disregard the unity of command principle (each must have only one supervisor) to tell anyone of lesser rank what to do or say.

There is also a civilian pyramid like a shadow to work, advise and play a secondary role. If a civilian problem arises, the commander usually turns to the civilian advisor to handle it. Civilians provide the institutional memory because they are the only continuing members of the organization but soon know their secondary role and how to play the game.¹⁸

As more officers in recent years have attained master's and doctoral degrees, civilian influence and prestige have lessened. Many civilians are retired military and most of the clerical help are military dependents so there is a good knowledge of how the hierarchy works and an empathy for its workings. More academic freedom with less regulation and a more democratic departmental policy would be appropriate in research and learning situations such as the Air University. They could better search for correct answers instead of learning organizational answers.

The university is reviewed each year by a distinguished civilian Board of Visitors who usually are briefed upon arrival by the commander of his representatives and by certain department heads. There is not much contact with faculty and very little with students. Problem areas are selected for review and the short time (two days) of meetings preclude in-depth reviews to find unscheduled problems not presented by the administration. In most cases, the Board of Visitors has presented substantive solutions that the university has

incorporated. Some persistent suggestions have been ignored for various reasons, however, such as longer tenure for faculty, seeking accreditation, a larger participation by more capable civilian faculty and consolidation of facilities. There have been numerous special boards (usually called by the leader's name) of Air Force personnel convened to examine professional military education including Air University. Perhaps the two most prestigious and far-ranging were the Fairchild Board in 1950 and the Rawlings Board in 1956. The plans and programs envisioned by the Fairchild Board were interrupted by the Korean War but the Rawlings Board reiterated some of their concerns. They wanted to consolidate almost all Air Force officer training under Air University, as had a couple of Boards of Visitors. The Reserve Officers Training Corps was under administrative oversight by Air University but Officers Training Schools and Air Force Academy, which had just begun, were not in any way connected with the university. One source for officers might lead to lack of variety but would make for administrative efficiency and quality control.

Air University is a mixture of professional military education (PME) schools, including many specialty schools and courses, which are the central reason for the institution's existence. The PME schools are the three levels including Squadron Officer School, Air Command and Staff College, and Air War College. A Senior Non-Commissioned Officer Academy was added in 1973. Its curricula are general in the sense they are trying to impart a broad range of knowledge and skills to develop and sharpen leadership and management capability. An Academic Instructors Course was provided to train military officer instructors since some lacked instructor skills. Appropriately, the instructor course was the first to open and has provided continuous service ever since.

Some foreign officers, who wanted to attend PME, needed preparation and they were combined into what is now known as Academic Instructors and Foreign Officers School. The specialty schools and courses include Air Force Institute of Technology which provides engineering officers for Air Force engineering and logistic specialties. Also included is Extension Course Institute providing correspondence extension courses to train Air Force personnel in the myriad of technical skills needed to maintain and enlarge their competence.

The third major specialty program added to Air University very early was the Reserve Officers Training Corps (ROTC). Air University only administers their program with some curriculum design and faculty selection responsibilities. Each university which has a unit on the campus has some control over the unit. ROTC is designed to provide a complement of reserve officers to supplement the regular officers who graduate from Air Force Academy and an Air Force quota at West Point.

It might have been wiser to endow chairs to teach the special engineering and logistics courses the Air Force needed instead of establishing AFIT and medical chairs for the School of Aviation Medicine. The institute did not belong to Air University but was eventually added. It could have been added to Air Force Academy as a graduate department or everything could have been consolidated into one great Air University with the Air Force Academy as the undergraduate department. To make AFIT a separate institution was the worst administrative and most costly option because of duplicate administrative personnel and staff as well as facilities. On the other hand, ECI and the other training courses should be under the Air Training Command.

Another administrative problem is the scattered facilities. AFIT is located at Wright-Patterson AFB, Ohio; School of Aviation Medicine at San

Antonio, Texas; and SNCOA at Gunter AFS across town in Montgomery, Alabama. This should not create much of a problem if good commandants are selected and they are delegated enough authority to do their job. It would seem wise, however, to consolidate facilities or even whole institutions between the several services.

From the beginning, there was a conflict between training and education. The first board and many more worried about the problem. Some of the courses are by their nature more training than education and rightfully belong in the Air Training Command. In the seventies, several consecutive Air University commanders transferred from Air Training Command (ATC), then the university itself was placed in ATC instead of being a separate command. That is somewhat like the president of a university answering to the superintendent of a technical school. Perhaps it belonged in ATC but, if it did, it should not have been called a university. This mistake was reversed in July of 1983 when Air University became a separate major command.

Air University commanders have averaged staying 2.3 years as chief executive officer with many staying little over a year. The Air Force tends to reassign personnel every two years and therefore this length of service is not unusual. This assignment is unique, however, and should be longer because of the importance of education. It is hard to have administrative continuity with the rapid changes of command. There have been some bizarre results such as the capricious removing and adding of Air to a department's name by five consecutive commanders.

Commanders are selected for many reasons, not all of them appropriate. Some have sought the assignment so they could shortly retire in the area, were selected because they were friends of the selector, and some

because they were combat heroes. The ones selected should have been the ones with the best academic preparation, educational interests, and the desire to excell. The commanders have mostly been graduates of West Point although the earlier ones and a couple selected since World War II did not graduate from any academy. There are still no Air Force Academy (AFA) graduates who have been selected. With the first AFA graduates only twenty-four years ago, perhaps the next one will be an academy graduate.

The faculty includes civilian research personnel, many of whom are retired military, with a few serving as instructors. Almost all the instructors are military who have been given a concentrated two month course on how to teach and prepare instructional media. This is an idea that all universities could consider to improve the instructional capability of their faculty. The faculty is enhanced by inclusion of guest lecturers who are experts in their respective fields. This is an expensive way to improve quality of instruction. In recent years, most officers assigned to Air University have had master's degrees and some have earned doctorates. As more of the officers have received advanced degrees, fewer civilians have been used or needed for guidance and talent. Twenty years ago, a few had Ph.D. degrees with an average of ten or fifteen having master's degrees. Now there are a dozen Ph.D.s and all instructors have master's degrees. Conflicting views are desirable so expert teachers should be allowed to speak without being recorded or what they say reported. Rank should not be the only factor in selecting faculty. Some younger officers have good, refreshing ideas. Women were allowed in ROTC in 1968 but there is still a lack of minority participation. Some effort has been made to incorporate minorities into the Faculty but without very much success. The minorities are a growing part of the Air Force

and more of them eventually will participate. There does not seem to be a conscious effort to discriminate.

At the beginning of Air University, there was considerable flying instruction and for many years flying was an essential part of the program because officers were required and paid to keep up their flying proficiency. Now there is very little flight training in the curriculum. Leadership is an important part of the curriculum with international affairs also important. Leadership is important but management education would be more valuable as there is not much chance for initiating change in a combat oriented bureaucracy. There is a danger in leaving doctrinal research at the top level of PME (Air War College). Some of the younger officers may be innovative and should be given an opportunity to study, evaluate, and suggest doctrine in the lower levels of PME. Self satisfaction should be guarded against in an action oriented organization like the Air Force and the several chances to attend PME over an officer's career should provide times to reflect and think about possible changes.

There could always be a question whether an institution could get too much advice or not. Air University has higher headquarters, yearly Boards of Visitors, regularly convened boards of education, internal review exercises university wide, and constant review of teachers by other teachers and students. Review is good and advice can be appreciated, but enough is enough. Many of the reviews, however, are from friends or from within the bureaucracy while others, like the Board of Visitors, are somewhat superficial. Critical in-depth reviews by outside agencies might be more helpful. Many of the changes that have occurred because of the reviews have been as cosmetic as course name changes, accepting new workloads, departments and commands, and changing the personality of guest speakers.

Experience indicates it is not the advisory boards who make substantive changes but wars creating national and institutional emergencies. The original curriculum was military oriented until 1954 when a sincere hope for peace led to a less military and more managerial curriculum. Demonstrating perhaps a pessimism about lasting peace after Vietnam, the curriculum was again reversed to a more military emphasis in 1974.

Only one department awards degrees. Air Force Institute of Technology started in 1956 to award B.S. and M.S. degrees while the first Ph.D.s were not awarded until 1969. The rest of Air University departments do not award degrees except through cooperative programs with three colleges in the local area around Montgomery, Alabama. Degree granting may not be very important but it is unusual for a university to do so on such a limited basis.

The most conspicuous problem of the Air University is that all officers do not attend. Many of the better ones do not attend because their commanders cannot spare them for that length of time, or they think time away from command assignments will hinder promotions. One way to overcome that is to promote those who graduate and to keep the best for teaching or research assignments in Air University and give them another promotion on acceptance as faculty.

FOOTNOTES FOR CHAPTER II

¹ Maxwell AFB, The Dispatch, Volume 35, Number 10 (March 12, 1981), pp. 1-2.

² Air University, First Report of the Board of Visitors (Maxwell Field, Montgomery, AL: Air University, 1946), p. 48.

³ Ibid.

⁴ Ibid.

⁵ Maxwell AFB, The Dispatch.

⁶ Alfred Goldberg, ed., A History of the United States Air Force, 1907-1957 (Princeton, New Jersey: Van Nostrand, 1957), p. 171.

⁷ Maxwell AFB, The Dispatch (March 31, 1950), p. 1.

⁸ Maxwell AFB, Air University Dispatch (November 1, 1957), p. 9.

⁹ Alabama Journal, February 13, 1954, p. 1.

¹⁰ Goldberg, Air Force, 1907-1957.

¹¹ Ibid.

¹² Oliver G. Haywood, "Technology and Military Men," Air University Quarterly Review, (Summer 1955), pp. 83-87.

¹³ Air University, Board of Visitors of the Air University Report No. 24-34; 1968-1978 (Maxwell AFB, Montgomery, AL: Air University, 1979), p. 2.

¹⁴ Maxwell AFB, The Dispatch, Volume 35, Number 14, (April 9, 1981), p. 1.

¹⁵ Richard M. Rose and Andrew J. Dougherty, "Educating the Military Officer—The System and its Challenges: An Overview." (Washington, D.C.: The National War College Strategic Research Groups, 1975), n.p.

¹⁶ See chapter four for a more extensive discussion of this problem.

¹⁷ See chapter five for the Advisory Boards comments on this development.

¹⁸ These conclusions were the result of conversations and observations gathered during the several visits to the University.

CHAPTER III*

DEVELOPMENT OF THE DEPARTMENTS

The Air University is an educational center and is a major Air Force Command. Officers, airmen and civilian employees of the Air Force are its principle source of students, but a small number of personnel from other governmental agencies also attend. Some eighty other countries also have sent their officers to the university over the years. The Reserve Officers Training Corp administered by Air University gets its cadets from the students of many host colleges and universities. The United States Air Force Academy and the Officer Training School which are precommissioning programs are not a part of Air University. Air University includes only the post graduate Air Force schools, colleges and other related educational activities.

The Professional Military Schools are the main departments and the reason Air University was established. The objective of professional military education is to increase competence and broaden perspective of all officers and non-commissioned officers. It includes four levels: the Senior Non-Commissioned Officer Academy, the Squadron Officer School, Air Command and Staff College, and the Air War College. The latter three are for commissioned officers at various points in their career.¹

The United States Air Force Senior Non-Commissioned Officers Academy is the first NCO course directly controlled by Air University. The non-

*Footnotes for Chapter III are on page 79.

commissioned officers (NCO) now have five required courses. They include: an orientation course for senior airmen about to enter into non-commissioned status, a supervisor's course for new supervisors, leadership schools of one hundred thirty-six hours conducted by the different commands, and two hundred twenty-five hour long command-sponsored NCO academies.

Non-Commissioned Officer professional military education began with a single short course offered by the Strategic Air Command at West Drayton, England in 1952.² The first NCO Academy offering more than one course was held at March AFB, California beginning in March, 1954. There was irregular growth and occasionally decline of command sponsored schools during the fifties and sixties with fifty-six in 1962, twenty-six in 1967 and forty-three in 1977. Until 1973, only two levels of PME existed which were the NCO Academy for Technical and Master Sergeants and NCO Leadership Schools for Sergeants and Staff Sergeants. In July, 1976, phase one and two of NCO PME were added at base level. Phases one and two of professional education for non-commissioned officers are base level, phases three and four are command level and phase five is Air Force level and managed by Air University. The Leadership and Management Development Center (LMDC) at Air University started in 1975 to design curricula for all levels. Also, the instructors are trained and certified by LMDC at Air University. The instructors work for either the base education officer, the base director of personnel, or the leadership school commandant if the base has a leadership school. Phases one and two are at almost every base and phase three is at forty-three bases. There are thirteen phase four academies.³

In 1972, Air University added the Senior NCO academy as one of its departments to bring together senior non-commissioned officers from all the

commands for an educational experience. The first class was held in 1973. The 360 hour format includes lectures, small group work, and independent study. The principle small group method is twelve-member seminars. The lectures are given by faculty of the academy, Air University faculty and experts from civilian agencies. The students are from reserves, Air National Guard as well as regular Air Force. The mission is to provide the education necessary for senior non-commissioned officers to become more effective leaders and managers.

The academy is accredited by the Southern Association of Colleges and Schools because it is affiliated for accreditation purposes with the Community College of the Air Force. CCAF gives eleven semester hours of credit to graduates of the academy.

A correspondence course was developed by the academy but is administered by Air University's Extension Course Institute. Some civilian federal employees are eligible to take the correspondence course.

Air University administers only the last of five professional military education courses but advises on curriculum, designs course material, and certifies teachers. The University also administers all commissioned officer PME.

Commissioned officers have a three level program of professional military education with Squadron Officer School being the first level. As indicated earlier, its predecessor was the Air Tactical School begun in 1946 at Tyndall Field, Florida.⁴ Air Tactical School closed in 1950 because of the Korean War and was replaced by a Squadron Officer Course which was part of the Air Command and Staff School of Air University. The course remained part of ACSS until 1959 when it became a separate department. Its purpose was to

develop the ability to lead and communicate. The curriculum has changed frequently to reflect the change in ideas about deployment of personnel and the use and mission of smaller units. Leadership in group sports is a big part of the curriculum. It presently enrolls over 600 in each five week course and provides correspondence courses for over 16,000 others annually. There are no seminars at air bases outside Air University but a group study of those who are enrolled in the correspondence program is encouraged and is a wide-spread practice. Since there are always more young officers this school has a bigger influence perhaps than any other.

Originally called Air Command and Staff School, Air Command and Staff College began as part of Air University in 1946. Because of lack of facilities, the Special Staff School which was a part of this department was moved temporarily in 1948 to Craig Air Force Base, Alabama but moved back to Maxwell AFB during the Korean War. ACSS was named Field Officer Course during the early 1950's. In 1954 the Special Staff School's courses were discontinued and the extended course was called Command and Staff Course before the final name was adopted in 1962. The school was for majors and other mid-career officers and its purpose was to increase leadership ability for command and staff roles. A summer ten-day Reserve Officers Course was also conducted for selected officers of the reserve and Air National Guard.

Foreign officers have been invited to attend ACSC from the very beginning with over 1,500 officers from seventy-four countries having graduated. They go to an Academic and Foreign Officer School first for eight weeks to improve their English language ability. They then attend all unclassified parts of the course and add a last five weeks tailored to their individual employment needs. They also tour Washington, D.C. and other metropolitan areas in the United States.

There is also a seminar and correspondence non-resident program with correspondence course enrollment being continuous. Seminars, however all begin in January and take fifty weeks to finish. The courses are open to active and inactive officers, Civil Air Patrol officers, and civilians. There are over 400 enrolled in each residence course. Also, 289 seminars at 130 bases enroll over 3,600 more. Around 9,000 enroll each year in the correspondence course.

The Air War College has operated continuously since 1946 except for six months early in the Korean War. The course was designed to encourage free expression of ideas and independent, analytical, and creative thinking. It was problem oriented and its purpose was to prepare selected Lieutenant Colonels and above for command and staff assignments.

The Airpower Research Institute is an organization within Air University which is associated with Air War College (AWC). It performs research, analysis, and publishes those studies on airpower doctrine and strategy, military challenges, and trends that effect planning. The research associates include four officers who are assigned faculty positions for three years in professional military education. Also, visiting research associates from various Air Force commands are invited to become a part of the research group for one year. These command researchers study proposals that are submitted and approved by the sponsoring command. There are also four civilian scholars assigned to this research facility whose appointments normally are for one year. Students also may become adjunct research associates if they choose it as an option.

There are associate programs consisting of seminars at Air Force bases and correspondence for those not selected to attend Air War College. The majority of senior officers attend these associate programs instead of the resident ones. They have reading assignments, written requirements, and

objective tests monitored by a base education office test proctor. These associate programs are open to some non-Air Force senior officers and civilians employed by the federal government. By 1983 there were ninety-five active seminars with over 2,000 enrolled and another 2,000 enrolled in the correspondence course.

Air War College developed the Combined Air War Course in 1977. Its focus is to study combined air warfare. It is a five week course studying tactical combat of large air groups of several allied countries and commands.

The Air University departments outside of professional military education are designed to train officers for special assignments to fulfill the Air Force's manpower needs. These specialty departments have been added to the university instead of Air Training Command, which usually handles career specialty training, until finally Air University itself was placed under ATC. Air University became a major command in July, 1983, thus no longer under ATC. The biggest of these and the most academic department of the university is the Air Force Institute of Technology (AFIT) which provides the special kind of engineering and logistics courses that only the Air Force needs.

The Air Force Institute of Technology began after World War I to provide special aviation engineering training to the new air service.⁵ Until 1919, Army aviation officers were educated at Massachusetts Institute of Technology. On November 10, 1919, however, the Army's Air School of Application began at McCook Field near Dayton, Ohio, with a seven-man class. It was started there partly to be near Orville and Wilbur Wright and the Army's first planes which were made by the Wright brothers. The name of the school changed the next year to Air Service Engineering School. Again in 1926 it was renamed Air Corps Engineering School as the result of Congressional authori-

zation creating the Army Air Corps. In 1927 it was moved to the newly developed Wright Field where more extensive engineering facilities had been built. Shortly after Pearl Harbor, the school closed until 1944 when it was reopened as the Army Air Force Engineering School. After the Air Force became a separate entity in 1946, it was renamed the Air Force Institute of Technology.

The Institute was composed of two colleges: one for study of engineering and maintenance, the other for logistics and procurement. These were soon renamed College of Engineering Sciences and College of Industrial Administration. The Civil Engineering School was originally added in 1948 as the Air Installation Engineering Special Staff Officer's Course. At the same time, the Air Force Civilian Institutions Program began. Air Force personnel were sent out for training in over 350 civilian colleges and universities.

Air University assumed command of the institute in 1950 from the Air Material Command and a year later the two colleges at AFIT were combined into the Resident College.⁶ Congress in 1954 gave authority to confer college degrees on future graduates of the Resident College with the first undergraduate engineering degrees being awarded in 1956. A new program was begun in 1955 when the institute established a logistics education curriculum conducted by Ohio State University on a contract basis. Also, short courses by Ohio State University were instituted during 1958 in logistics for the Air Force Logistics Command (formerly Air Material Command) which was headquartered at the same base. The Resident College was then divided into schools of Engineering, Logistics, and Business. The first graduate degrees in business were awarded in 1958 but the school of business was transferred to the civilian institutions program in 1960. It was in 1963 that the final name changes

occurred when the School of Logistics became the School of Systems and Logistics and the Civil Engineering Course became the Civil Engineering School.

The North Central Association of Colleges and Schools accredits the Institute, which offers bachelor, master and doctoral degree programs. The Engineers Council for Professional Development had accredited the undergraduate aeronautical and electrical engineering curricula in 1955. Accreditation from ECPD for graduate programs was received in 1964. The North Central Association of Colleges and Schools had accredited the Institute as a masters degree giving institution in April, 1960. The original accreditation was for the School of Engineering.

AFIT has cooperated with area colleges and universities since 1967 through the Dayton-Miami Valley Consortium. Since 1977 it has admitted some area civilians into its master's programs on a part time basis. It also offers continuing education to officers and civilians at Wright-Patterson and numerous other air bases. There have been nearly forty-five thousand graduates including twenty-one astronauts.

The Library at AFIT dates back to 1946. It has over seventy-five thousand volumes of books and nearly three quarters of a million research and report items. The resources of Air University library are also available.

The Air Force Reserve Officers Training Corps program was initiated by the National Defense Act of 1916. It has its foundation, however, in the Morrill Act of 1862 which assigned the land grant colleges with the task of training officers for the civil war. Public Law 88-647 in 1964 caused some major changes in the program. The specific changes will be discussed in the chapter on Curricula. Since its mission is to recruit, educate and commission

officer candidates, it is the major source for second lieutenants for the United States Air Force.

The Reserve Officers Training Corps offers both a two-year and four-year program, with the two-year program for those entering from junior colleges. There is a training period before enrollment of those who have been selected from the best qualified applicants. Nearly 4,000 new cadets went to training camps in the summer of 1981 out of over 22,000 total enrollments. Four thousand of those enrolled were women. Women were first enrolled in 1969 at four universities. It was not until 1970, however, that women were admitted at all host institutions on the same basis as male cadets. Over 145 colleges and universities offer the program. There are 475 additional non-host institutions that participate in cross enrollment agreements with host institutions.

Cadets receive \$100.00 per month subsistence allowance during their last two years. There are also sixty-five hundred scholarships available in both two and four year programs for full tuition and the subsistence allowance.

The Junior Reserve Officers Training Corp began in the fall of 1966 at both the public and private high school level after the enabling act PL88-647 was signed on October 13, 1964. The instructors are usually retired Air Force personnel. The program has grown from twenty schools in the first year to two hundred eighty-five in four countries in 1981. Girls became involved in September of 1973. Total enrollment is now over thirty-six thousand.

The Extension Course Institute has an average enrollment nearing three hundred thousand, making it the world's largest correspondence school. It has grown from a few borrowed Army courses in 1950.

The Army Institute was authorized December 24, 1941 by the War Department. It began operations in a donated building located on the University of Wisconsin campus in Madison, Wisconsin April 1, 1942.⁷ It offered sixty-four courses in technical and a few academic subjects. The courses were on the secondary and junior college education levels. Other courses were contracted from several colleges and universities. On September 16, 1942 its offerings were made available to Navy, Coast Guard, and Marine Corps. In February 1943 its name was changed to United States Armed Forces Institute (USAFI). The Extension Course Institute borrowed its first courses from that source. It now has its own ZIP Code (36118) and handles close to two million pieces of mail annually. Located at Gunter Air Force Station in Montgomery, Alabama, its original mission was to provide voluntary non-resident study for Air Force personnel but today the institute provides both voluntary and formal programs to Air Force, Air Force Reserves, Air National Guard and all civil service employees. In 1963, it became a part of the On-the-Job-Training (OJT) program and in 1969, when testing became one of the criteria for promotion of enlisted personnel, it provided course materials to study in preparation for Specialty Knowledge Testing (SKT) for the Weighted Airman Promotion System (WAPS).

In 1973, it became the first government institution to be accredited by the National Home Study Council.⁸ The course included not only specialized courses of many kinds but also the required Career Development Courses (CDC) for enlisted personnel and Professional Military Courses (PME) for both enlisted and officer personnel. The Career Development Courses are used along with practical job experience to train the airmen to the skill level for their work assignments. Officers and civilians can enroll on a voluntary basis or the airmen can cross-train into another skill.

As all personnel need skill training, those who become instructors need special training in the art and science of developing teaching aids, curriculum development, testing and measurement and instruction methods. These are provided in the Academic Instructor and Foreign Officer School.

The Academic Instructor and Foreign Officer School has a three-fold mission. It has to prepare selected personnel to be academic instructors and over thirty thousand instructors have graduated since it began in 1946. When it began it was part of the Special Staff School at Craig Air Force Base before moving to Maxwell Air Force Base in 1950. There are seven classes per year of approximately five weeks with over a hundred students attending each class. Team workshops for upgrade training are also provided to the instructors at Air University.

The second mission of the school is to help foreign officers' ability to participate in Air University courses. There are typically five classes of six to eight weeks duration for these foreign officers. The purpose is to increase their ability in American English, and give them an awareness of the mission and organization of the Air Force. Informational trips to key American cities are also provided for educational and socio-economic cultural purposes. About two hundred officers per year participate.

The third mission is to provide communication skill support for other Air University colleges and schools. The Air University Television Division, for example, produces televised lessons. There is also a closed-circuit distribution system for television presentations to the various classrooms and also black and white equipment to help the students observe their own techniques so they can critique themselves.

As personnel and logistics management became more critical two new departments were added to give help in those disciplines. The Leadership and Management Development Center, developed during the 1970's, provides leadership training courses to a number of specialized groups and workshops, seminars, and consultation for air bases world wide. There are among others resident courses for Air Force chaplains, judge advocates, comptrollers, unit historians, personnel managers, management instructors and some newly commissioned officers. Base commanders and deputy commanders of maintenance are provided specialized management courses. The center also published the Air Force Law Review.

The Air Force had also seen the need for evaluating, analyzing, developing, testing and implementing new ideas and concepts to improve logistics support. The Air Force Logistics Management Center was started on September 30, 1975. Its purpose was to conduct research to improve the concepts, procedures and innovations designed to improve logistics support. They were to centralize what had become costly, time-consuming and redundant efforts of the several major commands. The center also reviews the latest thinking on logistics and determines possible use by the Air Force.

Air University has several educational support organizations. The most important of these is the Air University Library which was built in the center of the circle of academic buildings so it would be the center of university academic activities. The biggest resource is more than 500,000 military documents but it also has close to 400,000 books and journals and over 500,000 maps. It is the largest Air Force library and was one of the original parts of Air University.

Another supporting organization is the Albert F. Simpson Historical Research Center. The center moved to Maxwell Air Force Base in 1949 from its original location Washington, D.C. There are over 3,000,000 historical documents with over 45,000,000 pages about Air Force history in the collection. Located next to the library, it receives more than 50,000 documents per year. It was named in 1972 for the man who was Air Force historian from 1946 to 1969.

Air Force unit histories have been collected since 1942 and comprise the largest part of the archival collections. There are also historical monographs, studies, personal papers, and documents of various organizations.

The material is used in preparation of plans, staff studies, student research, public relations and many other uses. The entire collection is recorded on 16-MM micro-film. Duplicates are at Washington, D.C. in the National Archives and Record Service and the Office of Air Force History, Bolling AFB, D.C.

The Civil Air Patrol has some educational responsibilities so it too was assigned to Air University. Started as a part of the Office of Civil Defense, the Civil Air Patrol became part of the United States Air Force in 1948. It is a voluntary flying auxiliary of the Air Force with a membership of over thirty-five thousand adults and over twenty thousand young cadets between thirteen and eighteen years old. Its rank structure and organization is like the Air Force with eight regions and fifty-two wings. It became part of Air University in 1976.

Besides its educational efforts, the Civil Air Patrol is involved in search, rescue, and disaster relief missions. It also operates a nationwide communications network of over twenty-five thousand stations and over eight

thousand aircraft can be called upon for search missions. Close to fifteen thousand hours were flown in 1980 with one hundred fifteen lives saved.

Air University was primarily founded to provide a central place for teaching professional military education to commissioned officers of the new United States Air Force. The Army and Navy had their professional schools scattered at many sites and separate commands. The Air Force wanted to consolidate theirs into one institution. They copied the Army's three level program by providing what is now Squadron Officers School, Air Command and Staff College and Air War College. In 1972 because of the movement to better educate non-commissioned officers, they admitted a program already in existence, called USAF Senior NCO Academy, to their list of professional military schools. They had a library from the beginning and a school to teach instructional methods which also gave media support to university personnel. The instructors school was necessary because most instructors were officers with little or no experience in teaching or preparing instructional media. This is an effective program that might serve as a model for universities that hire professors with little teaching experience. The experience proved helpful, even to veteran teachers, since they present teaching interviews, group discussions, lecture, performance-demonstration teaching methods, and how to make and use slides, overhead projection techniques and materials, television monitors and many other media techniques.

The Air Forces early began to attach training requirements onto the University. Because the new air arm of the Army needed special engineering personnel to design, repair and work on aircraft, they had established in 1919 an Institute of Technology to train these special engineers and logisticians. This institute was assigned to Air University in 1950. The Army probably should

have funded teaching chairs in existing universities instead of starting the institute or once having let it advance to this level, kept separate from Air University. It is a very different kind of institution than the rest of Air University. Since it is the only department that awards degrees, is regionally accredited, and is geographically separated. The School of Aviation Medicine, a similar institution, was placed under another command in 1959 and AFIT should have been considered for transfer at the same time. AFIT was educational but nevertheless a specialty school. The Air Force Reserve Officers Training Corps is educational but the education is provided at the host colleges and universities while Air University only has administrative oversight. The Civil Air Patrol is similar in that the university just has administrative oversight. It is doubtful that these kinds of adjunct organizations should be in a university setting. There have been many courses for career training added to the university's responsibilities through its history. These have been grouped into departments under general subject areas such as leadership and logistics. Most of the courses are so specific they should be classified as training, not education.

FOOTNOTES FOR CHAPTER III

¹Many of the following comments are mine. Briefings on these departments have been a part of my assignment at Tinker AFB for the previous five years. Some of this is also in the Air University Catalogue.

²William E. Flinn, "A Study of N.C.O. P.M.E.: Curriculum Differentiation and Commandant Selection" (Maxwell AFB, AL: Air University), pp. 1-18.

³Air Force, USAF Historical Studies: No. 100 "History of the Air Corps Tactical School 1920-1940" (Maxwell AFB, AL: Air University, 1955), p.1.

⁴Air University, Air University Catalogue, 1981-1982 (Maxwell AFB, AL: Air University, 1981), p. 17.

⁵Air University, Air Force Institute of Technology Bulletin, 1969-1970 (Maxwell AFB, AL: Air University, 1970) p.3.

⁶Air University, Air University Dispatch, 31 March 1950 (Maxwell AFB, AL: Air University, 1950), p. 1.

⁷Cyril O. Houle, et al., The Armed Services and Adult Education (Washington, D.C.: American Council on Education, 1950), p. 83.

⁸James C. Shelburne and Kenneth J. Groves, Education in the Armed Forces (New York: The Center for Applied Research in Education, Inc., 1965), p. 92.

CHAPTER IV*

DEVELOPMENT OF THE CURRICULUM

Air University borrowed its curriculum from previous military schools in Europe. As military matters began to be studied and writers began to explain their theories, there developed a body of military strategy and practice to study. These writings were few and far-between but were the basis for present theory.

Some historians have dated military curricula from the writing of theorists in the nineteenth century. "A body of military theory and strategy was written by the Prussian Baron van Clausewitz; the formal specialized knowledge of the military profession dates from this time."¹ Much, however, was written before that time. Flavius Vegetius Renatus, for instance, wrote a compilation of Roman military theory, On Military Affairs (De Re Militari), between 383 and 392 A.D. The theory was out of date in Rome but a thousand years later became the military bible of the western world.

Charlemagne, ruler of the Holy Roman Empire, added to military doctrine by creating an effective staff system. "Another evidence of the efficacy of the system (Charlemagne) was uniform tactical doctrine."² He issued five imperial military ordinances during 803 to 813 which were a form of field-service regulations.

*Footnotes for Chapter IV begin on page 114.

One of the reasons the Byzantine empire lasted longer, even though under greater pressure than the western part of the Roman empire, was the flexibility of the military because of their constant analysis of their own military posture. The basic text was the Strategikon of Maurice written in 580. The next most important was the Tactica of Leo the Wise in 980. Their writings sound somewhat like current United States national policy since their attitude was essentially defensive.

They believed in deterrance. They believed an attacker should be harassed to incur minimum loss by the use of economic, political and psychological warfare. They tried to create dissension among their enemies, form alliances, pay subsidies, and have intelligence networks. Maurice advised attack when others were not ready. He thought Huns should be attacked in February and March when their horses lacked forage. The Slav marshdwellers should be attacked in midwinter when marshes were frozen and reeds dead so they could not hide. The Persians and Arabs should be attacked when it was cold and rainy because that depressed them. The Frank's heavy calvary should be attacked at night on their flanks and rear. If in daytime, fake flight but entrap them and cut off their supplies and the Frankish chiefs could be bribed. The Byzantine officers training was ". . .not much different in concept from a modern officer training program:. . ."3

After the chaos of the breakup of the Roman empire, many writers began to write military philosophy. Niccolo Machiavelli (1469-1527) wrote The Art of War. He believed the Old Roman legion should be revived and argued for a militia system under civilian control. Among the other best writers were Albrecht Durer (1471-1528) the famous artist who wrote Theory of Fortifications; Niccolo Tartaglia (1500-1537) who wrote Science of Gunnery and

Francois de la Noue (1531-1591) a French Huguenot who, while in prison, wrote Political and Military Discourses. It was during this time, "Soldiering, particularly for the officer was becoming a profession: systemized instruction increased in importance."⁴ These books were used as texts.

Since the universities did not include the military as a profession in their instruction, some efforts were begun to have separate schools for the military. Though a weak effort compared to later schools, "The first military academy of modern times was established in 1617 by John of Nassau."⁵ Nassau was in the province of Hesse in what is now West Germany.

The books that have had the most influence on modern war philosophy were written about Napoleon's ideas. Antoine Henri Jomini, born in 1779 in Switzerland, was a junior officer under Napoleon. He deserted to Russia in 1813 and served in Russia for fifty-six years where he wrote many volumes. When Napoleon saw his Treatise on Great Military Operations he is reported to have said Jomini had exposed all his secrets. The most complete book was his Summary of the Art of War. The other European writer who made a large contribution to military philosophy was Karl von Clausewitz. Born in Magdeburg, Prussia in 1780 he served as director of the Kriegssademie in Berlin from 1818 to 1830. His book On War is a classic.

Perhaps the two greatest American military theorists were father and son. Dennis Hart Mahan graduated from the Military Academy at West Point in 1824 and immediately became a professor at that school. His studies of Napoleon became the basis of a course of lectures on the art of war, the only formal instruction which American officers received in military theory. His book's long title, now unknown, was shortened to Outpost by his students. Alfred Thayer Mahan, his son, became the foremost American naval theorist

near the end of the nineteenth century with the publication of his book The Influence of Sea Power Upon History 1660-1783.

Not much military education occurred prior to the nineteenth century. Though most of the earlier effort had been in training citizen-soldiers how to use their weapons, schools were founded to teach the new profession. West Point Military Academy in America and the British Royal Military College at Sandhurst both started in 1802. The French St. Cyr in 1808 and the Prussian Kriegssademie in 1810 were similar institutions. Except in naval strategy and tactics where ships were being swiftly upgraded, a study of Napoleon's theories and tactics would suffice through the nineteenth century.

World War I, with its airplanes, tanks and improved artillery, created a need for a changed curricula. As war became much more complex, so did the educational and training needs of the military. This was expressed as early as 1924 when Elbridge Colby said, "None but a well trained officer should exercise command in modern war."⁶ He then described a grouping of army courses not significantly different from the present curricula for professional military education at Air University.

Colby argued that new officer candidates who had not attended the Military Academy should attend a three month officer training school. This would be followed by a basic course for lieutenants in Unit Schools which would be both practical and theoretical. There followed a Special Service School called Company Officers Course or Troop Officers Course for lieutenants and captains with some information about battalions, squadrons, regiments and staff officer duties. Each branch of the service would develop its Special Service Schools such as:

The Infantry School, at Fort Benning, Georgia
 The Cavalry School, at Fort Riley, Kansas
 The Field Artillery School, At Fort Sill, Oklahoma
 The Coast Artillery School, at Fort Monroe, Virginia
 The Engineer School, at Fort A. A. Humphreys, Virginia
 The Signal Corps School, at Camp Alfred Vail, New Jersey
 The Tank School, at Camp Meade, Maryland
 The Chemical Warfare School, Edgewood Arsenal, Maryland

Colby also described an Advanced Course to study battalions and brigades. These were required but there was also voluntary access for some officers to General Service Schools studying divisions and corps. Also, there were Command and Staff and Army War College for senior officers and various correspondence courses. They also trained the National Guard, Reserves, Reserve Officers Training Corp and conducted Citizens Military Training Camps with their Red, White and Blue courses.

Even though most of what they did may more properly be called training, Colby could have been right in saying, "This is education with a vengeance."⁷ They also studied subjects such as military history, diplomatic history, international law, educational psychology, research methods and logical thinking. He may have been right when he said, "No technical college or university in the country has a clearer program, a more homogenous personnel, or a more direct check on (sic) and incentive to its members."⁸

In World War I the Army educators labored under much difficulty. Almost twenty-five percent of soldiers had to be taught to read and write. They used the applicatory method. The applicatory method was described as placing them in real situations to make thinking necessary and then measure progress by objective standards. They used general principles: applied in specific examples; laws of association; oral and visual presentations; and explanation, demonstration, then application. Colby felt there was one unique problem in military education. "We labor under the difficulty that unlike other

professions, the student preparing for war cannot constantly see work being done of the kind he must do."⁹

The U. S. military depended heavily on correspondence courses after World War I. The great educational correspondence movement in the military, however, springs from courses offered by the University of Wisconsin under contract with the government. The surge of correspondence courses occurred in the total mobilization of World War II. "The Army Institute, the predecessor of the United States Armed Forces Institute was brought into being at Madison, Wisconsin, on April 1, 1942."¹⁰ In August of that year it was requested that other military branches be included and the war department agreed in September of 1942. Then on February 3, 1943 the Army Institute was officially renamed the United States Armed Forces Institute. The new name was necessary because all the services began using these courses.

Fees were kept at a minimum with only a two dollar charge for each course. At first only commissioned officers used the courses. When many enlisted personnel began to take the courses, after July, 1943, they payed one two-dollar fee, then the rest of the courses were free. Actually, the rest of the courses were paid for by funds from the Welfare of Enlisted Men organization. Officers had to pay.

Military personnel operated the United States Armed Forces Institute (USAFI) until February 1944 when civilians took over. The institute began to operate overseas as early as July, 1942 in Hawaii. By January, 1944 even American prisoners of war could take the courses with no fees charged. The overseas network became almost as comprehensive as the stateside. At first there were two kinds of courses offered, one at the high school and the other at college level.

The sixty-four courses offered by the institute were purchased from a large private correspondence school. USAFI also purchased 125 of the best courses available from leading universities. By late 1943 this was increased to 250 college courses. In May, 1942 tests were developed by the University of Chicago for USAFI. They included proficiency and educational level tests. In February, 1943 the American Council on Education recommended the use of the latter two types of tests.

USAFI discovered many important implications for the subsequent development of education. Their programs revealed widespread interest in adult education. They further discovered that service people wanted to continue their education, that adult education should be introduced where people work, that the more education people have the more they want, and that adult education increases tolerance in the recipients. In the years following World War II these findings were the foundation for the dramatic expansion of adult education in the United States. Though USAFI ceased in 1974, some of their courses were borrowed by Air University's Extension Course Institute and USAFI provided the rationale for ECI's start.

Who should provide the new Air Force doctrines? Brigadier General Oscar Westover, the Assistant Chief of Air Corps, said there were too many doctrines, so he asked authority to establish a Center of Tactical Research at the Air Corps Tactical School in March, 1933. The school had moved to Maxwell Field, Alabama in 1931. Air power doctrine at that time was greatly influenced by Giulio Douhet's book, The War of 19 (sic).¹¹ The Air Corps Tactical School, one of the senior service schools of the Army, was already formulating doctrine for air warfare. With the creation of Air University, the Tactical School became one of its departments and continued to do so. In fact

one of the first suggestions sent to Westover was a proposal that the United States Air Force be part of the war department under a chief of air staff. Here was one of the conceptual beginnings of a separate air force.

Some of the doctrinal highlights by the Air Corps Board and the Air Corps Tactical School were: in 1936 they argued against defending only the North American continent, they advocated instead that the mission was to paralyze the enemy's will and their ability to wage war, in 1937 Major Claire L. Chennault speaking at the school advised for pursuit aircraft instead of only bombardment aircraft, and in 1938 the school deemed war was to be waged against the enemy nation as well as military. In 1939 General Hap Arnold blamed the Air Corps Tactical School for doctrine proved untenable because, contrary to their opinion, it was found by the Germans in Poland that fighter craft could, in fact, if not in theory, shoot down bombers. He sought agreement from the school about the kind of pursuit aircraft needed. Partly because of the war's spread and perhaps from his unhappiness with their doctrine, General Arnold turned down a separate air force and the tactical school was temporarily suspended.¹²

In 1941 Brigadier General Muir S. Fairchild wanted doctrine developed at Maxwell Field again. General Spaatz, however, ruled that Air Force Combat Commands would develop their own doctrines. This was the virtual end of the Air Corps Board's role of developing doctrine. When the Air University was begun in 1946, Headquarters, Air Force directed it to develop basic doctrines and concepts which it then would test. Fairchild, the first commander of the Air University, wanted one of each type of organization assigned at the university to practice the doctrines and to test them.¹³ Spaatz ordered current doctrines be taught at Air University instead of developing strategy. Major

General David M. Schlatter, deputy commander of Air University, decided the university would monitor expert knowledge, set up a research division and start a publication called the Air University Quarterly Review. It was still in 1946 when Air University partially won the argument and was assigned the task of developing of Basic Doctrine of the Air Force. The Air University served as the doctrinal center under Generals Kenney, Edward and Kutter. It was even expressed in 1951 that Air University should be the brains of Headquarters United States Air Force.¹⁴

With the establishment of the new Air Research and Development Command, the Air Force relieved Air University of September 4, 1951 of its responsibility for initiating and reviewing studies and tests in the field of tactics and for testing tactical equipment and organization. Doctrine, but not tactics, eventually came within the purview of the university. Air University was busy writing Air Force Manual 1-2 through 1-11 on doctrine through December, 1954. Air University has thus contributed much in the area of doctrine and of tactics. The Air Force has vacillated, however, in a permanent home for this task. "During the course of its history the Air Force has never found a proper organizational location for a function which it requires in order to refine, test, evaluate, and promulgate air doctrine."¹⁵

The Air War College Evaluation Staff became the Concepts Division of Aerospace Studies Institute which is now discontinued. The University became not so much a doctrinal center but a research center which included research on doctrine. The advantages of such an approach are two-fold: doctrine is established at the highest levels of authority and academic freedom is necessary in research apart from the highest levels of authority. Air University students and faculty may not be heeded, but they need to feel free to criticize.

Air Force educational curricula is different from other professions. There have been many attempts to define a profession. Most include these core attributes: specialized body of knowledge acquired through advanced education, training, and experience; a mutually defined and self-sustained set of standards; and a sense of group identity and corporateness.¹⁶ The official Air Force definition of a professional is found in Air Force Regulation 53-8 and the main difference with other professions is few military professionals receive military knowledge before their career. From AFR 53-8, USAF Officer Professional Military Education System is defined:

The term "profession" implies a vocation or occupation characterized by special knowledge and skills applied for a dedicated to the improvement of society. In general, a profession requires ethical behavior, as well as long and intensive preparation through training and education. It requires high standards of conduct and achievement for its members and commits them to continued development. A distinctive characteristic of a profession is its dedication to public service above personal achievement. (paragraph 1-1)

In professions, medicine and law are most often emulated. Some have questioned whether the military is a true profession. Clearly, it has the latter two of the core attributes, a set of standards and corporateness. It also has a small body of specialized knowledge. It has, however, only a few of its members who receive this knowledge before entrance into the profession.

"Civilian professions strongly reflect characteristics of the core attributes, but they also engage in active measures to insure that each member of the profession does in fact adhere to the established professional standards."¹⁷ The Air Force has failed to establish a minimum standard of professional specialized knowledge, nor have they required their members to learn these minimum standards.

The question is whether military professionals should study military arts or socio-political-economic subjects and at what point in their career

should they study them. Since World War II there seems to have been a secular trend in the military. Roger W. Little has discussed several of these causes:¹⁸ a large percentage of the gross national product is spent by the military; that the increase in automation and technology have required civilian-like expertise; that a mission of deterrence instead of war requires a need for understanding of political, social and economic policies; that research, development and maintenance is more complex; and that the permanent threat of war makes a military career less attractive. There is a limit to "civilianization," however, since combat readiness is needed to deter war and some conventional forces are needed for limited operations. Some of the civilianizing changes in the military include: a narrowing of skill differences between civilians and the military occupations; a shift in recruitment, less than five percent are coming from military academies; and the military complex has become a vast managerial enterprise.

The Air Force leaves it to the individual to develop his or her own professional military expertise. Key phrases in the regulations are, "the officer should. . .the officer ought. . .it is the officer's duty. . ." The Air Force institutional responsibility is to ". . .create the opportunity. . .encourage each officer to. . .provide guidance and counseling. . ." The current Air Force Regulation 36-23 illustrates the point in paragraph 4-5

The Air Force will not spoon feed the officer. . . . The Air Force provides guidance and assistance in career planning, but the officer must take the initiative to achieve the knowledge, attitude and capabilities needed to move into progressively more challenging positions.

The Air Force does not seem to have a clear policy or position with respect to minimum standards of professional military knowledge and skills. It seems the Air Force officer, except the possible selection by a commander to attend one of the professional military education courses, is not required by any

Air Force regulation, policy or directive to participate in military education beyond training in their career specialty. No other profession gives to its members the privilege of deciding for themselves whether or not to participate in professional education. The promotion system almost requires it but it is feasible to go through a career without PME. In the course of professional educational assignments, I have met several Colonels who had never attended any professional course. Approximately fifty percent attend Squadron Officer School, eighteen percent Air Command and Staff College and very few are picked for Air War College. Correspondence and Seminar courses are available but not required. It is rare but possible even to become a faculty member at Air University without attending PME. Even though minimum policy standards for attendance are not clear, the systems objectives are succinctly stated.

The specific objectives which the Air Force PME system is supposed to achieve are listed in AFR 53-8.

- a. Develop, preserve and impart knowledge which is significant to aerospace power.
- b. Establish and maintain high standards of excellence in professional military education.
- c. Develop creative thinking and a systematic approach to the solution of military problems.
- d. Stimulate individual research.
- e. Emphasize lucid oral and written work and the preparation of comprehensive military studies and plans.
- f. Foster the dedication to national goals and national security, stimulate development of leadership attributes, and encourage self-improvement.
- g. Increase understanding of the nature of war, its causes, tactics, and strategies.
- h. Explain how military forces, particularly aerospace forces, are developed, sustained and employed in both peace and war.

- i. Increase understanding of the political, economic, technological and psychosocial factors which influence national security and international relations.
- j. Increase knowledge of the doctrine, strategies, tactics, organizations, capabilities and limitations of the armed forces of US, allied, and potential enemy nations.
- k. Describe the organization, operation, and use of national and international security organizations, (paragraph 2-3).

Most professions require at least four years of education. The military provides only about ninety weeks, the equivalent of about six semesters of college. "The total professional military education program available to Air Force officers is small compared with that of other learned professions."¹⁹ Many do not attend all of this available education. Most professions require preprofessional education but the military requires continuing education. The military does not have educational continuity because there are gaps between their professional educational experiences. Not all Air Force officers even receive undergraduate military education. Professional military education is designed to educate the best qualified but some highly qualified do not attend because they feel it will hinder their career. The Air Force thinks it is good to have gaps and use military education to find the best officers over the whole length of their careers. It is precisely this aspect that the Air Force seems to regard as one of the most desirable features of the system. Dr. Kenneth Groves elaborated on this point when he states: "The PME system, which permits an officer to take postgraduate education at intervals throughout his career, has a decided advantage over postgraduate programs of other professions. The latter require the student to take most professional education before beginning a career. By contrast, the PME system provides simultaneously for continuing education and professional military education."²⁰

The several services take a slightly different approach about attending PME. The Air Force is the only one to create a university, but their professional military education curriculum is similar. The Army must attend all three to get stars while the Navy officer typically attends only one. The Marine and Air Force are similar to each other. The progression of military education in the various services is as follows:

Army	Branch Advanced Course	Army Command and General Staff College	Army War College
Navy	No comparable course	Naval School of Command and Staff	College of Naval Warfare
Air Force	Squadron Officer School	Air Command and Staff College	Air War College
Marine Corps	Amphibious Warfare Course	Marine Command and Staff College	Other services level

A few select United States Air Force officers attend professional military programs in other nations. Usually the allied schools selected for these officers include the English Imperial Defence College, French Ecole Superieure de Guerre, Inter-American Defense College in Washington, D.C. and NATO Defense College in Rome.

A comparison of our military education with the Russian was made by Andrew W. Smoak in 1980.²¹ The comparisons he analyzed are given here for instructive comparison. The Russian system of professional military education was copied from the Prussian system of Ger von Scharnhorst which was developed by Helmuth von Moltke, Alfred von Schlieffen, and Hans von Seeckt. The ultimate training was accomplished through the general staff which had three major functions, war planning, coordination between commander and troops and operational readiness. The Germans used war games which taught them to act as the situation changed.

The Russian system requires competitive exams to get into one of the one hundred and forty military schools. Each of these schools is a specialty school and requires three to five years to complete. There has already been some paramilitary training in the previous ten year school of general education. Then, after specialty school is finished there is immediate unit assignment, not specialty training as American cadets have to undertake. Eighty-five percent of Russia's officers are graduates of specialty schools while only nineteen percent are graduates in the American army. After five to seven years, nearly about ten percent are selected to attend one of the seventeen staff academies which require another two to four years. The candidates study from two to three thousand hours for the competitive exams used for selection to these staff academies. They use war gaming in the field in situations as real as possible. The best students get an extra year and are awarded an equivalent to a master's degree in military affairs. The students get promotions guaranteed by law and become future teachers and strategists. These are the two main differences from American military education. A few of the other students attend a general staff academy similar to the American Air War College. They

are selected competitively, but sponsorship helps, and they are guaranteed general rank.

The curriculum as well as the structure of the organization and philosophy of Air University were established prior to its opening. The reason for establishing Air University in the first place was that the Army had many uncoordinated schools possessing duplications, conflicts, and blank spots in the overall education program. The first school at Air University to be ready to function was the Air Command and Staff School with the Air War College soon following. By the second report of the board of visitors in 1947, six schools were functioning. They were the Air War College, Air Command and Staff School, both at Maxwell Field in Montgomery, Alabama; Air Tactical School at Tyndall Field in Florida; Special Staff School at Craig Field in Selma, Alabama; School of Aviation Medicine at Randolph Field, Texas; and Army Air Force Institute of Technology at Wright Field, Ohio. The Communication Course of Special Staff School was at Gunter Field in Montgomery, Alabama and the School of Aviation Medicine also moved temporarily to Gunter Field during the first part of the Korean War in 1950. Air Training Command had already wanted their facilities at Randolph and had not given them much support even before the Korean War. Air University never managed to get these scattered schools in one location.

Many other problems plagued early efforts, including the fact that lack of facilities prevented the training of all officers, except in Air Tactical School. The planned student load for the first year was ATS—3,000, ACSS—1,000 per class, AWC—300 per class and SSS—1,200. It turned out to be 435, 350, 56 and 103 respectively. Another problem was that postwar budget cuts required less civilian personnel and most of the instructors in School of Aviation

Medicine and Air Force Institute of Technology were civilians who were hard to keep.

It was reported by Major General Muir S. Fairchild, first Commander of Air University, to the first Board of Visitors that the major goals of the curriculum were to provide tools, to teach techniques, and to indoctrinate standardized methods.²² They also were to create doctrine and keep doctrine up to date. They were to teach narrow specializations and grand or broad strategic ideas. The narrow emphasis at Army Air Force Institute (now AFIT) was confined to technical and logistic fields and the School of Aviation Medicine and Special Staff School also had narrow emphases. The broad perspectives would be taught in the Command and General Staff School (now ACSC) and Air War College. The instruction was to be future oriented with a continual study of technical developments for Air Force applications. There was to be a complete turnover of military faculty every three years.

The organization of Air University was similar to a standard university except for the military aspects of the administration. There was a commanding general who resembled a college president. There was a deputy commanding general for administration who controlled the base's facilities and house-keeping and a deputy commanding general for education. The air inspector and public relations officers were also under the Air University Commander. There was a secretray who ran the library and recorded meetings and kept records. The academic staff was divided into an academic section, a plans section, and a research section. There was a unit to monitor curricula, a liaison unit to monitor Air Force instructors in non-Air Force schools, and an education services division comprising the civilian faculty.

During the first years (1946-1955) the curricula were designed to train officers just out of flying school who did not have much formal education. Almost all the officers took one year of flying training in the Air Training command then within a few years went to Air University for what the University called postgraduate education. All Air Force officers were to attend Air Tactical School which was designed to train squadron commanders and staff officers for larger organizations. The main core of the curricula was communication skill and leadership exercises. There were not enough instructors at first but that was one of the problems the first commandant, Colonel Legg, had to overcome. Several years later in their career, about sixty percent of the officers would attend Air Command and Staff School. Brigadier General Earl W. Barnes, who was the first commandant of ACSS, reported to the first Board of Visitors there were plenty of instructors available to begin the first class of ACSS. They were to learn how to command wings and groups and do staff work. The key object of their curriculum was to develop the ability to think. The Air Command and Staff School was divided into divisions including: logistics, organization, and new air, ground and naval developments.

The Special Staff School located at both Gunter Field in Montgomery and Craig Field in Selma was just getting organized under its first commandant, Colonel Wright. Also, the School of Aviation Medicine, located at Randolph Field under the command of a Colonel Armstrong, reported difficulty keeping officers for instructors. About one of four graduates of Air Command and Staff School would be chosen to attend the Air War College whose main purpose was planning and research on tactics and doctrine. They were to learn higher command and staff duties with their first commandant, Major General Orvil A. Anderson. For further education the Air War College graduates could go to

National War College, and the Air Command and Staff School Graduates to Armed Forces Staff College. These were joint military schools which considered all aspects of the military. The Army Air Force Officer Education Program at Civilian Institutions was not assigned to Air University until the second year.²³

The Educational Services Division, under its first director, Dr. Kenneth R. Williams, was to establish educational policy for Air University. It was staffed with civilian experts in instructional materials, instructional methods, instructional training, also test and evaluation. The first two were the curriculum group, and the latter two were the research group. There was one civilian assigned to Air Tactical School and one at Special Services School because they are located at separate bases. One of the things they did was to prepare a suggested preferred reading list. Perhaps the most significant thing this group did was establish an in-service education program for college teachers and this four week Instructor Training Course became a requirement for every Air University instructor. With most of the instructors military officers possessing limited training and experience, the course was necessary. The subjects covered in the Instructor Training Course included: organization and presentation of material, effective lecturing and seminar leadership, evaluation, instructional methods and practice teaching. The overall group was also assigned to prepare a manual on leadership which was issued as AFM 35-15 in 1948. There was also to be a research division to review, revise, and prepare publications on Army Air Force doctrine, do staff studies, review and evaluate tactics and start a publication to be called Air University Quarterly Review. These researchers were to be expeditors going anywhere to get any help needed when given a problem. No enough time for research was an early problem.²⁴

Air War College faculty members were required to complete the AWC course before they were selected. The classes were lectures, then open forums with many of the lecturers being guests from outside the university. It was felt that the student benefited from the lecturer's research and it saved student research time. The problems of this approach quickly became apparent: too broad a coverage of subject because of time factor, repetition of lecturers not knowing what others had said, and how to expand the student's inquisitiveness which takes time. The subjects were approached in three phases: an academic phase on how to approach and solve problems, an evaluation phase of World War II problems, and a future phase to see what needs to be done.

The Air Command and Staff School instructed in all phases or departments of Air Force organization including personnel, administration, intelligence, operations, and logistics with an interest in new developments. The course consisted largely of guest lecturers whose lectures embraced 715 hours, sometimes seven hours per day. Some of the instruction was highly specialized with twenty-six hours on the organization of the Air Force and fifteen on personnel policies and programs. There was some agitation, without success to limit instruction to twenty hours per week in the mornings allowing afternoons to be spent in seminars, in problem solving or tutorial time. There were also demonstrations performed at Fort Benning (one day), Eglin Field (one day) and on an aircraft carrier (one day).

The Commandant of the Air Tactical School, Brigadier General Joseph Smith stated, ". . .every endeavor. . .to weed out. . .the narrow facts. . .in favor of broader principles. . ." ²⁵ was being used at his school. There was a common course of study, but to discourage routine a Syndicate Division was set up which taught parliamentary law, required students to deliver short speeches, and

sought solutions to problems through discussion in small groups of ten students. To help the instructors, they were all sent through the Instructor Training Course. The civilian educational advisor staff members were also present to help revise tests, make training aids and evaluate student appraisals of teachers.

The types of courses offered at the Army Air Force Special Services School included a four week Military Management Course for senior officers, a ten week Air Inspection Course, and a twelve week Air Intelligence Staff Officers Course. Other courses offered were a Public Relations Officers Course of twelve weeks, an eighteen weeks Air Communications Officers Course, an eleven day orientation for Royal Canadian Air Force officers and a one month G2/G3/Infantry orientation on the use of airpower. The techniques used in these courses included lectures, conferences, seminars of ten or so students, demonstrations and problem solving exercises.

The Army Air Force School of Aviation Medicine was under Air University for administrative purposes but for technical control was under the Air Surgeon in Washington, D.C. It was divided into two divisions. The education division taught an Aviation Medicinal Examiners Course which lasted three months and had one hundred students. The research division conducted six courses: Senior Flight Surgeons Course, Air Evacuation Nurses Course, Air Evacuation Technicians Course, Aviation Psychology, Aviation Physiology, and a course for basic medical soldiers. Each class had about twenty students except the last which averaged two hundred and forty.

The commandant of the Army Air Force Institute of Technology was Brigadier General Edgar P. Sorenson. He argued that the need for the institute was twofold: to train personnel in maintaining the new and complicated

equipment coming into the inventory, and to advance officers far enough into science to be able to talk to scientists, to understand them, and to select their developments for military application.²⁶ Officers at the time typically had one or two years of college so the need for technical and scientific training was critical. Four hundred officers had less than a high school diploma, five thousand had high school only, two thousand had one year of college, four thousand had two years, and three thousand had three years of college. There were sixty-five hundred college graduates and only two or three hundred with graduate work. The faculty originally planned a broad curricula but started with only two areas of concern. They established a College of Engineering Sciences and a College of Industrial and Engineering Administration which were a two year and one year course respectively. The school did not have a building of its own and only one hundred eighty students in 1947. The faculty were half officers and half civilians below the department heads. Dr. Ezra Kitcher was director and Dr. Charles Thomas was Chief of the Historical Research Section. Air University gave guidance but did not assume control of this institute until 1950.

Air University also gave guidance and curricular help to the Air Force Reserve Officers Training Corp and assumed command of that organization in 1952. The ROTC curriculum had been of a general nature suitable to all services but each service took some control over its own. The AFROTC curriculum looked like this in 1956.

<u>Freshman Year</u>		<u>Sophomore Year</u>	
<u>Courses</u>	<u>Clock Hours</u>	<u>Courses</u>	<u>Clock Hours</u>
Orientation	4	Air Force Careers	6
Aviation	16	Moral & Spiritual Foundations for Leadership	1
Global Geography	10	Aerial Warfare	54
International Tensions & Security Organizations	15	Military Fundamentals & Leadership	30
Military Instruments of National Security	15		
Military Fundamentals & Leadership	30		
Plus college courses, about	600	Plus college courses, about	600
TOTAL, about	690	TOTAL, about	690

<u>Junior Year</u>		<u>Senior Year</u>	
<u>Courses</u>	<u>Clock Hours</u>	<u>Courses</u>	<u>Clock Hours</u>
Orientation	7	Air Force Careers	4
The Air Force Commander and His Staff	8	Moral Responsibilities of Air Force Leaders	1
AF Base Functions	5	Leadership & Management	40
Creative Problem Solving	20	Military Aviation and Evaluation of Warfare	15
Communication and Instructing	35	World Political Geography	45
Military Justice	15	Orientation	15
Weather and Navigation	30	Military Fundamentals and Leadership	30
Military Fundamentals and Leadership	30		
Plus college courses, about	600	Plus college courses, about	600
TOTAL, about	750	TOTAL, about	750

In the mid 1950's at Air University lectures by distinguished guests, discussion groups, problem solving exercises individually and in groups, and research were used.²⁷ Not much difference in the structural organization could be observed at Air University from earlier practices except the curriculum was more oriented toward peacetime subjects. The Rawlings Board meeting October 18-19, 1965 listed the structural organization of the curriculum as follows:

The professional curriculum includes specialist education and general education. The aim of specialist education is to increase an officer's competence in a specialized field. The aim of general education is to synthesize and interrelate professional knowledge and to increase the officer's understanding of all USAF functions and their relationship to operational capabilities.

The extent of each Air Force officer's professional education in residence at service and civilian schools is determined by the requirements of the service. Professional education of an officer is primarily for the benefit of the service, not the individual. Since resources restrict education in resident schools to only a portion of the total officer corps, the Air Force will profit most by selecting the best qualified officers to attend resident courses.

STRUCTURAL ORGANIZATION OF USAF OFFICER PROFESSIONAL EDUCATION

1. In Headquarters USAF the Director of Personnel Procurement and training under the Deputy Chief of Staff-Personnel has primary staff responsibility for the professional education of Air Force officers.

2. Toward the end of World War II the Air Force, while still part of the Army and in anticipation of autonomy, made certain fundamental decisions concerning the future development of its officer corps:

a. To decentralize responsibility for training and education to the field.

b. In the field, to separate whenever possible responsibility for skill training and for professional education.

c. To center responsibility for skill training in the then existing Air Training Command and responsibility for professional education in a newly created major command, later named Air University.

d. To establish within Air University for the general-duty officer three levels of professional education to be attended after roughly five, ten, and fifteen years of commissioned experience, respectively.

e. Admission to these three schools to be on increasingly rigorous selection.

f. In addition to the three general duty schools, to include within Air University certain other schools, either then in existence or to be established, that would provide professional education in specialized areas.

3. Today Air University is composed of the following colleges, schools, courses, and agencies:

- a. The Air War College, including the Evaluation Staff.
- b. The Air Command and Staff College, comprising:
 - (1) The Squadron Officer School
 - (2) The Command and Staff School
 - (3) The Academic Instructor Course
 - (4) Special Weapons Course
- c. The School of Aviation Medicine.
- d. The Air Force Institute of Technology, including resident undergraduate, graduate, and special courses and the Civilian Institutions Program.
- e. The Air Force ROTC.
- f. The 3894th School Group, with responsibility for the administration of Air Force officers who are students or faculty members of non-Air Force schools.
- g. The Extension Course Institute, offering correspondence courses that parallel insofar as possible certain Air University and Air Training Command courses.
- h. The Fairchild Library, the professional library of Air University.

4. The following USAF schools and programs concerned with the professional education of officers are outside the jurisdiction of Air University:

- a. The Air Force Academy
- b. The Officer Candidate School
- c. The Military School for Aviation Cadets
- d. Military schools for officers who receive direct commissions.
- e. Education Services Program

The following chart, prepared by the Rawlings Board, illustrates the professional education of Air Force officers.

PROFESSIONAL EDUCATION FOR AIR FORCE OFFICERS

SERVICE
ACADEMIES

AF RESERVE OFFICER
TRAINING CORPS

OFFICER CANDIDATE
SCHOOL

AVIATION CADET
PROGRAM

DIRECT COMMISSION

SQUADRON OFFICER
SCHOOL

Special Staff
Courses

AF Institute of
Technology
Resident
Civilian Insti-
tutions

COMMAND & STAFF
SCHOOL

Special Staff
Courses

Non AF Schools

Armed Forces Staff
College

AF Institute of
Technology
Resident
Civilian In-
stitutions

AIR WAR
COLLEGE

Non AF
Schools

NATIONAL
COLLEGE

Industrial College of
The Armed Forces

Extension Course Institute Correspondence Courses
United States Air Force Bootstrap Program
Flying and Technical Training (Including
Extension Courses)

Through the mid 1950's there was little leadership from most of the faculty in regard to curriculum.²⁸ Most of the curriculum had been borrowed from previous military schools both here and in Europe. During 1959, in a move toward consolidation, President Eisenhower considered identical curricula for all war colleges.

The amount of military subjects increased in the 1960's and the amount of military and international curricula were enlarged even more in the 1970's. The civilian advisory boards had always advised the broader curricula. There were other influences to broaden the curriculum, with perhaps the enviable promotion records of National War College graduates doing the most to encourage Air War College to copy its curriculum. Then the problem on curriculum creep took over and Air Command and Staff College as well as Squadron Officer School began to teach some of the same subjects. Also, the officers were trying to get masters degrees at local colleges while attending Air University so there was pressure to teach subjects that were transferrable. Many of the teachers also were former students who stayed to do a teaching tour and to get their degrees. Potential service in the Pentagon made for a concern for international policies and the social and international problems of the 1960's and 1970's effected the addition of political and social subjects. Top leadership was transient at Air University since there had been thirteen commanders in the first twenty years. It is doubtful if change came from the top under those conditions. The greater civilian subject-matter created some problems with a mostly military faculty not competent to teach them. Also, about twenty-five percent of the Faculty did not have masters degrees in a typical year. There were occasions when some of the students had higher educational credentials than the teachers with some Doctor of Philosophy students in the class.²⁹

The Air War College curriculum enlarged to 1,600 hours from 931 but most of the extra time was for independent study. Air Command and Staff College also increased to 1,600 hours from 839 with the added time being for electives, athletics, and independent study. A research requirement was also instituted. In the 1980's communications were greatly increased with athletics decreased proportionately. Research study time was cut and a program tailored to the individual's needs provided. Squadron Officers School, in the 1970's, doubled its leadership hours and added independent study and research time without reducing the rest of the curriculum. In the 1980's the whole time in SOS was reduced to the level of the 1960's, cutting not only research time but also the core curricula of leadership, communications and military employment. What had been 337 total hours in the core curriculum in 1965, became 560 in 1973 and dropped back to 314 in 1982.

The Senior Non-Commissioned Officer Academy was added in 1973 with a curriculum copied from the officer's PME. The academy is the top rung of the five-tiered professional military education system for non-commissioned officers. Senior Airmen take an orientation course which introduces them to the obligations, responsibility and duties of the non-commissioned officer. After the fourth year of a six year enlistment or after re-enlistment for a second four year term, they are given Phase II which is a supervisory course where they learn the rudimentary information needed to supervise. Phase III is called leadership school and is at least one year later. Phase IV is an NCO Academy and then there is the Senior NCO Academy of Air University. Phases III through V are affiliated with the Community College of the Air Force and as such are accredited through the Commission on Colleges of the Southern Association of Colleges and Schools. The Leadership and Management Develop-

ment Center of Air University designs the courses of the lower phases and trains and certifies the teachers. Since there are five phases it was natural for the university to copy Blooms Taxonomy of Educational Objectives making each phase climb the ladder to the cognitive and affective domains. Each succeeding domain becomes the object of the next phase but in practice there is mostly use of the first three phases of Bloom's objectives. There is little use of analysis, synthesis and evaluation and almost none of the affective domain. It would seem advisable to use all of Bloom's taxonomy as designed.

A synopsis of the five domains and thus in succession the educational objectives of the five non-commissioned officer's courses includes the following.

1. Knowledge. Knowledge is defined as remembering previously learned material. This may involve the recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of the appropriate information. Knowledge represents the lowest level of learning outcomes in the cognitive domain.

2. Comprehension. Comprehension is defined as the ability to grasp the meaning of material. This may be shown by translating material from one form to another (words to numbers), and by estimating future trends (predicting consequences or effects). These learning outcomes go one step beyond the simple remembering of material, and represent the lowest level of understanding.

3. Application. Application refers to the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws, and theories. Learning outcomes in this area require a higher level of understanding than those under comprehension.

4. Analysis. Analysis refers to the ability to break down material into its component parts so that its organizational structure may be understood. This may include the identification of the parts, analysis of the relationships between parts, and recognition of the organizational principles involved. Learning outcomes here represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the structural form of the material.

5. Synthesis. Synthesis refers to the ability to put parts together to form a new whole. This may involve the production of form a new whole. This may involve the production of a unique communication (theme or speech), a plan of operations (research proposal), or a set of abstract relations (scheme for classifying information). Learning outcomes in this area stress creative behaviors, with major emphasis on the formulation of new patterns or structures.

The specialty course curricular modifications vary with each course. These changes will be discussed briefly. The Allied Officer Course had been a familiarization course with a heavy English communication emphasis in the 1960's, but by the 1970's it began to reflect the better educational qualifications of the foreign officers. There was still the familiarization course but some went directly to a modified Air Command and Staff College Course. By the 1980's some foreign officers were going directly to other schools without the complete familiarization. Some of them were even being trained as teachers and medical officers.

The Academic Instructor Course had been a necessary innovation at the beginning because military officers selected for teaching assignments had to be taught how to teach. The biggest gain in curriculum time for AIC over

the years had been in Educational Foundations, called professional background in 1964, from nineteen to forty hours. The study of methodology made a modest gain but everything else remained the same except for minor fluctuations.

Over the years many special courses have been offered to fit the different training needs of certain staff agencies. This program was first named Special Service School but later its name was changed to Warfare Systems School, then Institute for Professional Development, and finally Leadership and Management Development Center. Many courses were changed with the time and need of the Air Force.

The Air Force Reserve Officers Training Corp curriculum evolved from very few hours of military study into a comprehensive course by 1972 with little change since that time. The curriculum leans heavily on military history.

The Air Force Institute of Technology curriculum has grown very much with the Civilian Institutions Program and Professional Continuing Education being the biggest additions. CIP and PCE oversee officers and civilians who are sent to civilian universities and industry for further education and training. Also, there are those who are brought to AFIT or elsewhere for short courses in continuing education updating profession expertise.

Another aspect of the curriculum is the use of a great amount of evaluation. There is probably the most intense effort of any university to evaluate itself, its faculty, its students and its curriculum in an on-going program that consumes much time. They have found in Squadron Officer School, for instance, that women, the better athletes, pilots and students without spouses nearby outperform others. Pretest was the most reliable predictor of success, however, over athletic ability, sex, age, marital status, or aeronautical job ratings.³⁰

The use of technology at Air University is widespread. Harold Brown in his report on the 1982 budget reported on the need for technology to be used for training. He stated, "We are placing increasing emphasis on: adapting innovative technologies such as voice, videodisc, and electronic games to military needs; developing and demonstrating improved on-the-job training techniques; embedding training capabilities in actual equipment. . ."31 Air University has been a leader in educational technology because of unique needs. Conditions of warfare are difficult to generate technically in a real environment and are not economically feasible. It is difficult to track events, process data and get feedback in the operational environment so computer simulations are economical and helpful. Ancient Sumerians used miniature soldiers lined up in phalanx formations for strategic planning but it took the Prussians in the nineteenth century to raise military games to a science. A military game was conceived by Heir von Reisswitz. His first lieutenant son made some changes turning it into a series of games played on military terrain maps and the game Kriegspiel evolved from it. The Germans used Kriegspiel through World War II. Air Command and Staff College relies heavily on computer support for its major educational exercises. These programs have such names as Cridex, Fast Stick, Big Stick, Theater Warfare Exercise, Dromedary and Pentac, which is now outdated. The newer CRES is expandable and simulates multiservice interactive schemes.

The biggest area of curricular growth has been in Extension Course Institute. In the military, before the Civil War, specialties were few with less than one hundred thousand of over two million union soldiers in support type functions. Infantry and artillerymen required very little training and civilian employees and contractors did most of the support tasks. The Navy tradi

tionally had more need for skills but the Army's turning point for more kinds of skills was World War I. By World War II there were 532 military occupational specialties (MOS) in the Army, 369 in the Marines, and the Navy's increased from 36 to 174 from beginning to the end of the second world war.³² During World War II 4.4 million Army personnel completed specialist courses at 184 facilities and at over 500 civilian institutions and the numbers for the Navy and Marines were 1.2 million and 200,000 respectively. The total courses taken were 5.8 million but some took more than one course. Following the war the military stayed large for the first time so the task of training specialties was enormous. The enormity of the problem is magnified by the fact that 13.4 percent of all enlisted positions in the military do not have a civilian counterpart and thirty-eight percent have few counterparts. Twenty-nine percent of the others match less than ten percent of the civilian workforce. The skill cannot be recruited but the AF has to train it. These Career Development Courses, (CDC) as they are called, require great efforts.

In 1960 leadership became a curricular watchword. At the time a booklet called the ABCD's of Leadership was required reading and the movie Twelve O'Clock High was viewed and discussed thoroughly. Changing management theory has been incorporated into the curriculum except systems theory had not yet been incorporated as late as 1981. Herbert D. Wright,³³ reviewed the major concepts presented on leadership by Air Command and Staff College from 1957 to 1981. Also, see attachments 1 and 2 for curriculum models for ACSC developed by Harvard L. Lomax.³⁴

Any bureaucracy has a habit of stifling leadership. Air University may emphasize leadership too much and not management. Air Command and Staff College asserts you manage things, but you lead people. It would be more

accurate to suggest you manage systems, but you lead when systems fail. A person acts as a manager when he insures the system functions in accordance to its design. From this perspective, the manager is concerned with compliance not change. Leaders tend to emerge when systems fail, with examples such as Martin Luther King when the system failed to recognize rights of blacks and Franklin Delano Roosevelt when the economic system collapsed. Organizational theory should be stressed at Air University instead of leadership theory. While it is worthwhile to teach leadership theory, it is more important to examine the specific organizational environment. The Air Force organizational design is mission effective so it would be better to teach system management and explain when and where leadership can occur.

Before World War II the military studied leader traits. After the war the human behavior school of management concepts was taught. Air University still uses those concepts. The human behavior style advocates different leadership styles for different situations with the situation often determining the style. Called contingency leadership by Fiedler,³⁵ it is summarized by Tannebaum and Schmidt.³⁶ The Air University regards the life cycle theory of leadership by Hersey and Blanchard as a very comprehensive yet simple statement of the body of knowledge addressing leadership thought.

The following Appendix IV gives the practice and format of leadership training at Air University. This appendix as gleaned from research done by students of the university and reflect the university's curriculum models.³⁷

FOOTNOTES FOR CHAPTER IV

¹Elliott A. Krause, The Sociology of Occupations (Boston: Little, Brown and Company, 1971), p. 199.

²R. Earnest Dupuy and Trevor N. Dupuy, The Encyclopedia of Military History: from 3500 B.C. to the Present (New York: Harper and Row Publishers, 1970), p. 209.

³Ibid., p. 221.

⁴Ibid., p. 528.

⁵Ibid.

⁶Elbridge Colby, The Profession of Arms (New York: D. Appleton and Company, 1924), p. 58.

⁷Ibid., p. 60.

⁸Ibid., p. 68.

⁹Ibid., p. 70.

¹⁰Cyril O. Houle et. al., The Armed Services and Adult Education (Washington, D.C.: American Council on Education, 1950), p. 83.

¹¹Robert Frank Futrell, Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force 1907 - 1964 (Maxwell AFB, AL: Air University, 1971), p. 35.

¹²Ibid., pp. 52-58.

¹³Ibid., p. 106.

¹⁴Ibid., p. 194.

¹⁵Ibid., p. 444.

¹⁶Roger W. Little, ed., Handbook of Military Institutions (Beverly Hills, CA: Sage Publications, 1971), p. 211.

¹⁷Henry L. Lavender, "A Case for Expanding the USAF Officer Professional Military Educational System Through Correspondence Instruction," (Maxwell AFB, AL: Air University, 1977), p. 21.

¹⁸Little, Handbook, pp. 19-20.

¹⁹ Kenneth J. Groves, "Air University and the Professional Education System," *Air University Review*, vol. XXVI (July-August, 1975), p. 19.

²⁰ *Ibid.*, p. 17.

²¹ Andrew W. Smoak, "Professional Military Education and Leadership," (Maxwell AFB, AL: Air University, 1980), pp. 1-13.

²² Author unknown, First Report of Board of Visitors (Maxwell AFB, AL: Air University, 1946), pp. 9-12.

²³ Author unknown, Second Report of Board of Visitors (Maxwell AFB, AL: Air University, 1947), p. 23.

²⁴ *Ibid.*, p. 31.

²⁵ *Ibid.*, p. 65.

²⁶ *Ibid.*, p. 83.

²⁷ Lawrence I. Radway, Recent Trends at American War Colleges, (Dartmouth College, 1970), p. 2.

²⁸ *Ibid.*

²⁹ *Ibid.*, p. 14.

³⁰ Robert S. Todd, "An Analysis of Evaluation Changes at Squadron Officers School, 1973-1980," (Maxwell AFB, AL: Air University, 1981), p. 1.

³¹ Harold Brown, "Report of Secretary of Defense to the Congress on the Fiscal Year 1982 Budget, F.Y. 1983 Authorizations Request and F.Y. 1982-1986 Defense Programs" (Washington, D.C.: Government Printing Office, 1981), paragraph 7.

³² Harold Wool, The Military Specialist: Skilled Manpower for the Armed Forces (Baltimore, Maryland: The Johns Hopkins Press, 1968), p. 10.

³³ Herbert D. Wright, "Trends in Leadership and Management Theory in the Air Command and Staff College," (Maxwell AFB, AL: Air University, 1981), p. 1.

³³ Harvard L. Lomax, "If Leadership is an Air Force Problem, Perhaps the Fault is in the System," (Maxwell AFB, AL: Air University, 1981), p. 6.

³⁵ Fred E. Fielder, A Theory of Leadership Effectiveness (New York: McGraw-Hill Book Co., 1967), p. 8.

³⁶ Robert Tannenbaum and Warren H. Schmidt, "How to Choose a Leadership Pattern," in Readings in Management, 4th ed., ed. by Max D. Richards and William A. Nielander (Cincinnati, Ohio: South-Western Publishing Co., 1974), pp. 464-475.

³⁷ Smoak, Leadership, pp. 19-33.

CHAPTER V*

THE ADVISORY BOARDS AND BOARDS OF VISTORS

Air University has probably solicited and recieved more advice than any other institution in the United States. Perhaps the most significant and closely followed sets of advice have come from the Boards of Visitors who meet regularly at Air University. Boards of Visitors were first distinguished educators then later industrial leaders also were added to the list. There have also been boards appointed occasionally to examine and report on the University's prospects and activities. They were also to advise authorities on directions to take in their educational endeavors. Their reports are popularly named after the Generals who were chairmen. The Gerow Board met in 1945 before Air University began; the Fairchild Board met in 1950; Rawlings Board in 1956; Power Board in 1959; and many others which will be discussed. Many of the civilian faculty also served in mostly an advisory capacity.

The usual format of the Board of Visitors meetings was to hear reports from the Commander of Air University and selected department heads. Then the boards were presented problems and having deliberated on them, presented their recommendations. Later boards established committees to examine problems ahead of the meeting. The reports universally start out praising the good work of the university, then point out problems and finally give recommendations. Other chapters explore the work of the University. This chapter

*Footnotes for Chapter V begin on page 155.

will present the recommendations of the Visitors Boards and the educational advisory conferences.

The first nine Boards of Visitors through 1953 made many good recommendations, most of which were implemented. The first meeting of the board of visitors occurred on July 15, 1946. It was informational in nature because only Air Command and Staff School was ready to function. The first meeting was called by General Spaatz with Major General Muir S. Fairchild making the introductory address. Fairchild's desire was that ". . . we would be enabled to build up here in the Air University a forward looking military educational institution comparable in some respects at least, with the outstanding civilian educational institutions of this country."¹ He thought the Board of Visitors should make suggestions on procedures, point out mistakes, and recommend a course to take. He wanted them not only to report progress but recommend changes in policy and even changes in personnel. He gave a little history of Army education pointing out that there were lots of uncoordinated Army schools. This created duplications, conflicts and blank spots in curricula, so he envisioned, "The role of the Air University, therefore, is to supervise, to coordinate, to study the overall educational program, and to recommend to the Headquarters, Army Air Forces, changes in educational policy which cannot be taken care of within the Air University structure itself."²

The new University was to have two major purposes: provide techniques of the military trade and indoctrinate with standard methods of war, then also guidance of thought, as well as the creation and maintenance of doctrine for future conflicts. He did not think civilians would or could do this job because the military was the only group that could do constructive thinking about war. He thought the curriculum should reflect a balance between

standardization and freedom of thought. The specialized school that would provide the narrow, standardized, technical training was the Tactical School now called Squadron Officer School. The Curriculum then broadens to cover geographic, political and grand strategic aspects in Air Command and Staff School. The freedom of thought would reach its full practice in the evaluation, review and research efforts in the Air War College. Students had already received basic education so that would not be a concern of Air University. Fairchild was against putting Army Air Force Institute of Technology under Air University. He also wanted to rotate the military staff back to their commands every three years.

The Board's response to Fairchild immediately picked upon that as problem number one. They thought the rotation of the staff did provide freshness of personnel and recency of contact with military developments, but educational officers were not staying long enough to master problems so they could make fundamental improvements. They felt that ". . .instruction (will) tend to become routine, (it will be) proficient in informing students . . .(so they will have) the capacity to repeat knowledge rather than use it creatively in the solution of difficult military problems."³

The Board further feared a lack of continuity, experience, and proved ability among military officers would place them at a disadvantage with civilian members of the faculty. They recommended giving those selected to the teaching staff higher status with opportunity for career and educational advancement. The military faculty should be given chances to keep in touch by giving them a year of active service between teaching tours, frequent opportunities to go into the field on summer recesses, or summer recesses spent at civilian institutes. They saw no reason with this program why the military instructors should not have longer tours at Air University.

The second problem discussed in the letter was how to keep the ablest civilian faculty. The Board suggested Air University should provide the same amenities as the faculty were leaving at their previous assignments. The university should also provide the type of amenities as the officers are provided and the civilian faculty should be given opportunities to grow by visiting other universities, educational conferences, and joining educational associations. They also should be given chances to visit military units in the field. Due to references in the reports of the words indoctrination, standardization, and guidance of thought, the board of visitors foresaw another problem. They stated a university needs to develop on every level a capacity for the student to think creatively. In this respect preliminary training of the military teacher is important and the teacher should not develop class sessions and lectures in detail but instead develop statements of general objectives. Maximum direct contact of students with teachers should be provided.

Less than a year later on May 12, 1947 the second Board of Visitors reported with only two members meeting at Air University. The rest had divided into committees, one of which visited Air Force Institute of Technology on October 27-28. The questions the University wanted answered included: how to solve general and technical education deficiencies of incoming students; how to handle post-war budgetary deficiencies; whether the Institute of Technology was discharging its functions effectively; and how to promote studies at the School of Aviation Medicine. The Board noted that World War II had interrupted the general education of many officers and veterans educational programs had taxed civilian institutions facilities on technical education. Also, there was competition for qualified personnel. The Air Force should utilize the correspondence courses of the United States Armed Forces Institute, extension courses, and part time enrollment in civilian educational institutions.

With over 50,000 total officers and over 15,000 war-trained officers with little basic education becoming eligible for the programs of Air University, there was soon to be a major educational problem. They discussed the fact that curtailment of funds, because of post-war reductions, may cause empty faculty chairs to be abolished. The institutions planners were advised to emphasize to federal budget planners that the University is a post-war institution and should not have funds reduced. The only thing wrong with Air Force Institute of Technology was its small output of graduates and the board said the School of Aviation Medicine should establish more liaison with civilian institutions.

Perhaps the Board's best idea came in a call for acquiring the best officers for instructors. "A brilliant officer in a command position is but a single individual, but in an educational institution as a teacher of young men, he multiplies his personality and his influence a hundred-fold."⁴ Commander Fairchild's report specified that every point of the first board was followed, at least partially. Most of the report was on facilities, but he did say the university could not get enough staff personnel so they took selected graduates of the first class and put them on the staff. There was enough space converted for that first year and there was more married officer space than on any other Army base. To alleviate the shortage of classrooms, a mess hall had been converted into classrooms and map problem rooms while non-appropriated funds had been used to build a new theater seating 1,000 which would be used as an auditorium.

In 1948 Major General Schlatter gave the principal report at the third meeting of the Board of Visitors. He said the training of individuals was done in the Training Command whereas the training of units and crews was done in tactical units. Air University had added research and development of military doctrine to their education endeavors. They had changed the name of the

Research Division to Evaluation Division to better reflect what they did and the Extension Course program had been enlarged into a division. The Extension program designed and made available extension courses, which then were administered by the Air Defense Command. Schlatter espoused some basic doctrinal concepts: the armed forces exist to preserve peace, all military must avoid the hampering effects of tradition, and the ultimate objective is the capitulation of the enemy nation. He announced a plan for a new educational institution. "We have proposed a plan for an Air Academy; . . . (after) the first <~ two years in college." ⁵ The students would go to the two year Reserve Officer Training Corp at a civilian college then to a three year academy where they would receive a Bachelor of Aeronautical Science. He also recommended a Senior Foreign Officers School. Of the several other reports, Dr. Williams, the first civilian advisor to the university commanders, was most interesting. As the top civilian in a predominantly military staff, he talked about academic freedom and favored giving each instructor the right to teach his specialty as he deemed best so long as he was not violating Air University doctrine.

Violating doctrine, however, seems like a serious restriction. If the instructor was challenged, however, he had the right to appeal to the faculty board of the school and then to the university faculty board. Williams also stated the Faculty practiced a lot of self criticism. Because of the constant turnover of teachers, they used previews and dry-runs on delivery before other faculty as training. They also established organizational objectives to determine effectiveness and student evaluation with essay-like written critiques. In classes they used discussion and problem solving with an emphasis on oral and written expression. Documentary research was required in the two upper schools.

The first problem the third board of visitors considered was peacetime education of Air Force officers. The board was worried about regimentation. "The type of education called for is therefore one of enabling them to operate on principle and reason rather than by preconceived patterns and rules of thumb. In short, the difficulty is one of education rather than training."⁶ The board wanted the university to keep those personnel who worked to prevent this training instead of education. The basic danger of a military educational institution lies in the inevitable tendency to become doctrinaire.

On the attitude of the staff and faculty the Board was complimentary. "The strong emphasis placed by the Air University staff upon education that trains students how to use knowledge resourcefully and with well-ordered, independent thought impresses us as of outstanding importance and great promise for the future."⁷ They were agreeably surprised at the extent of self-criticism that was practiced at Air University. The Board liked the Faculty's instructional techniques, saying that the University used class discussion, conferences, and written work instead of lectures, recitations and text assignments. The Board felt civilians at the ^University had academic freedom.

The Air Tactical School was not visited but the rest were satisfactory except they felt there was a shortage of personnel at the School of Aviation Medicine. The Civilian Institutions Division was inherited by Air University in 1947 with three programs in that division: a graduate program; an officers update program; and a weather officers program.

The third Board of Visitors examined the Air Institute of Technology for the first time. Questions to be examined were: should there be an AIT and what should be its objectives; how is it doing now; how select students and determine their quality; and what is the quality and character of the Faculty and administration? They agreed there should be a school such as this with

students being provided undergraduate technical and scientific education at the institute but specialized and basic education should be acquired at civilian schools. Its location at Wright Field, Ohio was good to be near testing facilities, but more money was needed. The curricula should refresh and strengthen fundamental knowledge while increasing thinking ability and it was good they avoided survey courses. The Board liked the idea of choosing a major stem (sic) on which the primary emphasis would be placed. The major stems were mathematics in the technical field and economics in the industrial and engineering administration fields. They felt senior thesis and comprehensive exams should be added to strengthen the academic program. The institute should select the students, what schools they attend and what courses they pursue, and the students, because of their lack of educational background, should receive preliminary training adjusted to individual needs. The needs may include such things as educational deficiencies, study habits, and how to use knowledge. They felt the institute had a well qualified faculty nucleus but needed continuity in the administration with at least six years unbroken administrative leadership. The top civilians needed to be upgraded with a civilian advisory committee to report to the Board of Visitors. "The Institute is greatly in need of civilian guidance of the highest order. . . ."⁸

The fourth meeting of the Board of Visitors occurred on April 17-20, 1948 at the end of the second full year of school. This Board suggested the unification of all services. They also advised that the Air War College needed the latest scientific information including material classified top secret if they were to help formulate and study doctrine. "We emphasize this point because we are conscious of the general (and natural), (sic), fallacy of identifying national security with secrecy, whereas national security really consists in being as far ahead of any potential enemy as possible."⁹

The fourth Board thought the Air Command and Staff School was covering too much in too short a period of time. The teachers had the lightest teaching loads they had ever seen, less than an hour per week. The students on the other hand were in class thirty-two hours per week. "The instructors of the Air University live in an academic paradise, but the students live in a near purgatory."¹⁰ Because of the paucity of texts some of the faculty were spending their time writing textbooks but the board enjoined against writing textbooks or even using them. They felt in that setting of constantly changing military situations, loose-leaf materials, reference materials and journals were better. "It is axiomatic in university circles that a good professor either uses no notes at all or destroys them once a year."¹¹ Much the same thing was said of Air Tactical School where they need to spend more time teaching. They thought the most valuable ingredient in this school was the time and talent of the teachers.

They felt the School of Aviation Medicine needed more regular Medical Corps officers because it had only five but needed twenty-two. One of the reasons for so few medical officers was a shortage of doctors in the United States. The school needed to be able to buy its own materials instead of depending on Washington and also needed to be able to publish its findings in the school's own name. All research should have been coordinated with other universities and public health services. Air University library was growing and had expanded from four to six divisions. The two new divisions were an Educational Aids Division with film and graphic aids and an Arctic-Desert-Tropic Information Center. There were also branch libraries in the three principle schools of the university. There were over 50,000 books, 85,000 documents in the library and 125,000 documents in the archives. Three major projects were pending as the library was to become the official repository of

United States government documents, official United States Air Force repository and repository for the old Air Force library. This board strongly emphasized that the Air University was a necessity, not a luxury.

The fifth Board of Visitors met August 10, 1949. The first problem they addressed was the three year length of tours of the military instructors which was made worse by the fact most of them were not staying three years. It takes one year to learn to teach, a second year to develop skills and a third year perhaps to reach competency. The board wanted to increase the faculty tours to four years with some of the better teachers being kept for a second or even a third term and the exceptional becoming permanent members of the faculty. The board worried about the process for selection of students. They suggested the university select students by test, thus preventing unit commanders from keeping the best and sending the less able to Air University.

The sixth Board of Visitors met in 1950 and noted that the large post-war group of officers had passed Air Tactical School and was then in Air Command and Staff School. They suggested steps to alleviate the problem: AU should pay closer attention to the substance of the various subjects, should broaden subject matter adding humanistic and scientific courses, and they may want to hire a senior academic statesman as a consultant for about six months. They felt that selection of students should be made using more criteria. The schools could use a combination of previous scholastic records, input from past instructors, personal interviews and examinations. They felt, however, that examinations might be the only practical method due to the global distribution of candidates. A general survey test was being used but the university should add a standardized intelligence test.

Another problem they dealt with was their insight that there should be a balance between technical and broader background subjects. The history of

other professionals' education is broad first and technical later with most professions getting broad education in college and technical training on the job. The Air Force professional got technical first and the broad exposure later in Air University. The annual input of students had now reached 2,250, 960, and 137 in the 3 levels of schools, up from the original 700, 200, and 75.

The seventh report of the Board of Visitors in 1951 wanted Air Force Institute of Technology to become a graduate school and not duplicative, teaching only subjects specific to Air Force problems. They noted that Air Tactical School and Special Staff School were moved to Maxwell Field this year and a less climactic event was changing the name of Air Tactical School to Squadron Officers Course on October 23, 1950. It was also reported that the university had begun working with the Board of Control for Southern Regional Accreditation. They suggested Extension Course Institute should examine and compare United States Armed Forces Institute and International Correspondence School courses and programs and wanted them to consider true extension courses instead of just correspondence. They also thought Air War College was too short with too many lectures and not enough individual study and in all schools, too much time was spent on technical aspects instead of relationships and coordination. The School of Aviation Medicine needed more space and more qualified civilian instructors and the rotation of military staff members was bad. To help the situation, short-term medical personnel could be appointed for research oriented scientists, also graduate interns could be assigned to instructors. The Human Resources Research Foundation should do short projects and let civilian institutions do long projects. If HRR Foundation had transferred from the university to the Research and Development Command as contemplated, Air University could still coordinate closely with them. The board suggested hiring a Rand Corporation person to advise this program.

In 1952 the eighth Board suggested that the Air Force Institute of Technology work closely with Wright Air Development Center which was on the same base. The institute wanted to award BS and MS degrees but the visitors explained they could not get accreditation because they had only part of a curriculum. The school would need a full four year program to get accreditation, which would duplicate civilian college programs. Better facilities and better pay for department heads were needed. Other suggestions included: the six foot high partitions at Air Command and Staff School did not provide privacy, teachers needed to be kept more than three years because the assignment might end in the middle of research, and students at Air War College should be required to submit written reports at the end of each seminar. They further made suggestions that affected all air bases when they urged a library at each air base and an education officer to administer extension courses. Both of these were carried out. The board suggested curriculum changes for the Reserve Officers Training Corps. The courses should be assigned semester and quarter hours and local professors should be left to assign hours to each course. They felt it would be good to set up a national conference on the new ROTC curriculum with the suggestion that military smartness in uniform and drill and familiarity with aircraft was needed.

The ninth Board of Visitors met in the spring of 1953. They wanted the Air Force Institute of Technology to concentrate more students in fewer colleges and to put them in colleges that have Reserve Officer Training Corps and let the Corps help administer the students. They saw some problems with Air Command and Staff School where facilities were inadequate and selection of students needed to be reviewed. Air University needed to relate the Field Officer Course to the new Air Academy being built. The board suggested the

School of Aviation Medicine needed more clinical material and facilities, the military faculty needed a tour of at least three, preferably five years, and availability to aircraft was needed at the SAM branch at Gunter Field.

Clearly, the four post Korean War boards of visitors, 1954-1957, were preoccupied with material needs such as more staff, faculty, facilities and pay. The tenth board of visitors recommended an increase in their own numbers from ten to fifteen. They saw a need for the Graduate Study Group to be combined with the evaluation Staff and they noticed the Field Officer Course length had increased and had become too much like Air War College. The excuse given by Air University for the increased length of FOC was eighty-five percent of the officers would receive no more professional military training. This seemed a lame excuse if those officers were no longer in the military. There was seen a need for a separate Field Officer Course for foreign officers, reserves, and national guard. The last problem mentioned about Air Command and Staff School was the increased requirement for student research without providing a branch library. They noted there was still not any increase in salary for Air Force Institute of Technology department heads. They also wanted the School of Aviation Medicine near a major medical facility and SAM should also have permanent interchange with the Aeromedical Laboratory at Wright-Patterson Development Center. Civilian instructors of Reserve Officers Training Corps detachments should be invited to Academic Instructor Course. They felt that ROTC detachment engineers needed to be allowed to apply to Air Force Institute of Technology before graduation and all graduates of ROTC should receive degrees instead of a certificate of completion. The board believed also that each detachment needed at least one light plane for flying instruction. The Research Studies Institute needed a new building because they had over a million documents and did not have air conditioning.

The eleventh report in 1955 was the fourth Board of Visitors to recommend higher pay for civilian instructors at Air Force of Technology and they suggested for the second time that Reserve Officer Training Corps graduates could help alleviate staff shortages. Lack of medical officers in the Air Force had impacted the School of Aviation Medicine, so they suggested the American Medical Association be asked for help, present two year officers could be indoctrinated, and the school could advertise in medical schools. The tenth board had recommended an Air War College correspondence course but the eleventh was skeptical of correspondence and recommended they discontinue extension altogether. They made the novel suggestion that Air War College should be moved to Washington, D.C.

The twelfth Board returned to extension as a recommendation. This group was also full of suggestions such as cubicles for private study, contract out editing and printing of training manuals, foreign students needed two week orientations, do not train enlisted in Academic Instructor School, give short courses to key personnel, student vacation needed in the middle of eighteen month courses, and understudy officers should be provided before old instructors are reassigned. They said the faculty at Air Force Institute of Technology could handle more students and teaching hours and they felt the Institute should separate the schools of engineering and business administration with two deans.

The 1957 group suggested selecting National War College and Industrial War College graduates for Air War College faculty. They thought the Air Command and Staff College should allow some individual research as an option to group research and they wanted more use of television as an aid to teaching. They opined that the School of Aviation medicine needed a pressurized plane. The school was still using a C-47 which was not at that time used for air evacuation; a modern C-131 was needed. The board said directed duty

assignments at SAM should be cancelled and sent to Gunter Field for the final five weeks of the Airman Indoctrination Course and they felt the school should begin some special planning for the expected move to Brooks Medical Facility.

The peacetime period from 1958 to 1964 brought favorable reviews without many suggestions for change. The fourteenth Board in 1958 did report the Air War College faculty was not large enough to provide continuous guidance at all seminar meetings. They suggested Air Command and Staff College should change the mainly lecture, group study and group research format to more outside reading, more problems and quizzes, and teachers calling on students to respond individually instead of asking for volunteers. They believed generalists should be trained rather than specialists. According to them, a fifty percent raise in faculty salary was needed at Air Force Institute of Technology. The board suggested the term aero-medicine be changed to aero-astro-medicine at the School of Aviation Medicine. They admitted they could not think of many important suggestions and they were right.

The Board in 1959 was laudatory and relatively not very creative. It approved the large faculty pay raises that had finally been given at Air Force Institute of Technology. They revealed the need for a C-131 at the School of Aviation Medicine was still unresolved. Also, they thought the Documentary Research Division needed an expert on the Near and Far East, the USAF Historical Division was understaffed, and the Arctic, Desert, Tropic Information Center lacked specialists in geology, psychology, and physiology and a single building was needed for all these research programs.

The sixteenth report disagreed with the report of the USAF Educational Conference of November 17, 1959 which thought a degree in Air Science should be given at Air University. The last several boards had turned into

commendation boards and had not suggested many substantive changes. It may have indicated the program was doing well but also may have reflected that a larger part of the board was now non-academic.

The 1961 Board of Visitors met in the Spring and suggested that Air War College attendees should be those with enough years remaining in the Air Force to recoup the expense of their education. This board had several recommendations for the Institute of Technology to help the faculty: exchange of professors between other institutions, attendance to regional and national scientific meetings, and military faculty be given time to get higher degrees.

The next Board issued the eighteenth report, which studied only the Air Force Officer Education Program and the research program of Air University. They commended the proposed requirement for college graduation for all officers and they proposed replacement of Air Force Reserve Officers Training Corps with a new Officer Education Program. Air University was not a conventional university in their thinking, instead it was a collection of professional units or school functions. Its research was to support the assigned work, as in report writing, curriculum planning, re-examination of data, updating knowledge, and developing teaching techniques, not research as it is understood in civilian academic institutions.

The Board of Visitors' nineteenth meeting occurred in March, 1963. They reviewed a ten year plan (1963 to 1973) prepared by Air University. They felt the Air Force Educational Requirements Board should be a central agency to identify training requirements for special military courses and a three year curriculum planning cycle should be used to replace the present shorter cycle. Air Force Institute of Technology should begin to offer doctoral degrees. Experiments with programmed learning at Air University should continue and a study made of the feasibility of expanding extension seminars to Air Command

and Staff College and Squadron Officer School. They believed some long-range assigned research scholars should be provided for Air University for research on Air Force doctrine.

The 1965 group recognized the lack of support Air University received from Air Force headquarters. They also wanted scholarships offered for the two year programs of the Reserve Officers Training Corps as well as the four year program and believed Air University and the Air Force Academy should be one institution. Noting the move to more military content in Air War College they worried about the reduction of attention to relevant national and world problems. They believed Air Command and Staff College theses were merely research papers.

The 1966 group was chaired by Reverend Laurence J. McGinley, S. J. Vice-President of Saint Peter's College. The Air Force does not give top priority to professional military education, so Air University, they said, should have a major part in planning, coordinating and monitoring all educational efforts in the Air Force since this fragmenting of responsibilities among the commands was not good. They were not sure the new Junior ROTC program would be wise. They thought the name of Air Force Institute of Technology should be changed to Air University Institute of Technology.

The Air University Board of Visitors' twenty-third meeting occurred from March 20-23, 1967. They reported nothing significant.

The Vietnam War, 1968-1974 again brought many good suggestions but this time Air University did not implement them. The twenty-fourth Board of Visitors met from March 18-21, 1968 after they had visited all but Air Force Institute of Technology and Extension Course Institute. The war in Vietnam had decreased participation in the university's programs and there needed to be a return to full enrollment. They thought the Air War College needed faculty

with higher degrees and they also thought the curriculum should emphasize non-civilian content. This was a common complaint of many boards. They also questioned the benefit of the Junior Air Force Reserve Officers Training Corp and in fact they said the whole College ROTC program needed a long-range study. They raised a special problem, namely that Air University should consider advanced degree granting status for the professional military education program. They felt the continuing problem of better faculty with more continuity and higher degree status must be solved.

The twenty-fifth meeting submitted to Commander A. P. Clark saw no significant problems.

The twenty-sixth meeting occurred from March 31 to April 3, 1970 and was the first to note the visible lack of minority representation in both faculty and student body. They also were the first to treat the life-long learning concept. ". . .we want to affirm the urgent necessity for a systematic long-range program of professional military education."¹² They further added, "The major professions, especially law, medicine, education, and management, now acknowledge that the prepared mind must be forever at war with obsolescence."¹³ They advocated not requiring attendance at all three PME schools but, "We urge greater flexibility. . . in educational content, in educational methods, in extent of time commitment."¹⁴ Air University needed to enlarge their offering from three PME schools to non-traditional correspondence courses, short courses, seminars, conferences, and extensive uses of televised lectures, film strips and the like. They suggested not requiring Squadron Officer School before Air Command and Staff College but let other educational or field experience be the criteria. A shift should be made to PME at home bases so more can attend. In evaluating students they wanted the schools to report progress of students toward meeting personal objectives rather than their academic standing in class.

The twenty-seventh Board met in the spring of 1971. They suggested adding man and his relationships to the curricula; studying great books, music, drama and poetry.

The twenty-eighth Board meeting in 1972 suggested Air War College select some faculty of lower rank than Colonel since recognition should be given to ideas and ability not rank. They also thought the students and faculty should produce research papers not just essays or articles for publication. They felt in Squadron Officers School there was too much group study, and too much physical problem solving in an athletic environment with not enough application of leadership to real-life Air Force problems. They also thought there were too many topics to cover in the time allotted and they requested students be allowed to meet the board without faculty being present. The board had some things to say about evaluation, noting Squadron Officer School had used only questions that eighty-five percent of previous classes had correctly answered. The board thought that was not good and suggested to do like physicians, let rating be a guide to further treatment. They suggested teachers not just evaluate and try to make competitors but teach techniques of effective cooperation.

The twenty-ninth meeting the next spring suggested Air War College needed new guest lecturers and not so many repeaters. They also dealt at length with the associate programs which were now getting into full swing by urging the faculty increase their visits to the base seminars, and vary the format by increasing use of instructional television and computers at the seminars. The seminars should try to recruit a greater mix of non-Air Force personnel for student and faculty variety. The board reported the Air Command and Staff College non-resident seminars had grown over a hundred-fold. The program was now understaffed and in need of up-to-date equipment, they were using fifteen year old, poor quality cameras, for example.

The thirtieth meeting occurred on March 13, 1974. They examined the Air War College curriculum and suggested letting the major commands influence it by exposing the students to other systems such as industrial and economic problems. They could study more futuristic problems and individualistic real-world situations such as base commander or wing commander. They could set up internships such as live-in with base commanders. This group also dealt with associate programs which they thought should be shortened by allowing classes to be held during the workday. They thought the seminar program was too print oriented, so they suggested use of computers and other simulation resources. They wanted videocassette capability instead of 16mm films. They believed the Air War College should hire a specialist on innovative educational technology. Also, seminar courses should be provided for Air Command and Staff College to supplement the correspondence offering. They said the counseling program for the lower schools should also be strengthened. Counselors should have an initial interview, another interview and evaluation at the end of shuffle (switch of seminars), and time for informal socials. The workload for students exceeded most civilian institutions, so student recreation should be provided. They felt that ten to fifteen per cent of the Senior Non-Commissioned Officer Academy faculty should have BS and BA degrees and new and more responsible assignments should be made for graduates.

Peacetime from 1975 to 1981 again witnessed fewer suggestions and more favorable observations. The thirty-first meeting reported to Commander Rogers in March of 1975. They reflected recent educational trends saying there was not enough use of computer assisted instruction (C.A.I.) and computer managed instruction (C.M.I.). They observed these were costly and difficult but might be better adapted to Air Force needs than to other institutions. They applauded academic acceptance of Extension Course Institute courses by the

Alabama Department of Education and the National Home Study Council. They thought a representative of the Educational Testing Service or the American College Testing Program should be added to the board of visitors. They also surmised the Air War College needed a non-resident program like Air Command and Staff College already was utilizing.

The thirty-second meeting in 1976 was critical of the cooperative degree programs with local colleges. A rigorous forty week professional military education program and simultaneous MBA or MPA they believed to be a questionable practice. Regular separate programs would be better. They would use a 900 score on SAT verbal and mathematics tests at the end of the sophomore year to determine if a student were to continue in Reserve Officer Training Corps.

The thirty-third meeting talked about the Leadership and Management Development Center which was in its first year. This new department's mission was to assist the other schools in leadership and management education and to apply a leadership and management model as an example for the Air Force. In doing this they would develop a five week course for new base commanders, provide team visits and seminars at Air Force installations and develop a consultation capability. The visitors suggested they use Harvard case study techniques. They also worried about duplication in the curriculum of professional military education although realizing the titles sometimes suggested duplication when the content was actually different.

The only significant problem the thirty-fourth meeting in 1978 saw was the need for strong seminar leaders in non-resident programs. They suggested a master teacher might be located in the community nearby or videotapes of such a person would help.

The thirty-fifth meeting was convened on March 27, 1979 in the Air University Conference Room, Building 800, Maxwell Air Force Base, Alabama with the meeting open to the public for the first time. It was also advertised in the Federal Register for the first time. They observed that Air War College had taken seriously the criticisms and recommendations of the Clements Report on the Senior Service Colleges. Consequently Air War College changed the curriculum from a straight sequence of blocks on management and staff responsibilities to teaching the employment of airpower. They deprecated the Air University commander having to report to the Air Training Command stating it is like a president of a university reporting to a superintendent of schools. Education was subordinated to training. This board did not like the use of the Instructional System Development (ISD) process and suggested the examination of other methodologies. They wanted Air Force Reserve Officer Training Corps to start in grammar school, a suggestion that clearly ran against the grain of American tradition.

The 1980 group disapproved the formal essay exams of the Air War College. They also thought some civilian professors should be hired to teach civilian-oriented specialties. The last available report in 1981 contained little criticism and was mostly laudatory.

The Advisory Boards met periodically as they were convened by the Air Force and were for the purpose of examining educational practice and policy in depth. These boards are popularly named after the general officer who was the chairman. The Gerow Board met at Ft. Leavenworth, Kansas and in the Pentagon in Washington, D.C. during December, 1945 and January, 1946 before Air University was established. They recommended a single military educational system of Army Air Corps and all other Army and Navy officers. They listed the five levels of professional military education at that time. The top

level included a National Security University of five colleges: the Administrative College, Intelligence College, National War College, Industrial College, and State Department College. The second lower level was the Armed Forces College and the three lowest levels were Army Air Forces School which later became Air War College, Air Command and Staff School, with Air Tactical School at the bottom.

The Markham Committee, studying Air Force Institute of Technology, reported on March 1, 1946, that the institute should provide the technological needs of both the present and future. They asked the Institute, and engineering school, also become a logistics school. Courses should be broad and fundamental and selected officers, it was decided, should be sent to civilian educational facilities.

The commander of Air University called an Army Air Force Educational Conference in both February 18-20, and August 20-22 of 1946 to study and formulate policy for the new university. The significant recommendation of that first conference was that the School of Aviation Medicine, Special Staff School and the Civilian Institutions Program be transferred to Air University.

In July 1947 an Educational Advisory Staff Conference was convened by Headquarter's Air University. The conference objectives were to provide and appraisal of the work being done by the educational advisory staff and provide recommendations for improvement. This report provides an early picture of the educational program of the Army Air Forces. The Air War College, Air Tactical School, and Air Command and Staff School were presented with the report showing, while much of the curriculum was different from today's, the timing for officer PME was much as we find it today. It included mission objectives and the information that the educational advisory staff met annually.

There was an Educational Survey of the Air Command and Staff School in September, 1949 called the Orleans Report. It was to evaluate the educational program of Air Command and Staff School and was conducted under the guidance of Dr. Jacob S. Orleans. The commission concluded that some unsound educational principles had been adopted, primarily, the curriculum had gotten away from the mission of the school. Several suggestions for improvement of the old program were offered which included advice that a new curriculum be developed, the faculty be reorganized, student grading procedures be revised and the student research paper be eliminated.

Headquarters United States Air Force convened a military education board on the professional education system for the Air Force officers on January 24-25, 1950 under the command of General Muir S. Fairchild. Its membership included: General George C. Kenney, Lt. General Ennis C. Whitehead, Lt. General Idwal H. Edwards, Lt. General Benjamin W. Chidlaw, Lt. General Hubert R. Harmon, Major General Robert W. Harper, Maj. General Laurence C. Craigie, Maj. General Bryant L. Boatner, Maj. General Kenneth P. McNaughton, Brigadier General John P. McConnell, Brig. General Edmond C. Lynch and Lt. Colonel Jack L. Bentley. In response to a Ridenour committee report, issued from Congress on September 21, 1949, they agreed the Air Force Institute of Technology undergraduate program not continue past five more years because it should be a graduate school.¹⁵ The Institute should teach only what was not available in civilian schools. Air University wanted the Civilian Institutions Program but the Air Force Institute of Technology had it along with its resident program. The board wanted both administratively transferred to AU but kept physically located at Wright-Patterson Field in Ohio. At that time the United States Air Force Extension Course (now Extension Course Institute) Program was also discussed. Air University prepared the courses but let

Continental Air Command print and distribute them. The Fairchild Board would have put both the preparation and distribution of courses under Air University. The board also discussed disposition of Officers Candidate School, Reserve Officers Training Corps, and the proposed new Air Academy. At that time OCS was under the Air Training Command; ROTC was under Continental Air Command; and the Academy was under Chief of Staff USAF. Air University argued that all the above sources of officers should be under their jurisdiction with Air University education starting at the beginning of the officer's career and ending at the top PME school. The board's decision was to leave OCS with the Air Training Command because it is such a big endeavor in wartime and the University should concern itself with doctrine not masses of people. They also felt that ROTC was more administrative than educational and should be left to its present command. The Academy was only in the planning stages so change would be immature. The programs of Air University were discussed but not many changes were suggested. They did request that more Air National Guard and Reserve officers get to participate.

In February, 1951 there was a Staff Study on USAF Requirements for Air University Graduates called the Hammer Study. Its purpose was to establish requirements by which graduates of the respective AU courses could be forecast. The study attempted to establish percentage factors to be applied to overall officer strengths which would forecast Air Force needs for PME graduates. The study looked at requirements based on officer duties and responsibilities and on strengths of the using commands.

The Fairchild Board had recommended another educational conference occur for the purpose ". . .to critically examine the officer educational system and make pertinent recommendations as to the adequacy of the system, its organization, objectives and methods of operation to properly fulfill USAF

requirements."¹⁶ General E. W. Rawlings was to be the chairman of this recommended conference. The members were to be General O. P. Weyland, Lt. General David M. Schlatter, Lt. General Charles T. Myers, Lt. General Emmett O'Donnell, Jr., Lt. General Thomas S. Power, Lt. General D. C. Strother, Lt. General Robert W. Harper, Lt. General I. H. Edwards, Major General F. H. Griswold, Major General M. S. Roth, Bigadeer General C. E. Combs and Colonel Paul O. Buckholts. This comprised what is popularly called the Rawlings Board. The Rawlings Board meeting in October, 1956 again discussed the role of the precommissioning military schools. While the previous board would allow the top twenty-five graduates of Officers Candidate School to be without college degrees, this board thought all officers should have degrees. They discussed the purpose of the Officers Candidate School, which was to prepare selected male and female enlisted personnel for commissioned rank in the United States Air Force. The training objectives were to provide the motivation, development, and fashioning of such human qualities as character, morale, leadership, and initiative. The candidate should know the application of administrative procedures and the practice of military customs. The twenty-four week course would qualify them for a reserve commission as a second lieutenant in the Air Force with a basic knowledge of the mission and functions of the service. The board believed it might be desirable to have officer Candidate School and Air Force Academy under Air University but voted against it. The Rawlings board also recommended the timing of the attendance in professional military education be changed from 5-10-15 years. They recommended the selection criteria for the three general service shcools should be as follows:

<u>School</u>	<u>Temporary and Permanent Grades</u>	<u>Years of Service</u>
SOS	1st Lieutenant and Captain Temporary or Permanent	3 - 8 years
CSS	Captain, Permanent Major, Permanent or Temporary Lieutenant Colonel, Temporary	Less than 17 years
AWC	Lt. Colonel, Permanent or Temporary, Colonels, Temporary	Less than 21 years

The Rawlings Board agreed that the maximum "years of service" listed above are too high as a general rule. These limits have been retained to permit sufficient administrative flexibility in personnel assignment, but the Board urged that continued emphasis be given to selecting younger officers for each school. They recommended another review in three years.

In May of 1958, a board met under the leadership of Major General R. H. Carmichael and reached the same conclusions as the Fairchild Board.¹⁷ Not much is available about that board.

The Powers Board meeting in 1959 maintained the recommendation all officers have at least a baccalaureate degree. They felt that the Air force should reduce the number of Reserve Officer Training Corps detachments, dropping the ones that are unproductive. They were in a conservative mood and also recommended any Institute of Technology programs that are training rather than education be transferred to Air Training Command, specifically mentioning language study. This board, again voiced the evolving concept that Air University be given the ultimate role in officer education. "Air University should be assigned command jurisdiction for all precommission programs including Air Force Academy, . . ." ¹⁸ was their recommendation. The AF has continually ignored all these boards on this subject. The Fairchild Board considered it but said wait; the Rawlings Board liked it but said wait; the Powers Board voiced their approval and presented the following chart.

DESIRABLE EDUCATION

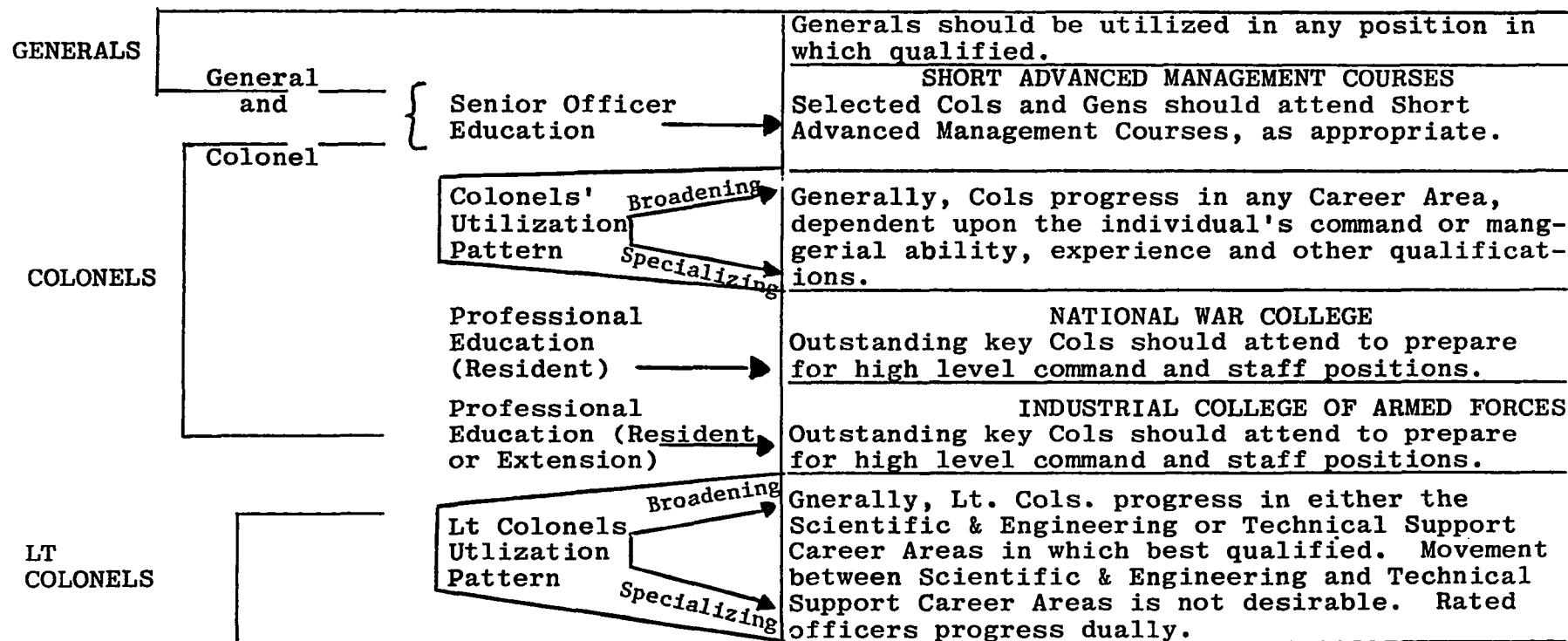
Policies

AND

TRAINING PATTERN

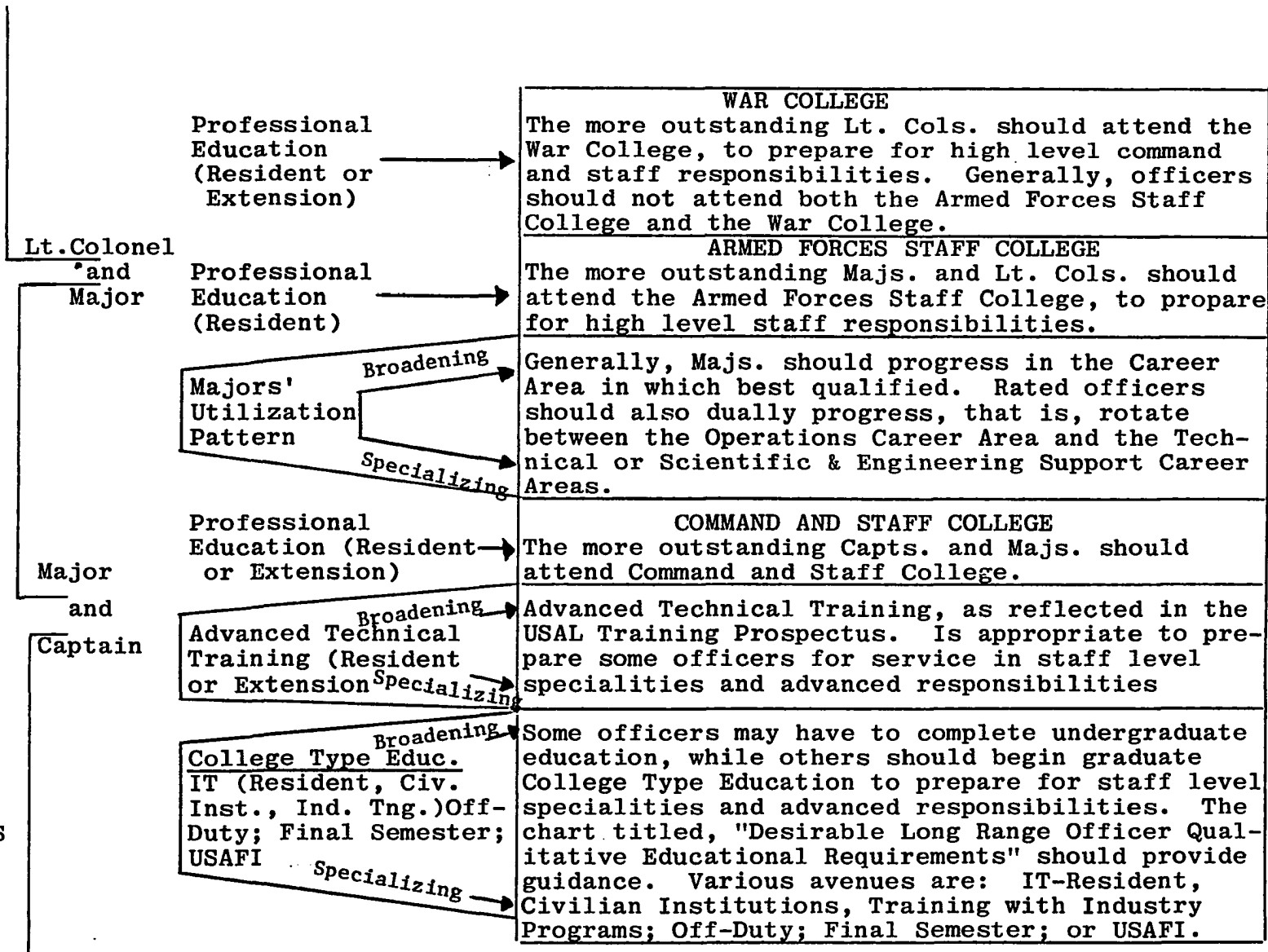
(For the Development of Professionally Competent Officers of the Future)

- A. An officer should be trained for a job and educated for a career.
- B. The more outstanding officers should be selected for schools in view of the limitations on the number that may attend.
- C. An officer should complete the education and training indicated as early as possible in his career.
- D. Officer education, training, and utilization, based upon this pattern, should be consistent with AFR 36-23. Officer Career Management Program.

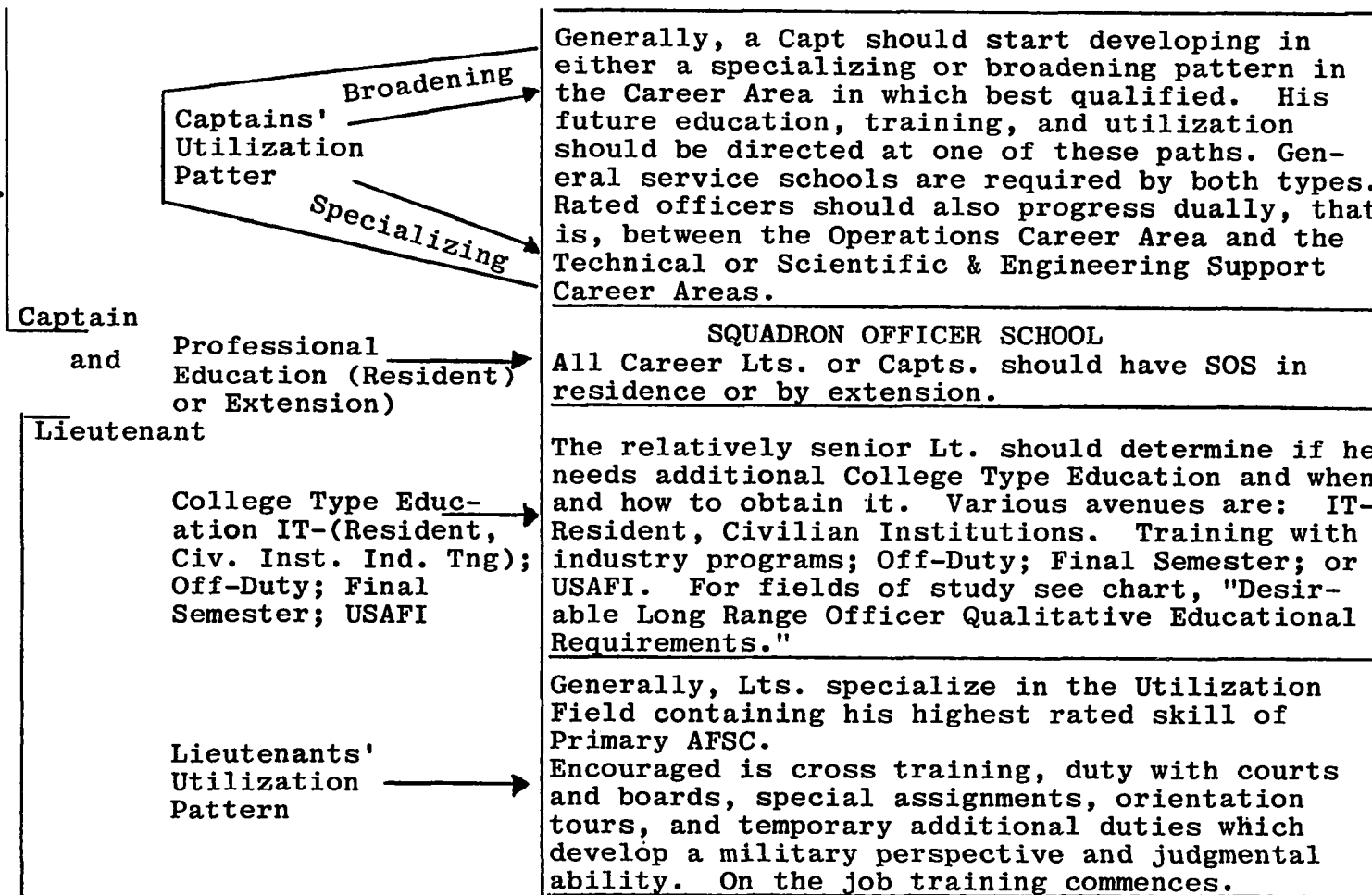


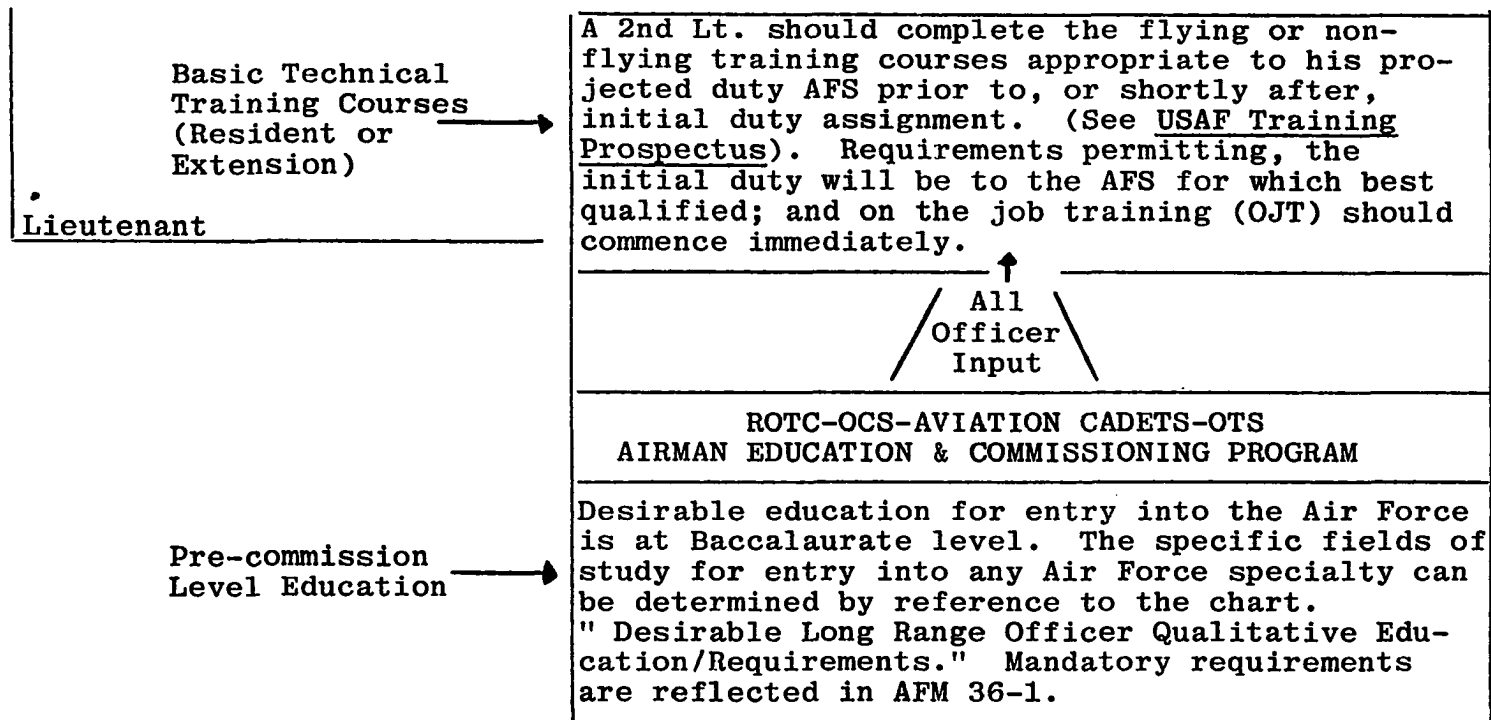
MAJORS

CAPTAINS



LIEUTENANTS





Lieutenant

A USAF Educational Conference was convened in November, 1959 for the purpose of reviewing the current officer education programs and to furnish recommendations to the USAF Chief of Staff. This report deals with overall educational requirements for AF officers suggesting that only the most qualified should attend, and that AWC students should be O-5s with less than twenty-two years. The board agreed that high priorities should be established for school assignments and that commanders should encourage their best officers to attend.

Major General Lawrence S. Lightner chaired a board in March 1963 to review the education programs of AWC and ACSC, and review mission statements, objectives, curriculums, and methods. It was to examine student selection policies with special attention to the "overlap" between PME schools including SOS. The Board took a look at procedures for selecting officers to attend resident schools. They concluded all the schools are seeking ways to improve and guidance was adequate and being followed. There was no reason to change the thrust of either AWC or ACSC with respect to curriculum and methodology. They thought Air War College should not seek degree granting authority. Duplication between curriculums was not that large and was appropriate but student selection practices were not completely consistent with their mission statements.

There was a Haines Board in 1966. They analyzed officer training compared to other services, foreign armies and industry. There is not much available information on this meeting.

A professional military education symposium convened in 1974 with Major Command vice-commanders as attendees. They were against a civilian oriented curriculum. They said the primary purpose of professional military education is not to produce economists, political scientists, or general administrators, but to develop experts in airpower.

A Department of Defense committee on excellence in education met in 1975 and issued what is called the Clements Report on December 1, 1976. This group included among others Secretary of the Army Howard H. Callaway, Air Force Secretary John L. McLucas, Navy Secretary J. William Middendorf, and Assistant Secretary of Defense, Manpower William K. Brehm. It was to study the intermediate level military staff colleges. Their discussions were to have three emphases: first, they discussed how the staff colleges and their graduates fit into the overall educational and personnel systems of the services, the second emphasis was on the differing service approaches to professional military education at the intermediate level and reasons why the differences exist, the third was the missions of the senior staff colleges and cost-effectiveness in the achievement of their missions. They concluded the staff colleges were vital. They should, however, be mission specific and not encroach on the broad and varied missions of the senior schools. The intermediate schools should encourage and provide attendance in residence because having all services, foreign and civilians together is good. The faculty of the senior schools should be officers with few exceptions but they should have outstanding service records and at least a masters degree. They felt faculty specialization was needed and three year terms at a minimum should be served. The guest lecturer role should be secondary with not over forty each year. A balanced approach is needed with lectures, seminars, tutors, work groups, practical exercises, map exercises, war games, and computer based games. This committee was not very helpful, following the party line with no ideas that were not already being tried. They admitted consolidation of the five senior service schools was advocated by a wide variety of people because they mostly teach the same subjects and each does not represent a level of sophistication, authority, and recognized expertise for a discreet identity. They also admitted

universities do a better job but advocated the senior military schools "just do better." They advocated each become more mission specific so there would not be the duplication.

In 1977 there was convened an Impact 77 Study Group. This assignment was to find ways to improve professionalism and institutional commitment. This group concluded Moskos' occupational model had validity but it also had limitations, namely groups or individuals may be either occupational or institutional. The causes of the occupational trend in the military include: all of society is drifting that way, there is no war, the cost-effectiveness and efficiency of the McNamara era, the erosion of benefits, and harsh public criticism with loss of self-esteem.

Summary and analysis of the boards reveals the boards fall into natural groupings affected by stress and national trends caused by alternating war and peace or good and hard economic times. The first nine boards were creative boards, 1946-1953. They made many good recommendations several of which were implemented. Dividing the recommendations into three main categories of personnel, facilities or curriculum might help to see how the recommendations were grouped and what was important to these boards who saw the university through troublous times of its establishment and the Korean War.

Two early boards worried about administrative continuity, knowing the penchant of the Air Force to move their personnel every two or three years. This problem was never solved but it is somewhat mitigated by the bureaucratic organization which becomes almost like a living organism. Personnel leave but the system continues. Perhaps it was the more permanent civilian personnel who provided the corporate memory and the organizational continuity. The Air Force tends to have civilian deputy leaders in key military positions and Air University is no exception. They wanted the best civilian faculty with better

pay than they were earning and twice suggested the hiring of civilian consultants preferable from the Rand Corporation.

The boards had two ideas about students. They believed graduates should be preferred for promotion. The sixth and seventh boards perceived a problem with student selection with the sixth suggesting using tests and the next one disagreeing by wanting AU to use several criteria such as interviews, recommendations, and several kinds of tests. The selection of students from worldwide sites, some of which are remote and ill-prepared for testing and counseling, would not help to implement the idea.

The first concern voiced was about academic freedom. It was feared that an authoritative organization like the military should take whatever action it could to guarantee freedom of thought and expression. It was soon noticed that teachers were only teaching about an hour per week, so it was suggested that fewer guest speakers be utilized and let the teachers teach. They probably did not want to teach because of their inexperience, and conducting seminars and counseling may be a superior teaching technique anyway.

The boards were very conscious of the curriculum. They suggested not using texts which the faculty had spent much time in the first three years developing because there were none commercially developed. They also wanted more civilian curricula, less lecture and more individual study, availability of top secret information for research and regional accreditation for the whole program.

The earliest boards talked about the differences in training and education with the decision that Air University should educate, but board six wanted a balance of "broad" educational curricula and technical subjects, saying what they had evolved into doing was right. The technical curriculum should have stayed with Air Training Command if Air University was to be a true educational institution.

The four post-Korean War boards, 1954-57, were preoccupied with material needs such as more staff, faculty, facilities and pay. They could be called the nationalistic boards. Those were good economic times with a sympathetic former general for president and a populace not antagonistic. It was a good time to ask. Being materialistic, they did not dwell on the intellectual problems, but did suggest more individual and group research. In a surprising suggestion, the 1955 board wanted to stop having an extension department.

The peacetime period from 1958 to 1967 brought favorable board reviews without many suggestions for change. This may have meant that the program was doing well, boards were less academic with more industry members and the boards' leaders were friends of the university, all of which was true. There were not many comments on facilities and very little on personnel. The real concerns were in the realm of the intellect, expressing such ideas as student centered and programmed learning, research including ACSC these not really research, and a concern over the move of AWC to a more military curriculum. The fourteenth board entered the old education versus training argument by wanting general not specific curriculum, the eighteenth was even stronger saying Air University was not even a university, and the 1965 group noted the lack of Headquarters USAF support suggesting that AU and the Air Force Academy unite into a single institution. The nineteenth board in 1963 was looking at the new Air University ten year plan, so uncharacteristically had several suggestions. They believed the present three year curricula planning cycle was too short, extension seminars for AWC and ACSC should be added at many Air Force bases, AFIT should award doctorate degrees, and Air University should be the research facility for Air Force doctrine.

The Vietnam War boards, 1968-1974, were innovative again bringing many good suggestions. This time Air University rejected most of them. Again these boards said nothing about facilities and very little of personnel with two of those recommendations simply asking for better faculty, another wanting to allow lower ranks than colonel to teach AWC based on quality not rank. Curriculum again held center stage with some old, familiar themes. The 1968 board wanted more military in a Vietnam era curriculum, and degrees to glorify the offering and the 1972 group fussed for the third time about real research being needed. The twenty-fifth committee started a five year analysis of the new growth of PME associate and extension programs by suggesting that non-traditional PME was preferred with no required attendance at Air University and a shift of PME to the officers home bases and an emphasis on life-long learning schemes.

Peacetime from 1975 to 1981 again brought fewer suggestions and more favorable observations. These could be called the Quiet and Complimentary years. In 1975 computer assisted (CAI) and computer managed (CMI) instruction was suggested as particularly applicable and also that AWC should have a non-resident program like the SOS and ACSC non-resident seminar programs. The cooperative degree programs with local colleges were questioned, as it had been several times and the 1976 panel also suggested use of SAT verbal and mathematics tests to retain ROTC students past two years. The 1979 group rightfully did not approve Air University being put under the Air Training Command but made the bad suggestion that ROTC already in high schools be put in grammar schools. Significantly, it was the first open meeting. Number thirty-four suggested hiring a local master teacher near each air base for extension seminars, while number thirty-six thought more civilian faculty should be hired for Air University and did not like essay exams being used by the university.

The advisory boards were composed of military members and were growth oriented, seeking to add departments, to be more military, and to avoid consolidating programs. The Powers Board in 1959 was the only exception since it advised cutting programs at AFIT and ROTC.

FOOTNOTES FOR CHAPTER V

¹ Air University, U. S. Board of Visitors of the Air University Report No. 1-5, 1946-49 (Maxwell Field, AL: Air University, 1949), p. 7.

² Ibid., p. 9.

³ Ibid., p. 58.

⁴ Ibid., Second Report, p. 8.

⁵ Ibid., Third Report, p. 35.

⁶ Ibid., p. 4.

⁷ Ibid.

⁸ Ibid., p. 13.

⁹ Ibid., Fourth Report, p. 5.

¹⁰ Ibid., p. 6.

¹¹ Ibid., p. 7.

¹² Air University, Board of Visitors of the Air University Report Numbers 24-34, 1968-1978 (Maxwell AFB, AL: Air University, 1979), 26th meeting, p. 3.

¹³ Ibid.

¹⁴ Ibid., p. 4.

¹⁵ Air University, Report of the USAF Military Education Board on the Professional Education System for USAF Officers (Maxwell AFB, AL: Air University, 1950), pp. 4, 41.

¹⁶ Air University, Report of the USAF Educational Conference of October 18-19, 1956 (Maxwell AFB, AL: Air University, 1956), p. iv.

¹⁷ Air University, 1959 USAF Educational Conference (Maxwell AFB, AL: Air University, 1959), p. 3.

¹⁸ Ibid., p. 54.

CHAPTER VI*

CONCLUSIONS AND RECOMMENDATIONS

Air University is a later addition to the American military and is playing a major role in shaping the military traditions of the Air Force. The American military was originally designed after the Athens-English model of an armed citizen militia and Air University comes closest of all the military schools in furthering those ideals.

A government that rules "of and by the people" usually relies on civilian control of the military. A totalitarian government rules for the people and is usually militaristic. The military is always an uncertain stranger in the house of democracy. We Americans have always looked upon ourselves as a peaceable and peace-loving people, so it has developed that a couple of our most lasting mottos have been "war as a last resort" and "live and let live." As so often happens in group dynamics, the cries of a populace portend the opposite behavior and America has tended to militarily smash opposition within and outside its boundaries.

American militarism began about the turn of the twentieth century. During the 1900-1941 time period, American military forces were involved in more than twenty-two expeditions, interventions, and small or major wars outside our boundaries from Puerto Rico to China. These included such events as the Peking legation incident, boxer rebels in north China, and Philippine rebels. Other incursions included Panama in 1903; Dominican Republic, 1904;

*Footnotes for Chapter VI begin on page 188.

Cuba, 1906; Honduras, 1909; Haiti, 1914-34; Dominican Republic, 1916-24; Nicaragua, 1922-24; again in 1926-33; and Vera Cruz, Mexico, 1914. Also, 7,000 soldiers were sent into Mexico in 1916 against Pancho Villa. We sent nearly 2,000,000 to France in 1917-18 and remained in Germany, 1918-23. We also intervened in Russia during 1918-19 and remained in China from 1927 for fourteen years. The Good Neighbor Policy of the 1930's slowed this interventionism.

Interventionism may have been the result of Navy Captain Alfred T. Mahan's book, The Influence of Sea Power Upon History 1660-1783 among others. The thesis was that command of the seas guaranteed trade, wealth and security. There also have been thousands of interventions internally by the military. The military is generally considered a necessary evil but not the rule of the day, but it has been used for law and order, as at Kent State University and Jackson, Mississippi. We have historically been a violence-prone people.¹

The Athens model followed somewhat by the English and then incorporated in the American Constitution was citizen first and soldier only in times of crises. The Athenians believed in military training for their citizens and their bearing of arms. Aristotle, for instance, felt that the citizens should be armed, ". . . in a constitutional government the fighting men have the supreme power and those who possess arms are the citizens."² Demosthenes also felt the citizens should be armed; "There is one source O Athenians of all your defeats. It is that your citizens have ceased to be soldiers."³

Military linkage to the social structure has evolved into four models. In the feudal-aristocratic model the civilian and military elites were socially and functionally integrated, but the feudal-aristocratic model has been replaced by the totalitarian model and the garrison state model. In the garrison state model the military controls politics not by force but by alliances, and in the

totalitarian model the independence of the professional military is controlled by secret police. Military leaders are party members, and control officer selections. The democratic model sharply differentiates between the civilian and military, with civilians controlling the military who are professionals in the employ of the state.

The battle whether to be militaristic or not has been with us from the beginning and persists to this day. Fearful of executive tyranny, the Constitution divided authority over the military between the executive and legislative branch of government. The militia controlled itself with the right to bear arms. The power was divided in the executive branch between the president and department secretaries. Hamilton and Washington argued with Jefferson and others for a small professional standing army and on June 2, 1784 the Continental Congress agreed.⁴ America has resisted militarism during much of its history but the military has constantly made gains. An example of resistance to militarism was the Jackson anti-elitist movements spurring legislation for West Point candidates to be appointed by congressmen from each state to avoid regionalism. In 1789 frontier protection requirements compelled an increase in the size of the confederation army to an eight company regiment of infantry and four company battalion of artillery (595) men. In 1790 after Indians defeated them it was increased to five regiments of infantry, cavalry and artillery, who with "Mad Anthony" Wayne won the battle of Fallen Timbers and defeated the last Indian confederacy in the Northwest Territory. In 1792 a short reversal of trend toward militarism occurred when there was the passage of the Militia Act specifying there was to be reliance on armed citizenry between 18-45 years of age instead of trained regulars as in Europe. This set national policy until World War II. But the drive towards militarism continued.

In 1798 a threat of war with France caused Congress to authorize

40,000 regulars and 75,000 volunteers but John Adams did not use them. Also in 1798 the Navy Department was established but no Republicans were allowed in the highest ranks.⁵ However, in 1800 Republican Jefferson came to power and "Hamilton's" army and navy folded. It was under Jefferson's leadership that the military began to serve the nation in non-military endeavors by exploring and building roads. West Point was established to supply the nation with engineers as well as the more military artillerists. Militarism waned during peacetime but the Civil War revived the need for large armies. The Militia Act of 1862 was the first draft. It was followed by the Enrollment Act of March 3, 1863 but exemption could be bought for \$300. After the Civil War the military was again used for the purpose of social transformation in the reconstruction period in the South but it was pacification by force and to subdue Western Plains Indians.

The Spanish-American War awakened a new American military giant and the United States began the attempt to pacify its neighboring countries. The National Defense Act of 1916 enlarged the Army and made a reserve force called the National Guard and the Civil Service Act of May 18, 1917 supplied the military manpower for World War I. Again there was a reduction between the wars so that in 1939 the Army had only 174,000, the Navy 126,000, and marines 19,700 members. It was during this period that military professionals began to evolve with the development of professional codes and creeds. An exclusive and separate society developed with professional schools and ethics. So began the growth of permanent militarism in America.

The very size of the military in World War II was awesome. There were 16,353,659 who served in the Armed Forces with over a million casualties. Fifty-three million civilian war workers produced 297,000 aircraft; 86,000 tanks; 6,500 naval vessels; 64,600 landing craft; 5,400 cargo ships; 315,000 artillery; 17,000,000 rifles; and 4,200,000 tons of shells. This brought

prosperity to millions and brought about the beginning of what has eventually grown into about 25,000,000 veterans of this century's wars.

World War II and the confrontation with world-wide communism led the United States to be a national security state. The National Security Act of 1947 created three separate armed forces: also the CIA, the National Security Agency and the Atomic Energy Commission. Our national concerns produced the "Truman Doctrine" to support free peoples resisting subjugation by armed minorities or by outside pressures and the "Marshall Plan" to give economic aid to former enemies, now allies.

The causes of American militarism are several, but one of the biggest, perhaps, is that we are a nation of veterans. The military population elements include: military personnel, Department of Defense civilian employees, defense contractors, the dependents of all three, industrialists and professionals whose customers are military. The list is infinite. In both the United States and the USSR the military is the largest single feature of the culture. Yarmonlinsky believes "It is certainly possible that the civilian society has become more militarized than that the military has become more civilianized."⁶ The militarization of our society can be traced to many sources.

There are lobby organizations which push the military program and ideals. The Association of the United States Army, the Navy League, the Marine Corps League, the Air Force Association, and the several veterans organizations have much military lobbying clout. These organization's magazines are so dependent on advertising of the defense industry they must support them. Some military dependents and much of the American voting population feel along with Dupre, "There is great value and purpose other than actual all-out combat in maintaining a costly, well equipped, carefully trained military organization."⁷ On the other hand there has been much concern expressed about

the military-industrial complex since Eisenhower used the phrase near the end of his presidency, ". . . huge government allocations for defense, has increased the power of the professional soldier in Washington. . ."8

The Department of Defense is the government's largest single activity. Donovan reported that "War has become the nation's leading industry."⁹ The amount spent on defense exceeds the profits of all American business: almost as much is spent on defense as total spending by federal, state, and local governments for health, education, old age and retirement benefits. Civilian employees of the defense department are equal to the population of New Hampshire, Vermont and Maine. It owns several hundred billion dollars worth of property in the United States and operates hundreds of installations overseas. In 1977, fifty-four percent of research and development done in the United States was for defense and space.¹⁰

The United States, like Athens and the Pan-Hellenic League, has developed a split personality about militarism. Our cultural past, like Athens, has developed in us a pragmatist position that says that we and the USSR are competitors, and all we need is a defensive deterrence against Soviet expansion. But the Spartan and Macedonian elements in our society tend to take an absolutist position that sees communism as an enemy, with our needing a massive defense and American dominance of the world desirable.

Americans tend to respect authority and at the same time resent it. There is a growing lower class in the United States who has now had a thirty year experience in a welfare state. There is a large, mostly middle class military, that is enduring what could be called a warfare state. Let us hope they are not on a collision course against each other. Maybe Americans should attend to the fears of the military of the Republic's founders and also examine the constitutional checks and balances.

The question arises whether the Athenian-English model is being followed at Air University and, consequently, in the Air Force. There are non-educational elements that indicate the Athenian-English model is being followed. Janowity thinks, "The military profession is undergoing long-term transformation which involves increased penetration by the other professions and institutions."¹¹ A retired Navy chaplain witnesses that ". . .military people do not speak with one voice any more than do other professions or segments of our people."¹²

Most Air Force officers come from civilian educational institutions which lessens the militarism. Little¹³ reported in 1971 that military officer sources were forty percent from Reserve Officers Training Corps at civilian institutions, forty-seven percent from Officers Training Schools open to college grads and a few enlisted personnel, twenty percent of chaplains and doctors were from direct appointments, with only five percent from the service academies. The service academies themselves, according to Yarmolinsky "while highly distinctive, are becoming more, not less, like civilian schools."¹⁴ There is a great proliferation of course offerings, departments copy civilian schools, credit is given by civilian schools for courses taken at the academies, and generalists on the faculty are being replaced by specialist. Air University has followed this trend. For instance, several graduates have verbally reported the Air Command and Staff College is non-Air Force specific and non-military. This is verified in my experiences. Air University takes these products of civilian institutions and tries to make generalists out of them. They are true to the Athens-English model.

The strenuous competition and continuous, often sophisticated and highly theoretical education which the upper echelons of officers undergo is designed to make generalists, not specialists. There is, however, a measure of

schizophrenia involved in the Air Force. Donald Sandler says the education does not always fit the practice. ". . .whereas permissive psychologically oriented leadership is stressed in seminar rooms, authoritarian leadership gets the nod in the barracks and hallways."¹⁵ There has, however, been a recent drive to put war back in the curriculum.

In summary, the military has developed an attitude of militarism in the United States. It is the result of many pressures with one of the pressures being the military profession itself. All professions tend to attract those elements most in need of that profession's ministries; mischievous boys become clergymen, argumentative persons become lawyers, and law, order and power advocates tend to join the police and military. The military academies produce three to five percent of all officers, yet over eighty percent of major generals and above are from the academies. This promotion policy produces militarism.

Having reviewed almost all the literature from and by the Air University, it is easily noticeable that the largest single subject discussed is professionalism. Almost all the writers want the military to be more professionally militaristic, more discipline practiced, war-like subjects studied, and a more military appearance required for members. Another pressure for militarism is the need of every profession to find something to do within their profession: surgeons operate when it is not needed, professors teach where no one is listening, sports professionals play more and more games, lawyers are suing everyone and the military tend to fight unnecessary wars. Their devotion to our system may keep the military from ever taking over the government unless they perceive the system being threatened by liberal ideas.

The military educator has the same problem all of us have. We have a power-control little angel sitting on one shoulder and the freedom-experimental little devil sitting on the other. It is like Natty Bumppo in James Fenimore

Cooper's Leatherstocking Tales. The military, like Bumpo, has to be a saint with a gun. The military educator has to be both an Athens and a Sparta. In its protective role the military must focus on destruction but military education in the 1970's was broadened in the hope that the humanities would preclude any more My Lai's. Sack reports there is presently, however, an ominous swing back the other way.¹⁶

American militarism, though perhaps less noxious than many other countries, is threatening to our social heritage. The Air University with its civilian Board of Visitors, its civilian advisors and its civilian guest speakers does not add much to this militarism. It supervises the Air Force Reserve Officers Training Corps and a program at the Air Force Institute of Technology to send officers to civilian institutions so it contributes a lot to a civilianization of the Air Force.

Professional Military Education at Air University was not copied from other professions nor did it develop the same way as other countries' PME. A comparison might help understand the university's program and give ideas for change. This comparison is necessary because the military is the largest educator in the United States outside the church. The Army, for instance, had thirty-seven schools in 1968 with nearly 500 separate curricula.

Technical specialization led to the requirement for military education. In the sixteenth century engineers were needed to build low-profile fortifications which could withstand artillery bombardment better than the older forts. Engineers were needed to build defenses and artillery officers to tear them down. So the first courses in military academies were divided into infantry-cavalry tactics and artillery-engineer tactics. Technical military schools were established well before schools for non-technical subjects; in England it was Woolwich (1741) before Sandhurst (1802), in France it was Ecole

Polytechnique (1794) before Saint-Cyr (1808), Modena (1805) in Italy was for artillery-engineers, West Point (1802) emphasized technical education.

Wars have spurred interest in military education. West Point, for instance, was established partly because of continued troubles with Great Britain. The Civil War encouraged passage of the first Morrill Act to provide, among other things, study of military tactics in land grant colleges. By 1866 over 4,000 officers had been trained in these civilian institutions in the north. In 1868 a law also authorized medical training of officers at civilian universities and in 1871 engineers were authorized, and ordnance officers in 1873. World War I brought the War Risk Act of 1917, the Vocational Rehabilitation Act of 1918 and the Alpha/Beta testing program, all of which affected education. Today military officers are being trained in almost all disciplines. World War II brought about the Navy V-12 program, the Army Specialized Training Program, the United States Armed Forces Institute, the G.I. Bill and over seventy percent of West Point graduates have gone on to civilian graduate schools. The Navy has a Navy Postgraduate School and the Air Force, through Air University's Air Force Institute of Technology, has a postgraduate program and a program to send selected members to civilian postgraduate institutions. In 1963 officers spent twelve percent of their career in postgraduate education and they spend more time now. In contrast, the Foreign Service Officer in the State Department spends less than five percent. The Cold War encouraged passing the National Science Foundation and the National Defense Education Act.

Professional military education involves pre-commissioning education for officers. The main sources of officers in peacetime are the Service Academies and the Reserve Officers Training Corp, both administered by Air University and accomplished at civilian institutions. Officer Training School (OTS), another source of officers, is a concentrated period of training and is

designed for wartime expansion. Officer Training School is entry level training. It is a two to four month course of indoctrination and socialization with instruction in small units at rapid-fire tempo. The enrollee is told what and how instead of why. Officers are divided into regular and reserve for administrative and promotion purposes. The regular officers are assumed to be the most career oriented.

Beishke and Lipsey¹⁷ found that regular officers usually were promoted faster than reserve officers. Other difference makers were being a pilot, and having command and staff experience. Two of three colonels were pilots but five of six generals were pilots. Combat experience made no difference, but age did because few made general over fifty. Education at Air University made a little difference, but not as much as might be expected with only sixty-six percent of generals and forty-seven percent of colonels completing Air Command and Staff College and Air War College in residence.

The academies supply about half of the new regulars and twenty percent of all new officers. The academies are four year undergraduate schools with a large general education curriculum. The engineering to liberal arts curriculum comparison is Military Academy 55/45; Naval Academy 70/30; and Air Force Academy 50/50. The ratio of prescribed to elective courses are Military Academy 84/16; Naval Academy 85/15; and the Air Force Academy 71/29. The faculty ratio at the Naval Academy of civilians to military is 50/50 while the other two are mostly military. The logic for having a military faculty is it stimulates student career motivation and professional socialization.

The Reserve Officers Training Corps detachments have always had some problems in the civilian universities. The education level of purely military courses were challenged, so military history was added. It was also

felt that uniformed instructors were not always as sophisticated as regular professors.

COMPARISON OF AIR FORCE PME WITH PROGRAMS IN OTHER COUNTRIES*

<u>Level</u>	<u>USAF</u>	<u>USSR</u>	<u>UK</u>	<u>Israel</u>	<u>West Germany</u>
<u>Junior</u>	Correspondence 11 weeks in residence SOS	Correspondence Self-Study	10 week Command/Staff for all 0-3	9-12 week for all at Branch School	14 week Field Grade qualification/selection
<u>Middle</u>	Air Command and Staff College	Branch Staff	Staff College	Command/Staff	General Staff/S-Staff
Length:	40 weeks	3-5 years	1-2 years	11 months	21 months/3 months
For:	0-4	0-3	0-4	0-4	
Selection:	Central Board	Recommendation Competitive Examination	Competitive Examination	Recommendation Competitive Examination	Performance Report Examination
Alternative:	Correspondence/ Seminar	None	None	Correspondence if passed Examination	None
<u>Commanders Course</u>	Command Directed	None	Short update	Self-study and 9 week course	Two-phase course
<u>Senior</u>	Air War College	General Staff Academy	National Defense College/ Royal College of Defense Studies	National Defense College	N/A
Length:	10 months	2 years	27 weeks/11 months	1 year	
For:	0-5,0-6	0-6,0-7	0-6,0-7	0-6,0-7	
Selection:	Central	Recommendation Examination	Central Board	Central Board	
<u>General Officer</u>		Short Advanced Courses			

*Data from Annex II, "Review of Education and Training for Officers," Washington, D.C.: U. S. Army, 1978.
Format from Air Force P.M.E. and Executive Leadership and Management Development, by Robert L. Taylor and
Dionn M. Wall.

A comparison between American and other national PME may be helpful. Other countries have more programs for more total time than the Air Force and other countries use competitive exams for selection to attend. Others also have a larger percentage of officer involvement. American officers spend a total of 138 weeks, while the Russians, for comparison, spend three times as much. Russia is more dedicated to military training: it provides para-military training during its ten year general secondary education, then there are 140 undergraduate military schools of three to five years with a twenty-five year military commitment for graduates.¹⁸ The Soviets have seventeen staff academies of two to four years duration, the most talented students are kept for an additional year and receive a Master's Degree, a few attend Veroshilov General Staff Academy in Moscow for two years. Their promotion system rewards the thinkers instead of the doers as in the American system. Russia has copied the German Auftragstaktik (mission tactics) where the mission comes first, so they do whatever is required even to act contrary to orders if they deem it necessary. Whether members of a highly controlled society can do it or not may be questionable.

One of the main differences between American and others is that other Air Forces use more correspondence courses with both the British and the West Germans having a two year correspondence course. The British have the Individual Studies School and the German Air Force has the Field Grade Officer and Selection Course.

Air University constantly designs and redesigns its curriculum. It is helpful to look at other ideas, however, and incorporate any good ideas other national military institutions may use. One of the better ideas from the others is competitive selection for attendance. The selection is now made in the Air Force by commanders who sometimes send the least productive because they

can be spared, or they send the ones they like instead of the most able. Another good idea from other countries is that graduation guarantees a promotion, then the best should be kept to teach the others and be promoted again. They also should study military subjects only and go back to the university experts for non-military subjects as is the practice of other professions.

The norm for most public and private organizations is short courses and workshops. Other professions received intense training preceeding their career and need only short update training. Ten courses of a week or less in one career is not unusual. Some large civilian organizations have in-house training staff and faculty but most send them to the universities. Non-military managers are sent to more courses and the offerings are more flexible while technical training is much more intensive in the military. The military does attend much off-duty education unrelated to career development: they do it for personal development, preparation for civilian careers, and as an aid to promotion. The first level career education between Air Force and other professions is similar, involving staff skills, leadership and the decision process. The middle and senior levels are different. The Air Force sends many fewer members, spends more time on common topics, and since military careers are shorter they concentrate the education in a shorter time span.

Another problem that has constantly been discussed at Air University is education versus training. Much of what Air University does would ordinarily be defined as training, yet a university is supposed to be an educational institution. From the first Board of Visitors until now they have been constantly warned to keep the program educational. The first Board of Visitors said, "The distinction between such education and mere training should be kept constantly in mind throughout the development of all education at the Univer

sity."¹⁹ Yet some of the programs they are called upon to do are not properly education.

Education and the military are traditionally at odds. Education implies creativity and preservation of cherished values while the military stresses obedience, established procedures and the hierarchy of command. "The first Board also believed the ideals of liberty, democracy, equality, and peace have contrasted with the military's concern with authority, hierarch, obedience, force and war."²⁰ This might be a threat to national political stability in a less institutionalized society where the military intervenes in politics and/or controls policy. In highly institutionalized societies such as communism and democracy the state has more control over the military. This is an ideological conflict and the question arises how to solve it. Air University's problem is expressed by Margoitta: "In its educational programs, D.O.D. must walk a fine line between improving performance and enhancing understanding, between teaching replication and fostering innovation, and between increasing the efficiency of the organization and upgrading the health of the society."²¹

The difference between training and education is the difference between generalists and specialists. Professional military education is to develop generalists, while training is to develop specialists. It is complex and specialized but the main aim of education is to develop personhood instead of specialization. Personhood involves development of all facets of personality while training deals with technical skill. Education is open ended and it never ceases. It tends to tame the experts by subjecting them to the criticisms of other disciplines while training teaches precise, efficient, and standard methods to use in doing a job.

The history of military education reflects two images: the fighting man or manager, doers or thinkers, academic left or professional right. Among

the higher officers it is swinging to the intellectual side but among the lower staff officers and enlisted personnel it is towards the specialist. This is consistent with the trend in all areas of American society of the disintegration of the whole man into specialized fragments. There was a time when the educational development of military generalists had been subordinated to professional specialization. Karschnia states "Military education tends to vocationalize and specialize professional development rather than convey broad understanding."²²

Historically in the 1815-1940 period there were few outside threats so the conservative military had a reduced influence on the edge of a liberal society. Before World War II when diplomacy failed the military was used in a small scale. There was no need for the military to study management, national security policy, international politics or economic relations. The unique responsibility of the military was the defense of the nation. Post World War II conditions created the need for managers as well as warriors. During the so-called cold war of the mid-fifty to mid-sixty period national security became the goal of national policy. The armed forces thus became a prime instrument of national policy and assumed a major economic role using about ten percent of the gross national product. The armed forces also assumed a prime governmental role through the Joint Chiefs of Staff, Secretary of Defense and Department of Defense. This enlarged partly because congressional influence waned while the power of the executive branch increased. Career officers moved into government and industry to supply political clout and when a large part of the population became veterans, respect for the military purpose and ethic gained social acceptance. There was a surge in the 1960's against the use of the military for political reasons, but now the move is to a more conservative acceptance.

Air University has a dilemma; peace-time skills related to each job are needed but the Air Force also needs to identify leaders for a possible war. Historically the saw, hammer, and transit have been used by the American military as well as the sword. Glick reported it has been used to cure social and medical ills and the percentage trained for actual combat is still declining: Civil War, 93.2 percent; Spanish-American War, 86.6 percent; World War I, 34.1 percent; World War II, 38.8 percent; Korea, 25.3 percent and 1968, 12 percent.²³

Officer education systems in the military can be charted as follows:

GENERAL EDUCATION

ENTRY LEVEL

Service Academies
Reserve Officer
Training Corps
Officer Candidate and
Training Schools

LOWER LEVEL

Army Branch Schools
Air Force Squadron Officer
School
Marine Amphibious Warfare
School
3-8 years service

MIDDLE LEVEL

Armed Forces Staff
College
Service Command and
Staff Colleges
9-15 years service

SENIOR LEVEL

National War College
National Defense University
Service War Colleges
Selected Foreign War Colleges
16-23 years service

SPECIALIZED EDUCATION

Specialized Courses in Management,
Logistics, Intelligence, and so
forth, and Postgraduate Civilian
Courses
0-20 years service

Air University supplies the Air Force versions. The lower and middle levels are leadership-management oriented but the senior level is more specifically military. The senior level has no counterpart in the public or private sectors. The lower level emphasizes practical skills while the senior level is based on conceptual skill building so developing a curriculum applicable to all

levels is difficult. Some have argued for single professional education for all services but the differences among services are considerable. In the Air Force, for instance, most are flyers where instant decisions are essential because combat comes in burst; officers do most of the fighting, enlisted do not; the need for interdependence is extreme; leadership on the ground is rank, in the air it is skill; and contact is man to machine, no man to man. On the other hand, in the Army there is a geophysical environment, enlisted personnel do most of the fighting, there is a less cohesive organization, and there is more exposure to fear with visual contact with death. Naval ships, on the other hand, create a unique environment of togetherness.

The curriculum in the military may be broadened too far. Air University pushes students to investigate a range of subjects so broad it could exhaust the most dedicated scholar. They do this because the military has to respond to many audiences since they are in the public view. In Greek mythology, Procrustes was constantly catching passerby and fitting them to his bed. The military sometimes feels like the passersby.

Continuing professional military education for the Air Force is supplied by Air University. It is a mixture of training and education with the courses being more educational in the higher echelons. The curriculum is designed to be appropriate to the officer's likely assignment for the next few years and the courses are incremental rather than concentrated like other professions. Officers need to stay abreast of changes so they are asked to return to school several times during their career.

In the Air Force the lowest level is the Squadron Officers School which takes place in the first three to eight years of an officer's career. The student's spouse is involved: they can attend certain open lectures, cheer athletic contests and share in ceremonies. The purposes of this school are to deepen

competence in their own career field, to get an update on recent developments and to widen the understanding of their service's role, mission and doctrine. The ultimate purpose is to make the Air Force a better combat force. About sixty-five percent attend in residence, the rest take courses by correspondence. The format is more training than educational with rapid-fire instruction on numerous subjects: indoctrination on professional values and military doctrine and socialization is important. Professional solidarity and dependable response are sought. The problem with this approach is that when a person is so institutionalized, later attempts to use creative educational techniques have less chance of success.

The middle level professional training at Air University is Air Command and Staff College which occurs between seven and fifteen years of the career. Only twenty-five percent of officers attend in residence, the rest attend seminars at local bases or by correspondence. The Air Force spends more time studying national and global problems than do other services in their middle level schools. The students in ACSC do not appear to have their intellect tested enough or encouraged to be creative but a single year of school may not be long enough to do this.

The senior level is Air War College, although officers may attend the other available military schools. There is too much reliance on guest lecturers but they are encouraged to learn from each other and after the lectures they form small groups for discussion. The Boards of Visitors and other civilian educators have continuously criticized lack of tenure and preparation of faculty because the military faculty lacks wide experience in politico-military affairs and resource management. Also, the civilian faculty is used mostly for planning and administration not teaching. There should be more questioning of doctrine by both students and faculty. They should be able to challenge and perhaps

become superior in Air Force doctrines over defense intellectuals, think tanks and other universities' research. Air War College is, however, the closest example outside AFIT to education instead of training at Air University.

The military war colleges originally were founded to prepare the most promising officers at mid-career for high level commands and staff duty, and special assignments; in short, the rewards and burdens of senior rank. The war colleges differ from lower level officer career courses which teach fundamental military skills, leadership, staff duties and tactics. These colleges for future generals, atop the military education pyramid, should deal less with day-to-day concerns and more with concepts such as strategy, defense management and national security policy.

Each war college had its own reason for being. The Naval War College, oldest of the five, was founded in 1884 on a hill overlooking Narragansett Bay in Newport, Rhode Island. The school taught the art of admiralship and of winning battles at sea, and students in the 1890's studied with Alfred Thayer Mahan while he wrote his famous works on the influence of sea power. The Army War College, now located at historic Carlisle Barracks, Pennsylvania, was founded in 1901 by then Secretary of War Elihu Root to teach land warfare and serve as a brain trust for the new army Root was trying to create from a hodgepodge of branches. The school also taught joint operations to reduce the constant disputes between the Army and Navy.

In 1946 the Air War College was founded so that the Air Force could have its own school to study air power and lessons learned during World War II. Located on the site of the Wright brothers' early flying school at Maxwell AFB, Alabama, the Air War College is part of Air University which includes the separately-housed Air Command and Staff College and other schools arranged like a wheel with a library at the hub.

The National Management College (formerly Industrial College of the Armed Forces) occupies a four-story building overlooking the Potomac River at Fort Lesley J. McNair in Washington, D.C. The school was founded in 1946, but its predecessor, the now-extinct Army Industrial College, was founded in 1924 to prevent a recurrence of World War I supply failures. During the mid-1960's, NMC's focus shifted from industrial mobilization to defense management, logistics and economic resources in peace and war.

The National War College, also at McNair, is in a domed neo-classic building recently designated a national historic landmark. Founded in 1946, the school stresses interservice operations and national security issues facing a nation suddenly thrust into world leadership.

Until the mid-1950's, the war colleges mirrored their own special interests. Then the Defense Department, concerned that too many officers considered the National War College superior to the other, proclaimed all the schools were equal and allowed officers to attend only one. The schools responded by trying to offer everything taught at the National War College, cramming their curricula with international politics, economics, history, political science, social studies, geographical area studies, management and soon became National War College look-likes according to Maureen Mylander.²⁴

The problems of the senior level courses are several. "Critics inside and outside the services have faulted the institutions for covering too many topics, few of them well; for teaching the wrong topics; for not properly preparing students for future assignments; and for preferring official party lines to controversial subjects."²⁵ There are too many establishment speakers who defend what the military is doing. The instructors are mainly inbred graduates from previous classes, who are mostly administrators for the guest speakers. There have been some attempts at substantive change but they have been short-

lived.

Some things such as the three levels or tiers of professional military courses have not changed since the late middle ages. Vice Admiral Stanfield Turner, commander of the Naval War College in 1972, thought they over-emphasized current events, had too many lectures, studied nothing in depth, needed more qualified faculty, and ought to drop the cooperative degree program. Turner imported civilian professors with doctorates and stopped long and preretirement tours for military faculty. He also cancelled field trips to such places as New York and London. He left in 1974 under great pressure.

Major General Franklin M. Davis, commander in 1971 at the Army War College, also attempted to develop changes. He started a think-tank concept. The students were to review national security, then enter into a period of eleven weeks of individual study plus ten weeks of group research on contemporary problems. He was not able to carry out most of his plans. Many other critics from high places have voiced their concerns; for instance, the United States Department of Defense Committee on Excellence in Education met in 1975 to discuss the Senior Service Colleges. It included the secretaries of the Navy, Army and Air Force. They advocated the several schools be consolidated and they said too much time was being spent on the study of national security. It looked to them like the schools were training replacements for Kissinger. They thought most of the curriculum should be on warfare. Other critics have agreed. "Perhaps the greatest shortcoming is that the schools in recent decades have produced no strategic thought of note."²⁶

The schools claim to encourage free inquiry and expression, yet students who disagree with speakers are sometimes reprimanded. This would have a chilling effect. It is hard to have freedom when your master's highest virtues are discipline, obedience and loyalty; an attitude that could be anti-

intellectual.

The conclusions about military professional education have been drawn over and over. Many of them boil down to too many facts presented and too little time to reflect; Holley reports ". . .The vast majority of lessons in the service schools tend to be little more than descriptive."²⁷ Some might contend that they have to deal in facts for the poorest prepared students and to establish minimum fact requirements because there is not enough time, but the lack of creative effort is quite a price to pay. Providing the student with an organization's history is not all there is to education and may not rightfully be called education, but only training. Training is necessary to maintain skills in the military workers trade but education is needed to provide thoughtful managers and leaders. Some of the poorest prepared could be delayed until they became prepared in some other media. According to Groves, "None of the schools (in Air University) have established any sort of academic prerequisites for admission."²⁸

Air University should provide contending disciplines encouraged to criticize each other and search for professional understanding instead of presenting large quantities of facts. It must become a real university in an intellectual sense. It should become more of a teaching institution with a teaching faculty that has a better working teacher-student relationship.

Another problem Air University has to deal with concerns the curriculum. If both training and education is part of the program, then the curriculum is even more complex. Education is general and abstract while training is specific and concerns specific skills. Air University has three distinct curricular areas: its core and the original emphasis is professional military education, specialized job related education was there in the beginning and has been greatly expanded, continuing education also has become a large

part of the program. The three principle agencies for specialized professional education are the Air Force Institute of Technology, the Institute for Professional Development and the Academic Instructor School and Allied Officer School.

In the 1950's there was a shift toward generalist education from the training of specialists. The intermediate level of professional military education included several special staff courses in logistics, comptrollership, intelligence, communications and electronics for operations officers. They were discontinued and replaced by Air Command and Staff College.

Still another problem is that the curricula of the professional military education schools within Air University are not sequential. This happened because each school was allowed to develop its own curriculum, consequently there was curriculum overlap. There is reason for this overlap; curricula are dynamic, change in technology, capabilities, military concepts and the international situation can happen in the six year interval between each school. The negative aspect of duplication is curricular creep with lower schools emulating higher-level schools. Air Command and Staff College became so much like Air War College that some changes were made in 1975-76. Staff communication processes were emphasized and international relations study was reduced and courses were more integrated with planning and employment.

Curriculum overlap could be eliminated if subject areas were taught at only one level of PME or taught at different levels of specificity using some method like Bloom's taxonomy. In regard to the worry about updating the curricula by repeating it at each level, the student may already be ahead of faculty; they have just come from the commands who use the latest technology and capabilities. Also, a careful perusal of recent publications could keep the student abreast of the international situation and there is reason to believe the

major commands do not listen to military concepts generated by the university.

Most of the changes in curriculum came from the faculty. This may be acceptable because the officers on the faculty are from all parts of the Air Force and are rotated every three or four years which helps prevent intellectual inbreeding. There are other inputs from several sources: Air University has a system of curricular review and revision, they receive suggestions from the major commands and staff agencies, there is a staff review during visits from Headquarters Air Force, then the Air University commander reviews all curricula. The Air Force Institute of Technology has its curriculum reviewed also by the North Central Association of Colleges and Secondary Schools and by the Engineering Council for Professional Development. Also, Air University schools conduct surveys, interviews, case studies, research of documents and field studies for curriculum development by both faculty and students.

Not enough time is spent on doctrine, tactics and strategy. Commander Raymond B. Furlong in his keynote address of 1978 disparaged the idea that strategic thought had been turned over to think-tanks instead of the military professionals. ". . .we have far more officers with views on national security and foreign policy than we do with views on strategy."²⁹ Air War College, however, has been responsible for many new ideas that have been adopted by the Air Force. But there has been much rigidity and inflexibility of thought as well as insight and understanding.

In American professional military education, very little time is spent on strategic thought, development of military doctrine, and military history. There was a time when it was not so. In fact, there Smook state there "seems to be no department in the military which actively pursues the development of strategy and insures strategic innovation finds its way into current doctrine and policy."³⁰ Smoak further states, "Presently, there is no method by which a

potential Mahan or Mitchell can be identified within the military."³¹ Strategy is a science, the application of it is an art and the promotion system should recognize the thinkers as well as the doers. In fact, like most professions, every effective military person by the nature of the task, must be a thinker and a teacher. Military faculties are not typically career professional educators, as are civilian college professors. They get considerable education and training, but not many become scholars because long assignments would under the present system eliminate them from promotions. The best officers avoid faculty assignment.

Another problem in the curricula is the shift from management to leadership. The Air Force is an enormous and complex organization and may be the ultimate bureaucracy. In the struggle to contend with enormity, bureaucracies seek controls, striving for precision, reliability and efficiency. The result is institutional inflexibility because control from the top discourages creativity. Levels of authority and areas of responsibility are clearly defined and there is a reliance on the standardization of rules, regulation and specialization. The ways to partial individual freedom from controls in this system are the receipt of delegation of authority and learning professional expertise since specialization is a source of power in complex organizations. Air University should be teaching organization theory more than leadership for there is little chance of leadership in operational units of the Air Force. Change and innovation are involved in leadership and there are few opportunities for these. Organizational theorists such as McClelland have been concerned with structure while others such as Luthans have been concerned with how organizations affect individuals. Air University has been using the human behavior school of leadership concepts of Fred E. Fiedler; Robert Tannenbaum and Warren H. Schmidt; and Paul Hersey and Kenneth H. Blanchard.

chard. Perhaps they should emphasize the most recent systems approach to management.

A great single Air Force university might be the ultimate answer to the educational needs of the Air Force. It was suggested twice but not implemented. In these economic and strategic troublous times, there may need to be a reconsideration. The United States military in this century has developed an American brand of militarism, different from others in that they do not govern or control the government. In regard to wars, we might not have been able to avoid World War II, but perhaps should not have been involved in the Spanish-American War, World War I, Korea, and Vietnam. But it is hard for any profession to practice and learn without performing. The record has been open to criticism with defeats in the last two wars and bad decisions at Pearl Harbor, invasion of Italy instead of northern Europe, the drive through the lowlands instead of central Germany, island hopping in the south Pacific instead of straight across the Pacific to the Philippines and Japan, and more recently the Bay of Pigs and rescue Teheran. The military blames civilian interference for failure. The reasons are complex but the lack of a great military university may be one of the answers.

There was an aborted move for consolidation of military education and the services in the 1960's. President Johnson requested a defense-wide review of the military education systems, which was never done. The purpose was to ask whether there should be more common, joint, or inter-service education. There was a lot of opposition both from civilians and military and the lack of enthusiasm stemmed from an almost unanimous view that schooling should be keyed directly to the individual services needs and tasks. The idea for common schools also challenged the very existence of separate armed services.

Extremity in the opposite direction is not good either and the military

is finding common ground somewhere between the extremes. The interdependence movement is growing despite opposition, especially in combat support activities such as the Defense Communications Agency, the Defense Intelligence Agency, and the Defense Supply Agency. The Air Force might lead the way by combining their separate educational establishments scattered over thousands of miles into a great Air University, perhaps located at the Air Force Academy in Colorado Springs, Colorado. This would bring all educational efforts under one command, leaving training to the Air Training Command. Academic degrees in military science could be earned from undergraduate to graduate, as in any other profession. All the different disciplines could interact at close range and all the force of accreditation associations could help mold the great university General Fairchild envisioned in his address to the first Board of Visitors. He wanted it equal to the great universities in some respects, but there is no reason it could not be equal in all respects.

Air University leaders have spoken against accreditation. "Inasmuch as the Air Force and Air University have held that much of what is taught in PME schools is not within the competency or authority of accreditation associations or authorities, we have not sought accreditation of PME schools."³² The Army did seek accreditation so the Air Force could seek it. Any educational process should be periodically reexamined from the depth of its assumptions to the tips of its pencils.

Two trends should be encouraged in the new university. First there should be a re-emphasis of the military arts. If any other profession's knowledge is needed, go to civilian faculty. Professional military education should first illuminate the concerns of combat, then study the linkage of other subject matters to combat. The military needs theoretical scholars and maybe a great comprehensive university would develop them. The second thing to

remember is diversity because individual motivation is central in education. The military student ought to be encouraged to ask the question "why." There is often more truth in honest doubt than in all the creeds. It would be hoped we can continue what was reported in a letter written home by Baron von Steuben from Valley Forge, "The genius of this nation is not in the least to be compared with that of the Prussians, Austrians or French. You say to your soldier, 'do this' and he doeth it; but I am obliged to say: 'This is the reason you ought to do that,' and he doeth it."³³ Von Steuben did not like the question why, but it is valid, especially in an educational setting.

The Air University's motto is Proficimus More Irritenti, interpreted as: We proceed unhampered by tradition. Like most mottos, it is visionary and unrealistic. Military institutions are built on traditions and Air University is no exception; some actions were taken, however, to make the university untraditional. A Board of Visitors of civilians is asked each year to advise and perhaps too much advice has been solicited and too much self study has been enjoined. It has created a kind of institutional paranoia. Not sure of being right, the university has waffled and yawed, using Air Force terms, between opinions often reversed from year to year. The reason for a stated mission is to chart the long time course with stated short term objectives to be met from time to time.

The organization and mission of Air University was originally stated in Army Air Force Regulation Number 20-61. The mission of the Air University is to: prepare officers for command of large Air Force units, wings, groups, and squadrons; and for staff duties appropriate to those command positions, provide education to meet the scientific and technical requirements of the Air Force.

There have been problems in meeting this mission. Subordinating Air University to the Air Training Command was not a step in the right direction.

It should answer only to the highest echelons of government if it is to be an educational institution, instead of a training adjunct to the Air Training Command. Training and education must be clearly differentiated.

Another tack that could be taken is to make research a principal concern of the university. The military teachers do almost no research because they are not trained to do it and are not given enough time. There is a research staff of civilians, but their research is not like that done at civilian institutions. They have certainly not met Upton's original dream of great military research university after the German model. These civilian researchers are not held in high esteem as witnessed by the fact there are almost no civilian historical biographies to be found anywhere in the Air University complex.

Air University should go one of two directions. It should go the Air Training Command route and provide all the specialized training required by the Air Force; this way they could quit the pretense of being a university. Except for the degree programs at Air Force Institute of Technology, that is what they are now doing. The Institute of Technology degree programs could be assigned to Air Force Academy with Air University superintending the administration of degree programs at civilian institutions because the work is not academic, but administrative in nature. The other direction already suggested is to join with Air Force Academy to become the great air university first envisioned.

There are other problems that deserve comment. One is that there is too much of a turnover in commanders. They tend to stay less than two years, so there is no continuity of leadership. Also, too many of them become commanders for the wrong reasons, some come to the warm south or near home to prepare for retirement. At least one was assigned though by his own admission he did not believe in Professional Military Education. Another problem is too much socialization. Like many other organizations, officers are

promoted by "who they know." These officers gather in Air War College, for instance, and have a year's sabbatical from command where they form social relationships. Highly cohesive groups tend to make a higher proportion of bad decisions because they do not want to disagree or be disagreeable in a friendly atmosphere. They tend to have negative fantasies about what might happen to them if they disagree or are creative.

A final personal statement is in order. Every enterprise is different. One thing is clear, what is right for one institution is often not correct for another without adaptation. One of an institution's most significant tasks is to create both the climate and the conditions for education that accomplish its stated mission and to do so with the highest quality. The task of clarifying, modifying and accomplishing the major goals of an education institution is an ongoing task, thus a campus needs a measure of freedom to produce distinctive education for students and professional growth for faculty. Knowledge is liberating in that it at least reveals our bounds. Scholarship seeks information, a step toward understanding, and a scholar studies with blinders when the resources are limited and the vision narrowed. Our nation must take care that we do not impoverish the next generation by denying them acquaintance with the thoughts of those who preceeded them.

FOOTNOTES FOR CHAPTER VI

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¹⁸ Andrew W. Smoak, "Professional Military Education and Leadership." (Air University: Maxwell AFB, Montgomery, AL, March, 1980), p. 5.

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²⁴ Maureen Mylander, "The War Colleges: A Wasted Resource," Air Force Times. 7 March 1977, Volume 37, p. 7.

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²⁹ Raymond B. Furlong, Keynote Address to Air War College Class of 1979 (Montgomery, AL: Maxwell Air Force Base, August 1978), p. 13.

³⁰ Andrew W. Smoak, "Professional Military Education," p. 11.

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³³ J. M. Palmer, General Von Steuben, (New Haven, CT: Yale University Press, 1937), p. 347.

Appendix I

GLOSSARY OF ACRONYMS

AAFIT	-	Army Air Force Institute of Technology
AAFSAT	-	Army Air Force School of Applied Tactics
AAFTAC	-	Army Air Force Tactical Center
ACSS	-	Air Command Staff School
ACSC	-	Air Command and Staff College
AF	-	Air Force
AFA	-	Air Force Academy
AFIT	-	Air Force Institute of Technology
ATC	-	Air Training Command
ATS	-	Air Tactical School
AU	-	Air University
AWC	-	Air War College
CCAF	-	Community College of the Air Force
CDC	-	Career Development Course
ECI	-	Extension Course Institute
G-2	-	Army Intelligence
G-3	-	Army Supply
LMDC	-	Leadership-Management Development Center
NCO	-	Non-Commissioned Officer
OJT	-	On the Job Training
PME	-	Professional Military Education
ROTC	-	Reserve Officers Training Corp

SAM	-	School of Aviation Medicine
SNCOA	-	Senior Non-Commissioned Officers Academy
SOS	-	Squadron Officer School
SSS	-	Special Services School
USAF	-	United States Air Force
USAFI	-	United States Armed Forces Institute

Appendix II

Organizational Charts for Air University Departments

HEADQUARTERS, AIR TRAINING COMMAND

AIR UNIVERSITY

Air War College	Air Command & Staff College	Squadron Officer School	USAF Senior NCO Academy	
Air University Library	Extension Course Institute	Leadership and Management Development Center	Academic Instructor and Foreign Officer School	
3800th Air Base Group	AF Reserve Officers Training Corps	AF Institute of Technology	CAP USAF	AF Logistics Management Center

Chart No. 1

SENIOR NCO ACADEMY

Commandant
Vice Commandant

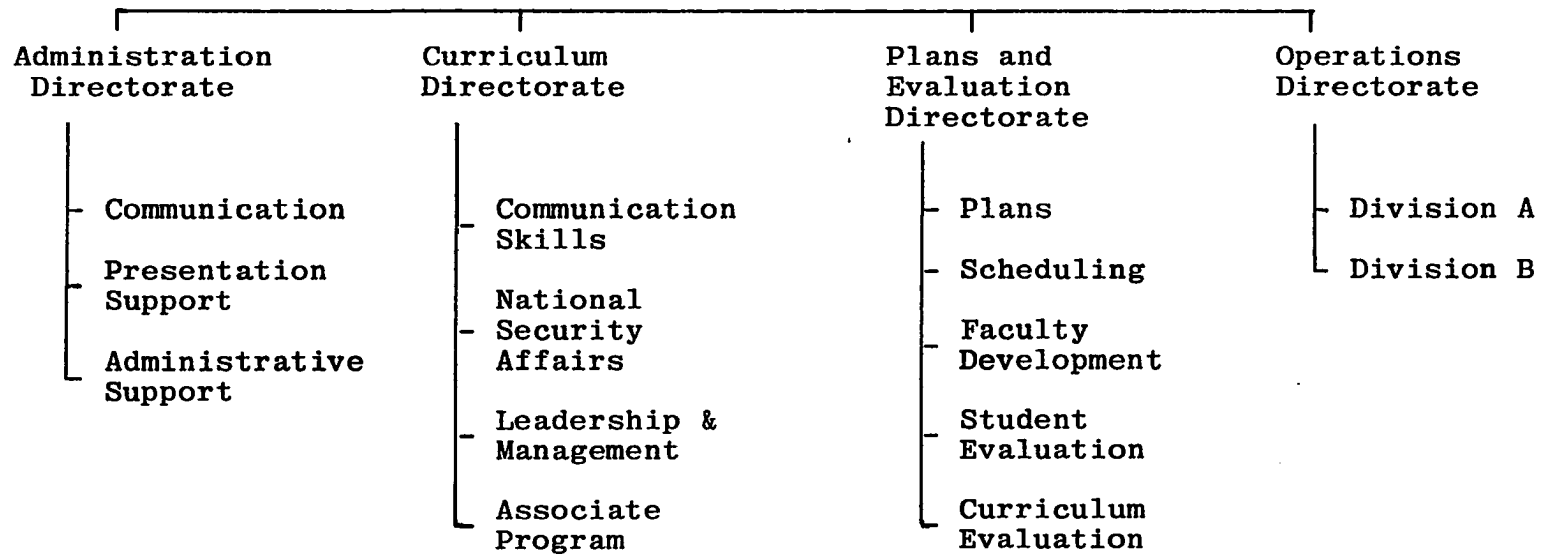


Chart No. 2

SQUARDON OFFICER SCHOOL

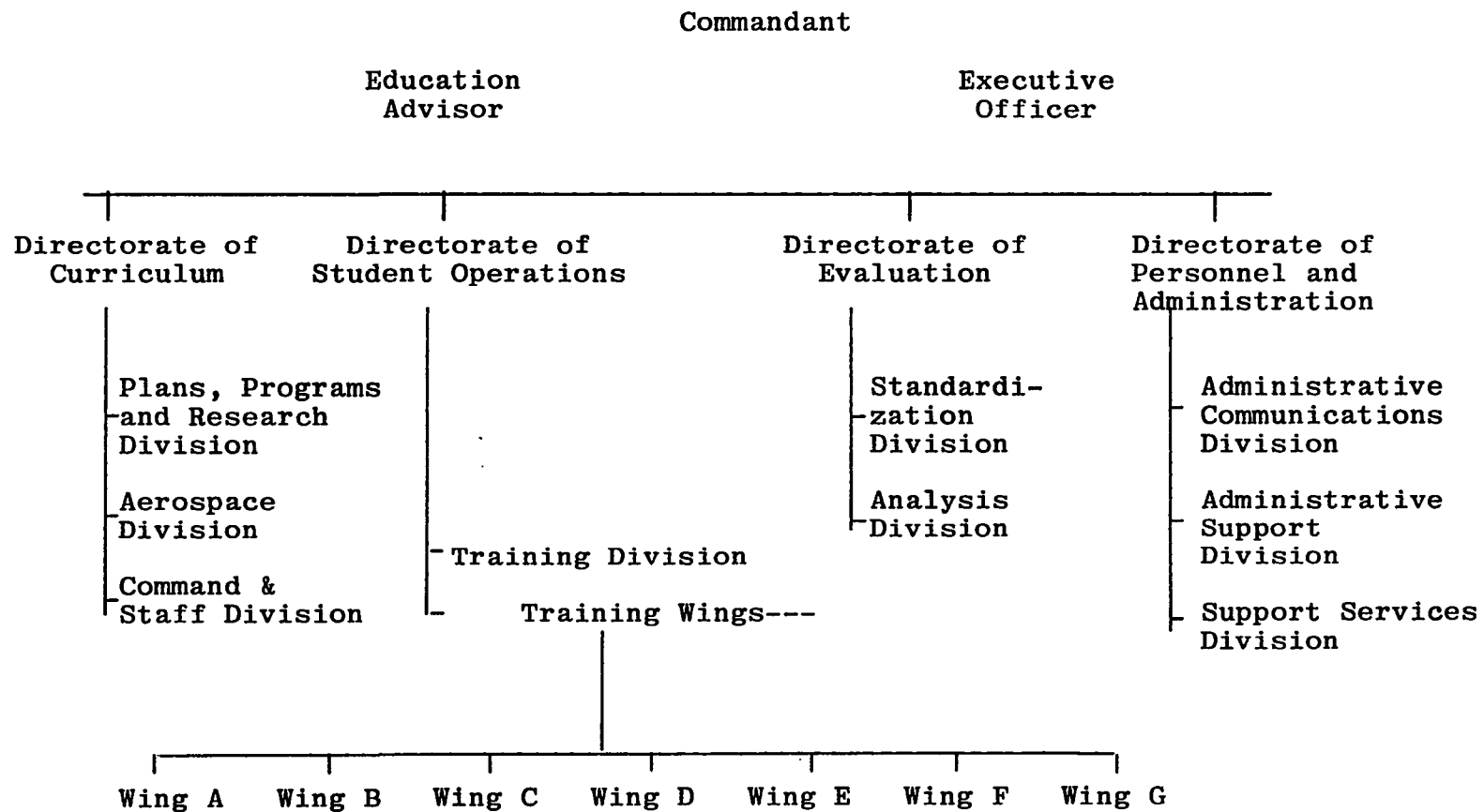


Chart No. 3

AIR COMMAND AND STAFF COLLEGE

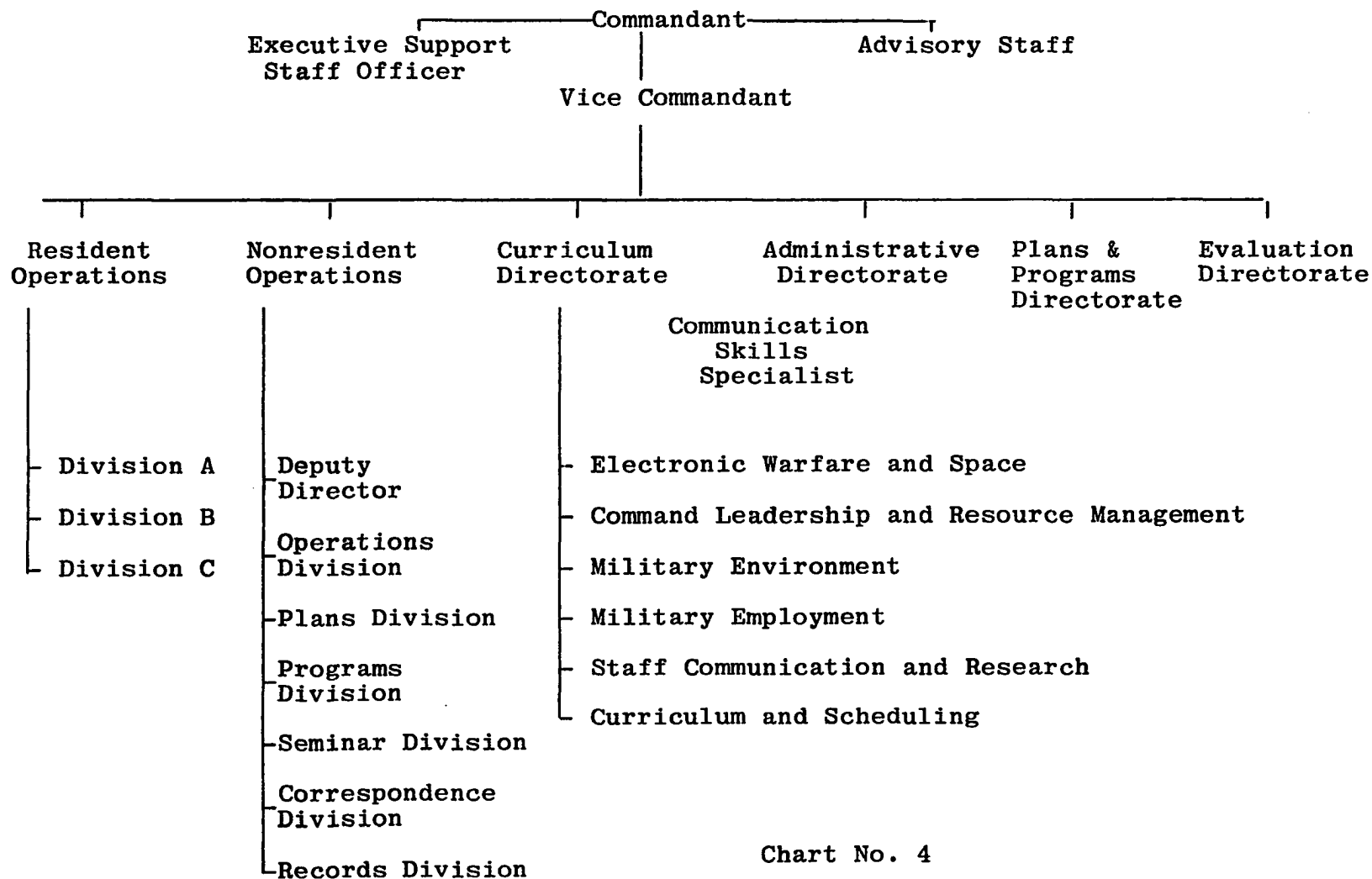


Chart No. 4

AIR WAR COLLEGE

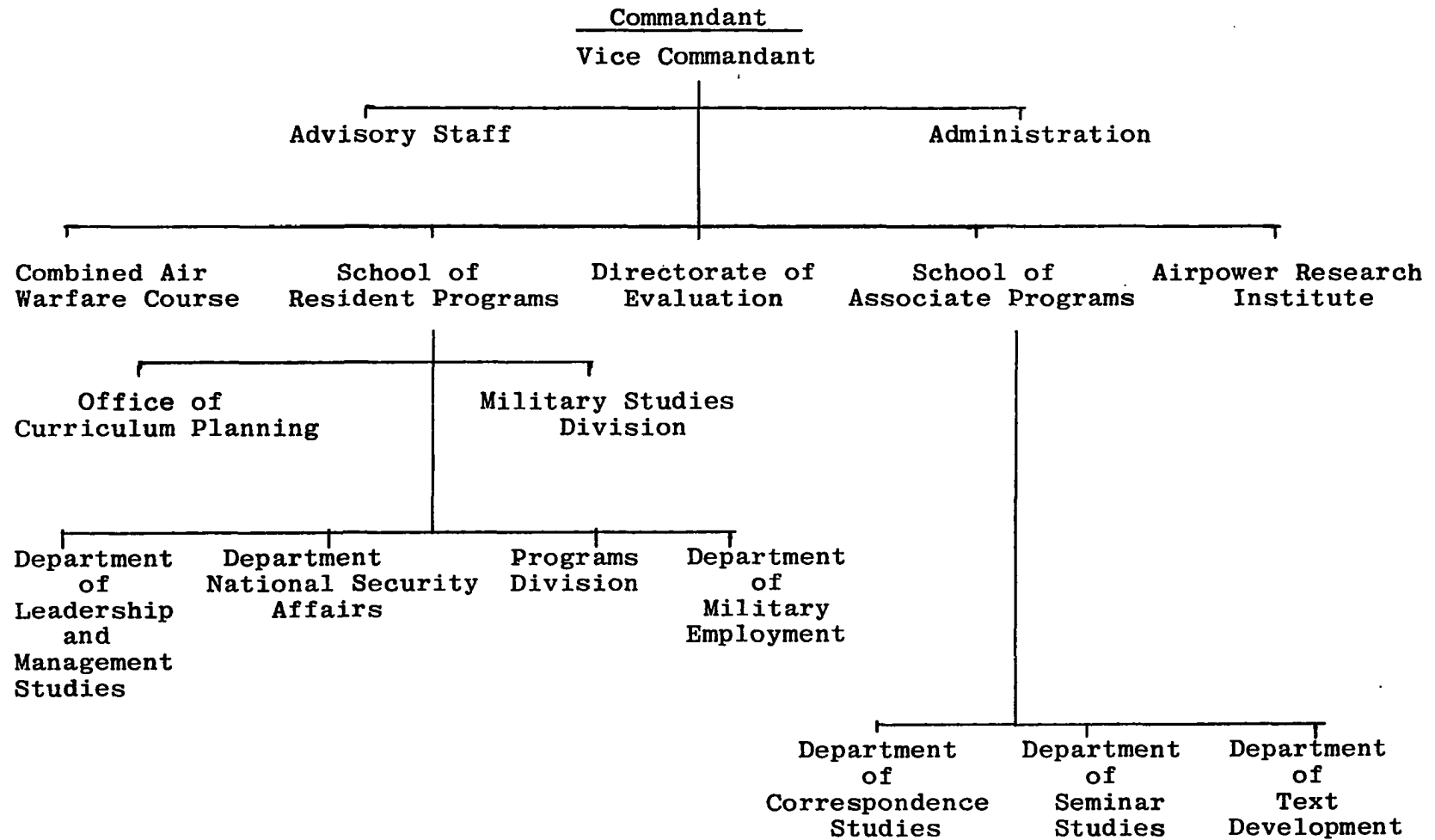


Chart No. 5

AIR FORCE INSTITUTE OF TECHNOLOGY

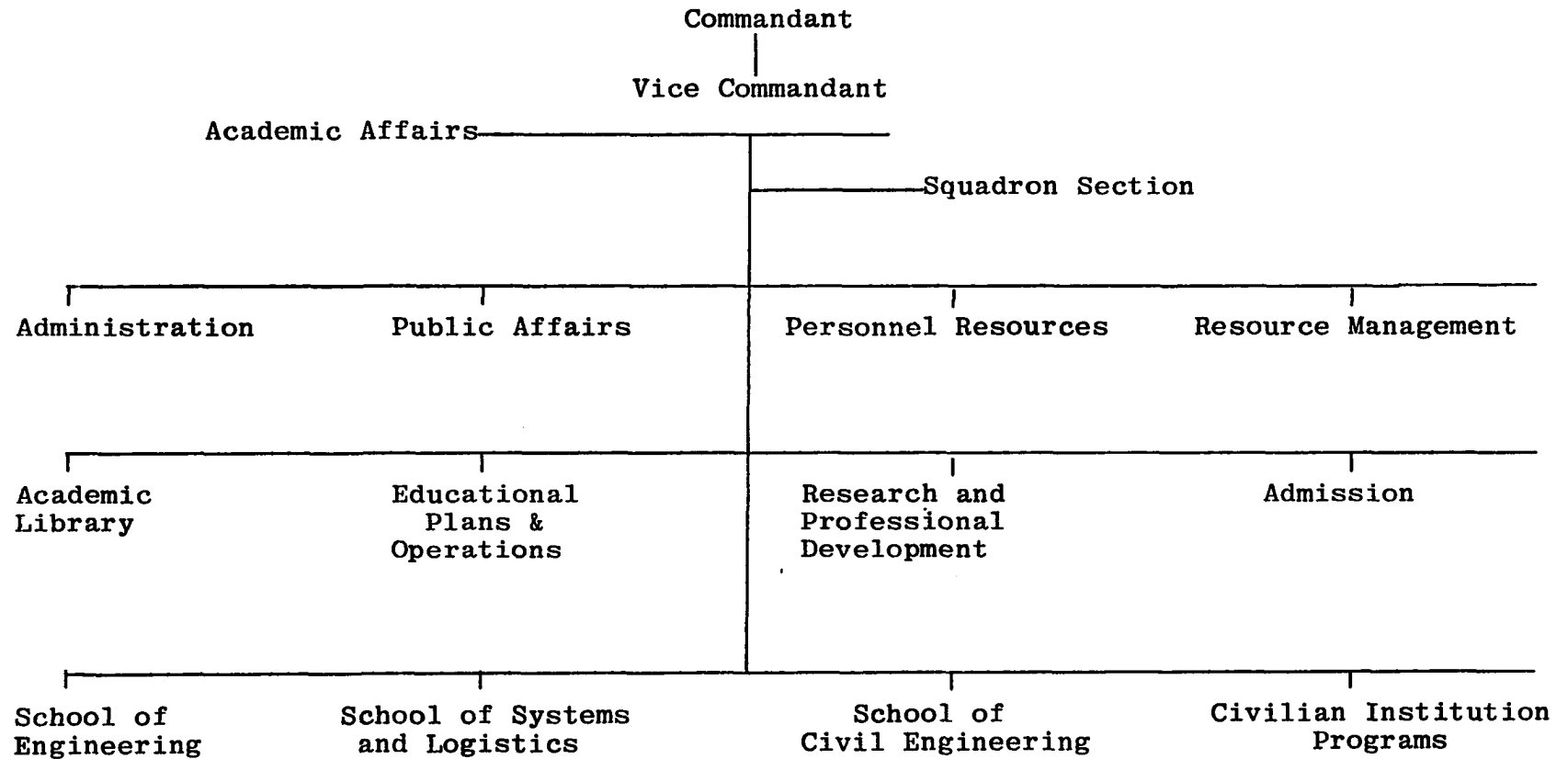


Chart No. 6

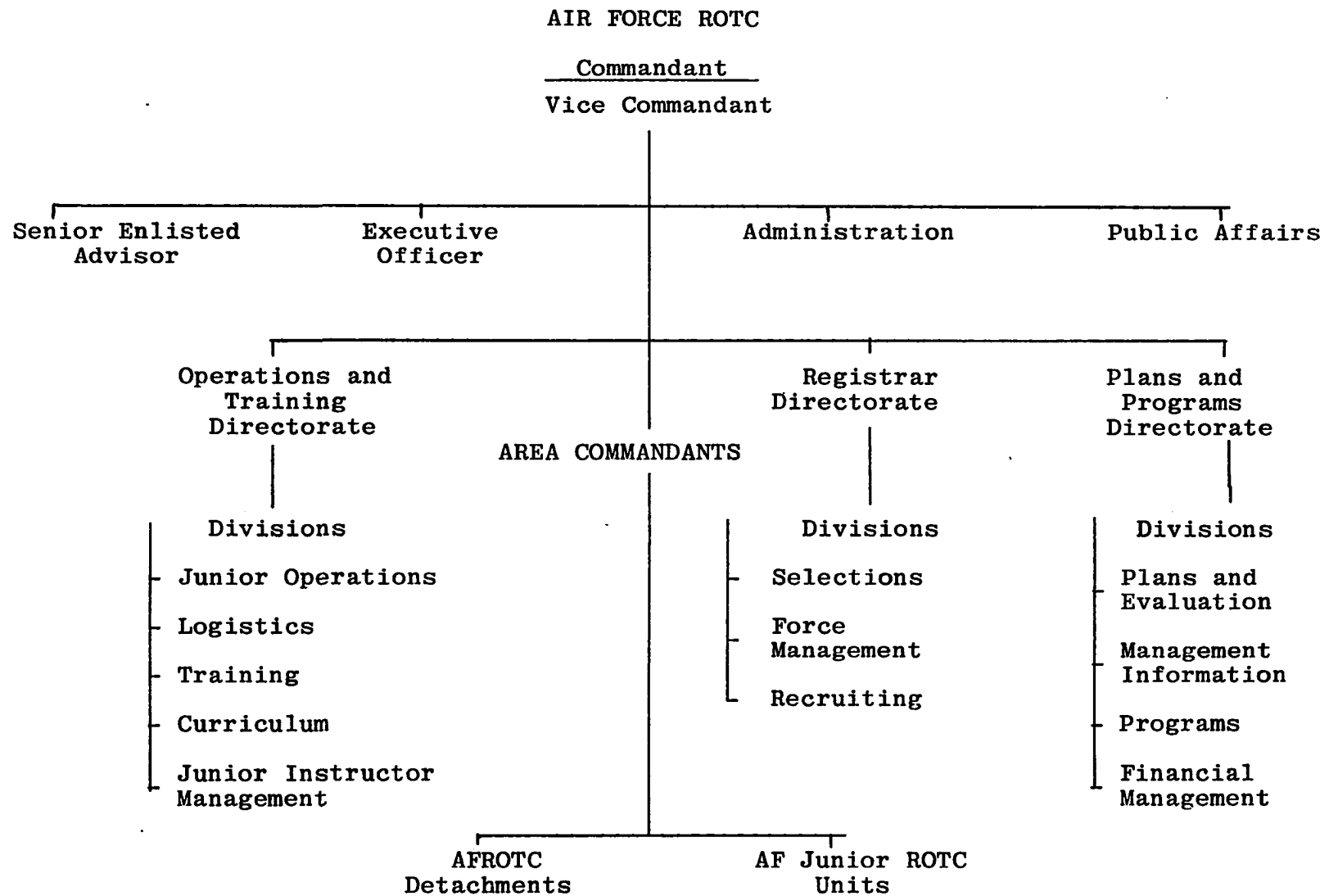


Chart No. 7

EXTENSION COURSE INSTITUTE

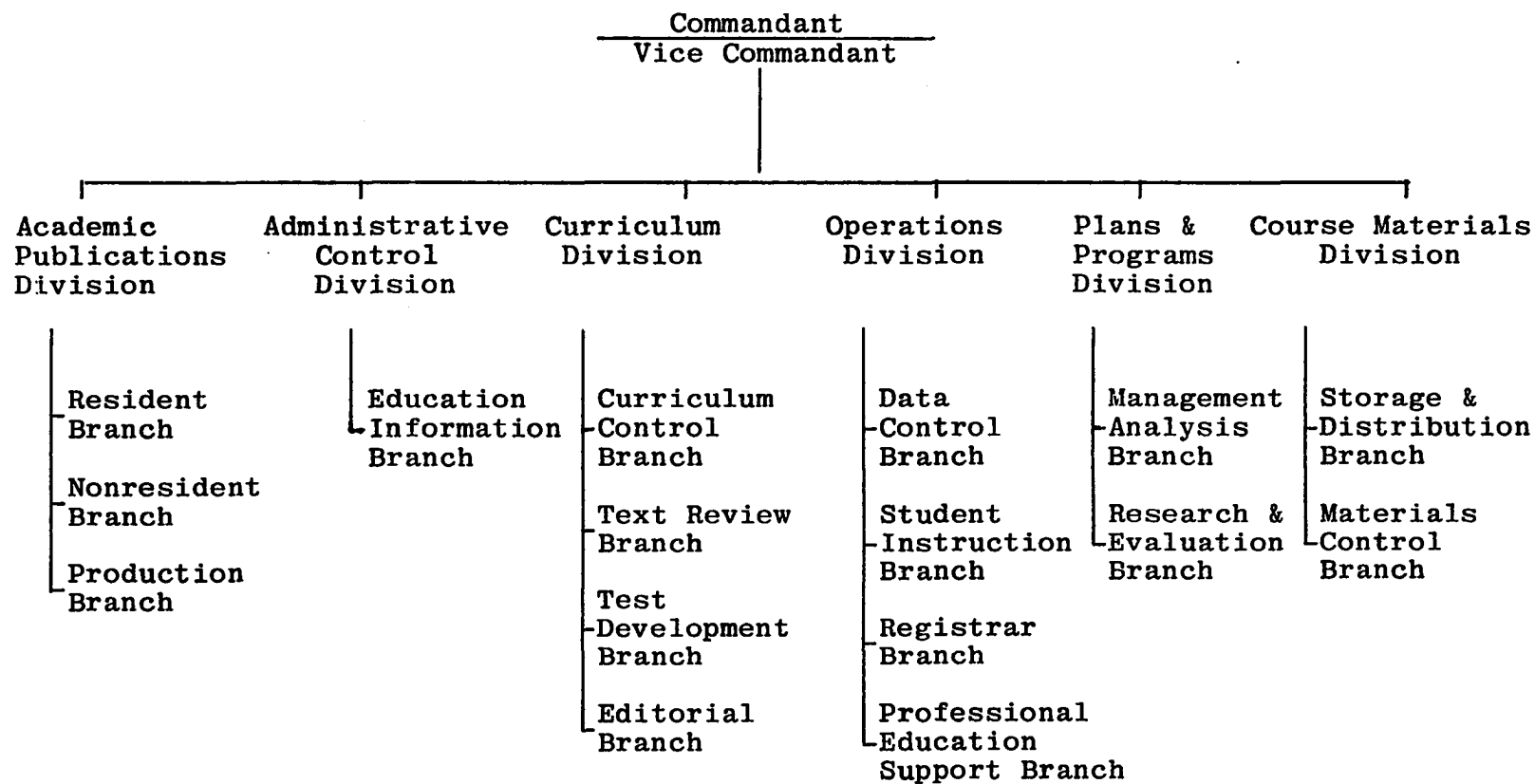


Chart No. 8

ACADEMIC INSTRUCTOR AND FOREIGN OFFICER SCHOOL

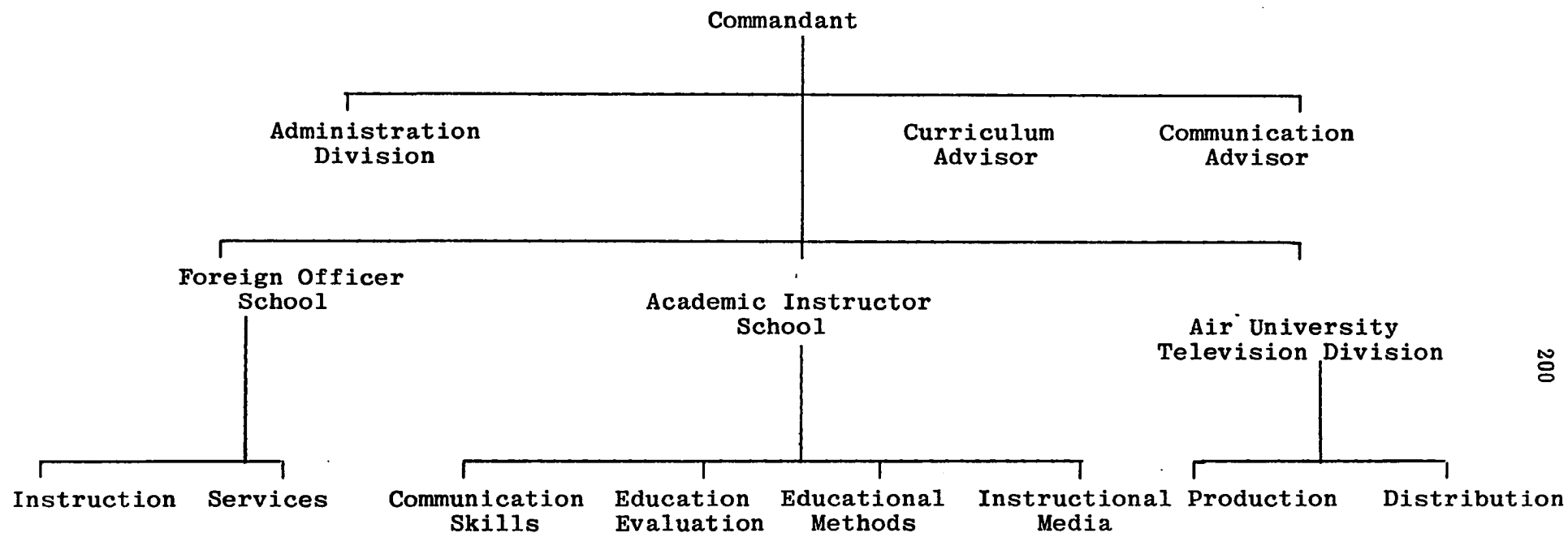


Chart 9

LEADERSHIP & MANAGEMENT DEVELOPMENT CENTER

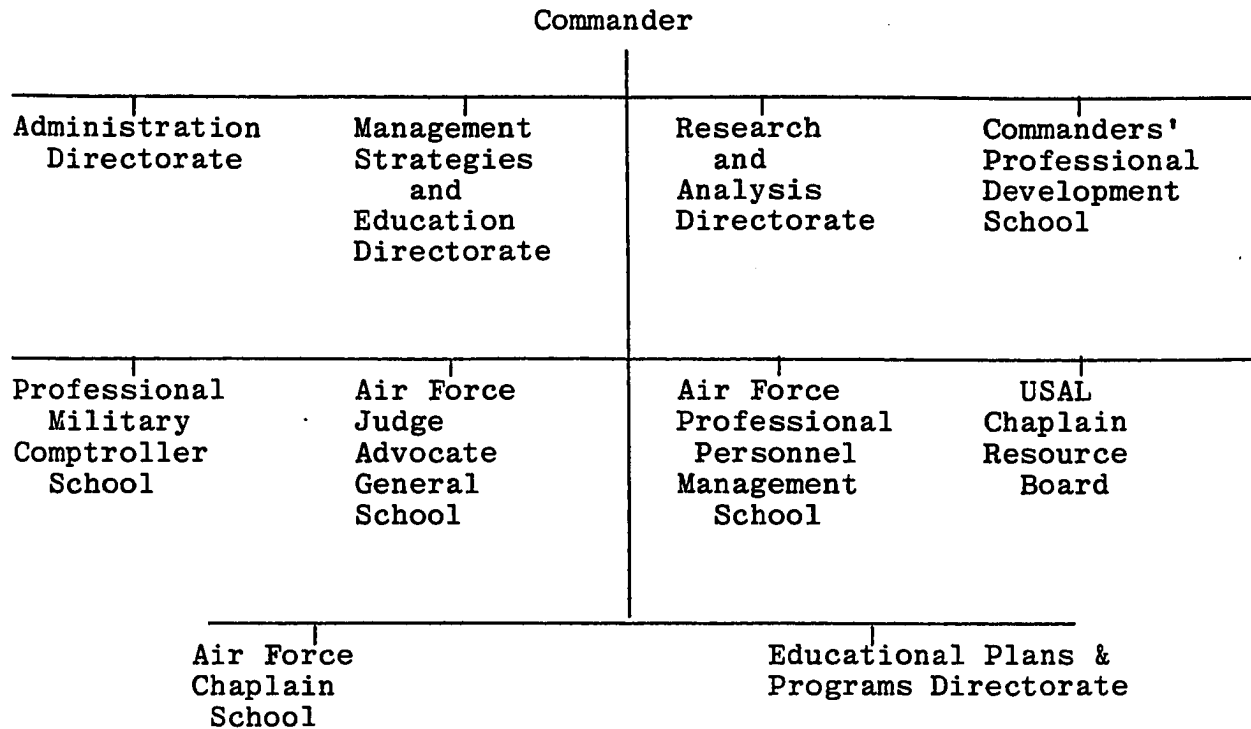


Chart No. 10

AIR FORCE LOGISTICS MANAGEMENT CENTER

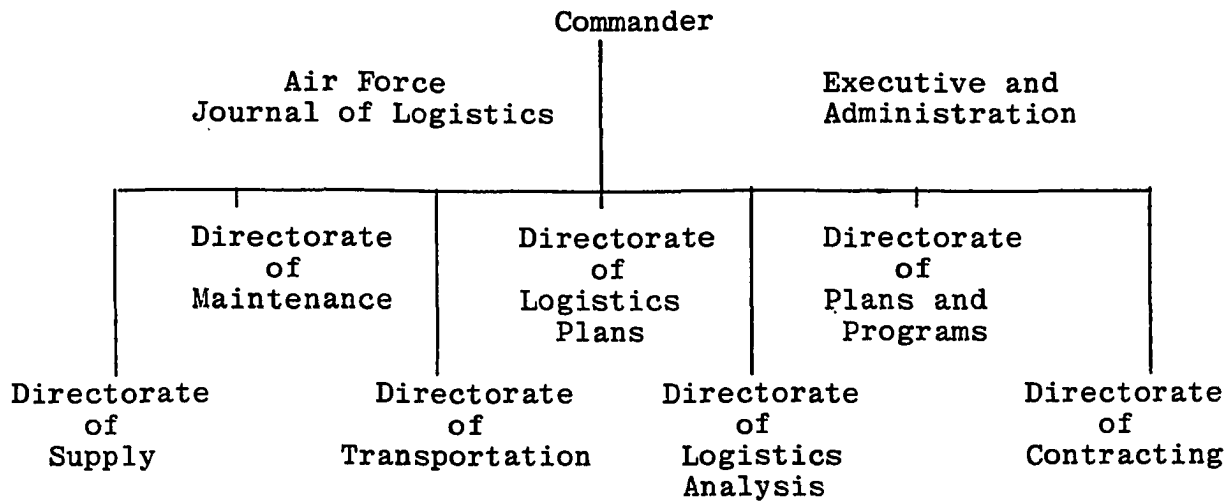


Chart No. 11

AIR UNIVERSITY LIBRARY

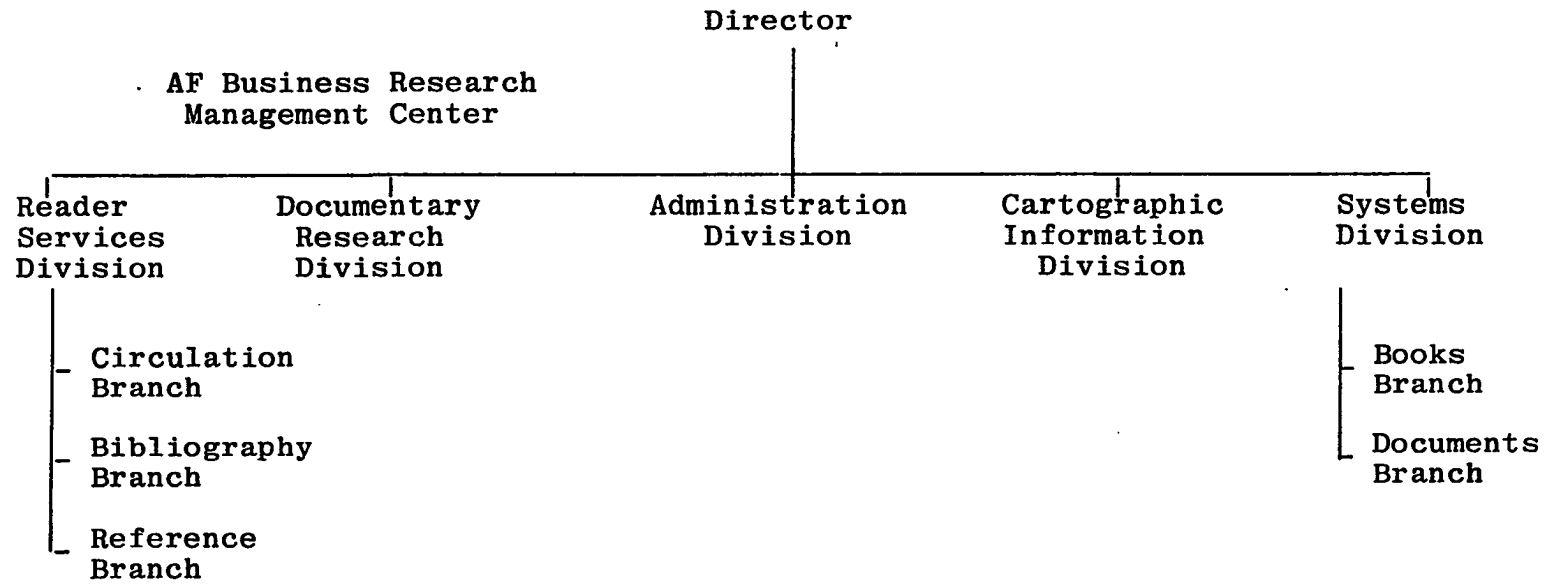


Chart No. 12

ALBERT F. SIMPSON HISTORICAL
RESEARCH CENTER

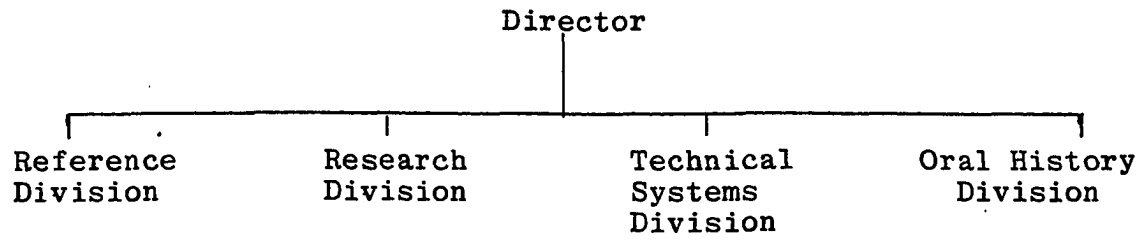


Chart No. 13

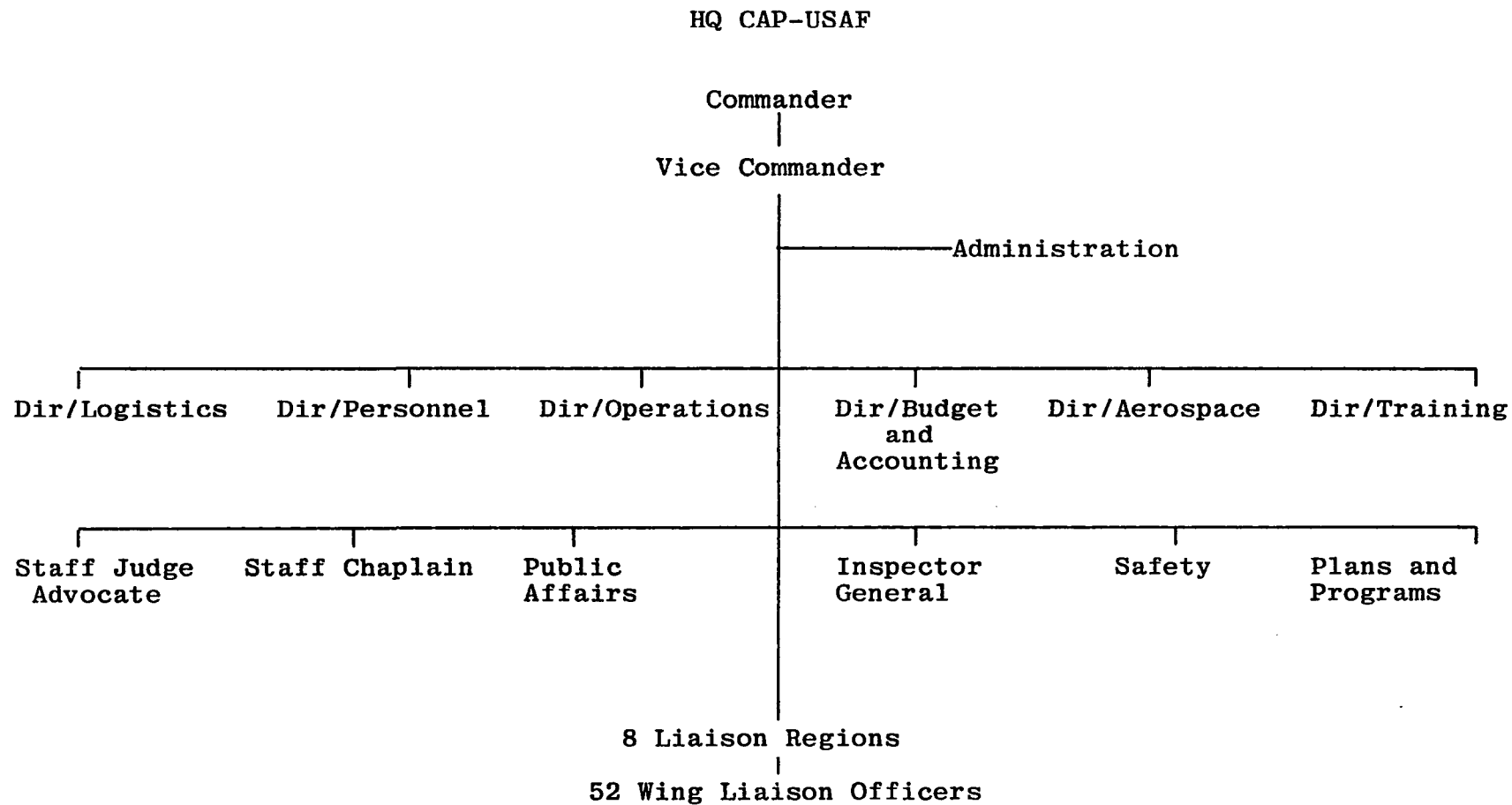


Chart No. 14

Appendix III

A REVIEW OF THE LITERATURE

This Appendix provides a synopsis of the articles in the Air University Review and other periodicals and journals about the Air University's history and programs. Most of the articles already used as reference material to make this study will not be reviewed here. Some of these articles were reviewed by Glen A. Kendrick and presented to Air University in his study titled, "Annotated Bibliography of Research on the USAF Professional Military Education (PME) System."

The Air University Review has been published by Air University from the very beginning. Its name has been changed very little, and it is still being published. There have not been very many articles on the subject under consideration, but most of the articles have been about the conduct of war. The Air University Review articles will be presented first and chronologically, then other articles discovered during the process of this research will be presented chronologically. Finally, the articles will be summarized under the general categories of research on facilities, personnel and curriculum.

O'Brien, Robert. "Air Officers Education." Air University Review. (Fall, 1947): 9-24.

There are three distinct elements in the education of an Air Force officer; military instruction, technical training, and general education. Preliminary training is natural for the Army and Navy. Each child learns to walk and run which is some preparation for the Army, and learns to guide vehicles on the surface of the earth which is natural preparation for the Navy. The Air

Force has no natural early training but must learn to look at everything from the air.

Economics should be studied, because it is the Air Force's job to disrupt the enemy's industry. Physical training for Air officers should stress shorter periods of privation. Exertion must be an attainment of the character and not of the muscles. O'Brien argues that the study of military exploratory traditions and achievements such as Lewis and Clark, Fremont, Perry, and Byrd is essential to building pride in the organization and tradition. He feared the specialist would become too highly specialized, so, the most serious task is the necessity of developing within each specialist a larger view of his contribution to the total social effort.

General education, he believes, applies to the recurring and changing roles that we enact in our lifetime. Life holds a promise that must not be limited, because its true meaning and power must be constantly rediscovered. The traditional liberal or general education was concerned with development of the whole man. Any plan of general education must rule out shortcuts whether they be correspondence courses, intelligence tests, or other attempts to peddle education as if it was the latest fad. He discussed the good and bad aspects of seven general subjects and decided: deterministic interpretations of history are wrong, so we need to find examples which have shaped^r real choices in all parts of the world; general science and mathematics are wrongly taught looking backwards, but the real scientist is a creative person involving a calling and an asceticism which is quite unworldly; all major social questions involve scientific matters, so we need basic concepts from historical developments and their great literature. Economics, he felt, is the key to understanding global wars, and a study of philosophy was important to him. Language study should be approached with seriousness and vigor, and fine arts are necessary. Concerning

fine arts, he believed we need to see and feel as well as do. Finally, he discussed literature, saying all subjects in general education are related, and all have their classics; but he especially liked Pilgrim's Progress, Blackstone's Commentaries, and the Bible.

Smith, Dale O. "Air University 2000 A.D." Air University Review (Volume 6, 1953-54): 22-28.

Through a five-year association with Air University, Smith said, "I have conceived an ideal educational system." The Air University would be at Maxwell Air Force Base for continuity and tradition. The three-stage ladder of Professional Military Education would be kept, but there would be an Air Tactical School instead of the present Squadron Officer Course and an Air Command and Staff School instead of the Field Officer Course. The Air Tactical school would be on its own base big enough to handle 10,000 students in the vicinity of Maxwell. The school would last nine months with a third of the curriculum being common to all, but the rest would be individualistic.

Air Command and Staff College would be post-graduate experiences lasting nine months but would be based on performance so that completion could happen early. Each student of the 1,000 member class would have a separate program of study to fit his needs.

Air War College would be located at Gunter or Craig Air Force Bases, and the nine-month course would qualify the student for a Doctor of Air Science degree. Air University would include an undergraduate Air Academy similar to West Point. Smith held a Doctor of Education degree from Stanford University.

Staff Study. "The Squadron Officer Course." Air University Review (Volume 6, 1953-54): 96-113.

The literary technique in this study follows a fictitious Joe Doakes from his first orders to attending the course until he finished. Also, there are several long explanations about the course curriculum, facilities and other data on the bottom half of some pages. They describe it as having big-school facilities with small-school personal touches. The student is described as participating, after some lectures and seminar discussions, in a series of realistic staff actions. The staff exercises include such simulations as activation of a fighter wing, training the wing for combat, moving it overseas, directing it in an air defense role, or employing it in combat.

The curriculum included public affairs, communication, human behavior, management, leadership and combat orientation. Attitude development was very important. The student was put in a group of twelve with the same instructor for the whole time, and the group would be molded into a tight, high spirited unit. There was a three-hour lecture period morning and evening, also skits and panel discussions. Tests were given occasionally and were unscheduled to prevent cramming. The rest of the time was spent in problem solving seminars which followed this suggested format:

Systematic Problem Solving

1. Recognize the Problem
 - Analyze the situation
 - Determine the effects
 - List the causes
 - Define the goal
 - Limit the problem
 - Tentatively state problem
 - Determine the criteria
 - Define words and phrases
2. Gather Data
 - What information is needed?
 - Where is this information?
 - Secure data
 - Evaluate data
3. List Possible Solutions

Include all possible solutions that might change the causes

4. Test Each Solution
Test each solution against the criteria for suitability, acceptability, and feasibility
5. Select the Best Solution
6. Apply Solution to Problem
A problem is not solved until the solution has been applied and the problem overcome

The problem studied was how to develop Non-Commissioned officers. There were also outdoor physical problems to solve including "Tiger Trek," an all-night capture and evasion exercise, and the separate classes also battled each other in pushball using a sixty-four pound six foot diameter rubber ball. The story was interlaced with many pictures and finished with a look into the future.

Staff Study. "The Command and Staff School." Air University Review. (Volume 8, 1955-56): 86-107.

Using the same format, the staff of the journal produced another review. This described a fictitious Mike Quinn discussing the school with his fictitious friend, Gerald Mason. Major Kenneth E. Jones and Dr. Raymond L. Walter provided most of the effort in producing the article. The authors argued that to merit respect, Air Force officers must have education, a high standard of ethics, and discipline. The curriculum combined two fundamental educational concepts: general education or synthesis and specialist technical education. The course was divided into an unclassified Phase I for active-duty officers, short-term reservists, Air National Guard officers, and allied nationals, and Phase II for active-duty officers and those allied officers cleared to receive Top Secret information. Management was studied as well as air-staff problems and philosophy, then the students practiced what was learned. Phase II took them into a study of national power relationships with communication

being taught in both phases. Three or four realistic exercises were set up to give practice for what was learned and present Air Doctrine was analyzed and disputed.

Moore, Arthur R. "Squadron Officer School and You." Air University Review (September-October 1971): 34-44.

Changes in curriculum are designed to keep up with times, with increased emphasis on communication. Annual surveys of commanders indicate that Squadron Officer School (SOS) graduates were better speakers and writers than non-attendees, and this is the most easily identifiable characteristic of graduates. There were unsupported statements that SOS graduates were also better leaders, trained managers, and more knowledgeable military officers. The author goes on to discuss the Career Motivating Program at SOS to survey junior officer attitudes. He felt one of the most satisfying spin-offs from the seminar program was junior officer interface with senior officers. Finally, he offered advice to commanders based on the lessons learned as a SOS commandant.

Bruenner, William. "A Comparison of Professional Military Educational Systems." Air University Review (March-April 1971): 53-62.

This article compares USAF, British, German military educational institutions with pedagogy, philosophy, and problem areas of the programs being discussed. Attendance at the German Armed Forces Staff College (GAFSC) occurs during the sixth year of commissioned service. It is a two year course to determine qualification for promotion to major and pre-selection for a general staff officer track, but future plans will make German programs closer to the USAF three-tier system. The Royal Air Force offers a two-month Junior Command and Staff course, followed by a two-year individual studies school which qualifies officers to attend the RAF Staff College. There is also a senior level Air Warfare Course (5½ months) and even higher level courses. German

and British systems avoid curricula overlap because of a building block nature of the courses. RAF and German systems link promotion and certain staff positions to selection and successful completion of military education programs.

Anderson, William L. "The Whole Man? A Look at the Neglected Half of Air Force Education." Air University Review (September-October 1972, Volume 23): 60-65.

The necessity of a broad-based education is recognized, and an effort is being made to provide it. The officer must perform his specialty, have the potential to progress, and have the ability to adjust and perform effectively in more than one functional area. It requires a balance between the three roles of heroic leader, military manager, and military technologist. The officer must be part manager, part sociologist, part psychologist and part historian. The present program is involved with solving immediate technical problems, but the author had a plan. Expand Air Force Institute of Technology to include more officers in the humanities and social sciences with this effort to be managed by Air Force but done at civilian institutions. This would provide future "whole-man" leaders for the Air Force.

Groves, Dr. Kenneth J. "Air University and the Professional Education System." Air University Review (July-August 1975): 10-27.

The author presents a commemorative piece on the twentieth anniversary of the Air University. Professional military education, specialized professional education, and continuing education programs are described from a historical development perspective. Major issues are identified as purpose and objectives, curriculum content, accreditation, numbers and kinds of students, faculty, the role of student and faculty research, costs, and accountability.

Dent, David R. "Roles of PME in Officer Development." Air University Review (July-August 1975): 93-98.

Professional military education (PME) is advocated for professional growth and advancement. Awareness of the Air Force, exposure to current problems, management techniques, and communication skills are the elements of professional growth that can be attained through the "significant learnings" associated with PME. Education is achieved through "surrogate experiences" of the resident programs at Air University. The article is an opinion piece, supporting the concept of PME in a very general way.

Rogers, F. Michael. "Why Professional Military Education?" Air University Review (July-August 1975): 2-9.

Lieutenant General Rogers was unconvinced of the need for, or value of, professional military education (PME) when he was first selected to command Air University. But he now determines that, "to be a professional, one must belong to a corps that embodies formal education" among other things. Since junior officers know little about the "art and science of warfare" PME helps to fill the void. General Rogers gives nine tenets for PME: broad knowledge beyond specialty, match education to level of PME, prevent obsolescence of knowledge, insure informed officers, allow a chance to reflect, provide right skills at right time, student body is a reserve that can quickly be used in crisis, student and faculty interaction is essential, and provide a forum for addressing the question of ethics. Because "we cannot afford to be ignorant of the art of war," General Rogers sees PME as necessary when he describes the AU system.

Ralph, John E. "Professional Identity in a Plural World." Air University Review (January-February 1976): 11-25.

The author suggests that a liberal education, though beneficial, may not serve the best interests of the military officer, particularly if substituted for an education in the art of war. Three specific changes are suggested: a re-

emphasis on the military arts, recognition of diversity, and a recognition of special socialization and disciplinary requirements. Special needs of the Air Force are defined, and the Squadron Officer School (SOS) curriculum is related to these needs. The author concludes, as a former commandant of SOS, that the SOS curriculum is a good one but should stress the nature of combat and the nature of symbolism with greater intensity.

The following reviews were gleaned from studies and articles in other publications:

"Air University Programs Receive Recommendation." Contact (March-April, 1974): 3.

This article announces that Air War College and Air Command and Staff College received undergraduate and graduate credit recommendations for non-resident programs. These recommendations were granted by the Commission on Accreditation of Service Experiences of the American Council on Education. In addition, information is provided the reader for forwarding transcripts to a specific college.

Rose, M. Richard, and Dougherty, Andrew J. "Educating the Military Officer—The System and Its Challenges: An Overview." Washington, D.C.: The National War College Strategic Research Group, 14 November 1975.

A model is presented with professional education of military officers as a continuum rather than a three-tiered system. Rather than a limited number of officers receiving extended periods of concentrated education, the authors propose that more officers be assigned to "existing centers of educational excellence" for varying periods depending on the needs and the program. Between periods of attendance, officers would supplement their education with courses and seminars of their own choosing. Such a concept would be cheaper, allow more officers to participate, and minimize time away from the job. This systems model is an interesting one, integrating professional military education in a conceptual framework that makes considerable sense.

Bayne, Vice Admiral M. G. "Professional Military Education, A Precious National Asset." Washington, D.C.: National Defense University Research Directorate, April 25, 1976.

This is an articulate piece on the development and need for a professional education system for the military officer corps. The European (Prussian) heritage and the evolution of professional military education in the United States are traced. The current (1976) system is described with some warnings about the need for increased emphases in light of decreasing resources and the changing technologies affecting the military environment.

Guwang, William C., Jr., and Vosse, John M. "The Air Command and Staff College Nonresident Seminar Program: An Analysis of Student Critiques." Maxwell AFB, Alabama: Air Command and Staff College (AU), May, 1977.

Six hundred and forty-two letter critiques from Air Command and Staff College (ACSC) non-resident seminar participants were evaluated. This formal critique was a program option between December 1, 1975, and April 1, 1976, designed to address three specific questions: first, reasons for participation include: promotion, interpersonal relations, get ASCS on the record, and a feeling that the seminar was preferable to correspondence; second, reasons for remaining in the program were similar; third, recommendations for improving the course focused on course material (updating), curriculum, methods of evaluation, and seminar organization.

Keegan, George J. "The Soviet Threat and Professional Officer Education." Education Journal (Fall 1977): 29-32.

This article is an examination of why today's Air Force officers are unfamiliar with the Soviet threat and an understanding of basic strategic concepts. Officers do not read as much as they should; in fact, reading, writing, and the ability to articulate have been supplanted by skills in solving today's crises and managing the resources at hand. Several alternatives are proposed for professional military education with some lament that the Air

Force officer is woefully under-educated when compared with his Societ counter-part.

The Air University Abstracts of Research Reports provides abstracts of faculty, student and staff research reports. This publication has had two changes of title. It was called Air University Annotated List of Student Research Reports from 1954-1964, and Air University Abstracts of Student Research Reports in 1965. The 1957-1964 issues were limited to only selected reports; from 1965 through 1968 only the Squadron Officer School list was selective, and no Chaplain School reports have been submitted since 1972.

This paper will include only AUARR reports of those student research studies directly related to the history, curriculum and administration of Air University which is the scope of this paper. Some of the reports are for theses and dissertations performed at civilian institutions under Air Force Institute of Technology's Civilian Institutions Program. Following the student reports will be a group of reports done by the faculty. Some of these reports were compiled by researchers Glen A. Kendrick at Air University and Robert L. Taylor and Deonn M. Wall at the Air Force Academy.

1955, The Air Force Command and Staff School. John R. Thompson, 35 pages.

This study contains a discussion of Air University as a command, discusses the three levels of Air Force PME and the role of each level, and provides a close look at the particular role of the Air Command and Staff School (now AC and S College). This study views ACSS as needed, important, and necessary in the development of professional officers. However, it is undocumented and primarily a "one man's" view or opinion, so its value for use in future studies is questionable.

1961. The Professional Education Program for the Junior Officer, Keith J. Minich, 32 pages.

This review includes pre-commissioning, On the Job Training programs, and all service schools such as flight training, technical training, AFIT, and PME. Actually, only a small part of the review deals with PME, and it is limited to SOS. The review recommends that all career officers attend SOS, but states that non-Air Force Academy graduates get more out of it because of differences in the pre-commissioning training. There is very little value contained in this study which would aid future PME studies, but it does provide a good overall review of total training which was available to junior Air Force officers.

1962. A Concept for A Degree-Granting Program at Air War College (AWC) and Air Command and Staff College (ACSC), (author unknown), 8 pages.

This study addresses a proposal to establish a degree-granting program of study in conjunction with AWC/ACSC. The program would lead to a Baccalaureate or Master's degree in Military Management or Military Management Supervision, respectively, and would apply only to Air Force students. A complete revision of the AWC/ACSC curriculum would be required and it would eliminate the current program associated with George Washington University. The study felt that such a program would be in keeping with the Air Force desire to increase officer education levels. Under the proposed concept, AFIT would control the program and grant degrees much like the Minuteman Launch Control Officer Education Program. Advantages to the new programs were cited as improved officer morale, more flexibility, more Air Force control, and better response to Air Force requirements. The concluding recommendations of the study were that the concept be approved and a committee be appointed to work out the details for implementation. A weakness in this study is that it avoids any discussion of the disadvantages of such a program.

1963. Professional Education in the USAF Air Command and Staff College (ACSC) and Squadron Officer School (SOS): An Analysis, William J. Huxley, 98 pages.

This research study attempted to answer four main questions: are there sufficient PME spaces to fulfill Air Force needs, should PME be limited to Regular Air Force officers, is there excessive duplication between SOS and ACSC, and should SOS be a pre-requisite for ACSC. Several assumptions were made during the formulation of this study. They were that regular officers were selected based on valid criteria, but that not all regular officers will have an opportunity to attend resident PME courses, and that the majority of future Air Force leadership will be selected from the regular force. The conclusion reached by the study was that the need for PME is well established but no data exists by which to determine the actual number of ACSC/SOS graduates needed. Additionally, regular officers should receive first priority for PME schools and SOS is a desirable pre-requisite for ACSC. There was also evidence of duplication between ACSC and SOS, but it was determined to be necessary since many SOS graduates do not attend ACSC. Basic recommendations made included reviewing Air Force field grade authorizations and categorizing them as "mandatory," "desired," or "not required" for ACSC graduates. This recommendation would provide a basis for determining actual requirements and would also affect end assignments for ACSC students. It was also recommended that testing not be required to determine who should attend ACSC and that selections for ACSC be centralized at Headquarters USAF.

1963. Professional Education of Air Force Officers, Theodore F. Hoffman, 48 pages.

This paper covers all aspects of officer education such as AFIT, technical training, and PME. Though the portion which discusses PME is limited (pp. 23-27), it does advocate a strong need for PME. The paper stresses that

PME programs need to be expanded, particularly the correspondence and seminar programs. These programs are cited as being inexpensive; however, no cost data was provided by the study. Any lack of discussion of cost factors is a weakness and the arguments presented are not substantiated by actual cost data.

1964. The Educational Challenge to Military Professionalism, Edmond R. McCarthy, 105 pages.

The impact of technology on education and the military profession is addressed in this study, particularly the impact made by increased emphasis on specialization. However, only a small part of this study addresses PME, and the study also fails to address the fact that the purpose of PME is to provide a broad base for future development. It is not very useful for additional study on PME.

1964. Thesis: A Requirement for Graduation from Air Command and Staff College (ACSC), Erwin C. Peake, 74 pages.

This paper attempts to answer several questions relating to the requirement for a thesis in ACSC. The questions are: What is the purpose of the thesis?; Is it logical to include a thesis in professional education?; and are ACSC students qualified educationally and intellectually to undertake a thesis program? The author's conclusions were that ACSC students are able to participate in a thesis program, a thesis is valuable in professional education, and the requirement for a thesis in ACSC should be continued. The key point the study made was that doing research for a thesis is extremely valuable in a world of conflicting ideas and provides the student with several viewpoints on a subject. The report is well written and offers sound arguments and conclusions, but it would have been stronger if the value of the thesis had been weighed against some alternative.

1964. Observations on the Education Programs of the USAF, R. Gordon Hoxie, 15 pages.

All programs under Air University (AU) are included, and an excellent review of PME is provided on pages 8-14 of the report. The main theme established by this study is that military education should be a constant, continuing process for the successful career officer. It is essential to the nation's strength, and in support of this theme, Dr. Hoxie concluded that it could, and should be, strengthened. He cites a lack of tradition as a detriment, but stresses that the conception of AU was "brilliant." Additional observations/conclusions which Dr. Hoxie pointed out in his study are: past studies into the three-tier structure of PME have been too concerned with numbers and organizations, and should be more concerned with objectives and curriculum; Squadron Officer School is the best organized of the three schools, and four classes each year should be programmed instead of three; the Air War College (AWC) and Air Command and Staff College (ACSC) curriculum, faculty, and methodology are subject to some valid criticism; the professionalism of AWC should be raised to make it a true "fountainhead" of Air Force education; the educational level of the AWC/ACSC faculty was below that of the student body; and ACSC should provide more study on doctrine and Air Force operations. The final recommendation was that an independent board should be established to review Air Force PME.

1965. Professional Military Education - A Challenge for Air Force Nurses, Agnes L. Kellam, 45 pages.

This study identifies deficiencies which the nursing corps has in the executive skills area and addresses ways to eliminate them. The basic conclusion is that Air Force PME can enhance the development of executive skills of Air Force nurses. The author felt that many of the identified deficiencies stemmed from the methods of nurse qualifications and the require

ment for so much additional study. Since PME was not specifically required, it was often not done. Solutions offered were to encourage the nurse corps to complete PME, and require completion of selected management courses at different career phase-points. Probably the best suggestion was to expand the Nurse-In-Service Program to include time for communication skills and military organization. Many of the statistics quoted are now outdated and no longer valid. Additionally, many of the findings were based strictly on the management area and this somewhat limited the conclusions which were drawn.

1967. An Analysis of the Thesis Program at Air Command and Staff College, George M. Decell, 90 pages.

The author of this research project feels that a distinction between the theoretical value and the realistic value of the thesis program must be made. Much of the study is based on an analysis for four previous studies which address the influence of time on both curriculum and individual needs. The author concludes that in theory, the thesis concept is valid, but in reality, it is not time effective. To arrive at this premise, he concluded that students are not interested in what they write on, that the writing style for the thesis is not useful for future Air Force work, and that the thesis does not add to the present curriculum and should be eliminated. Most of the conclusions are based on unsubstantiated data, and this detracts from the overall validity of the paper.

1967. Analysis of the Air Command and Staff College Thesis Program, Robert A. Walters, Jr., 64 pages.

This author provides a somewhat basic but fresh opinion of the value of the ACSC thesis program. He projects the idea that the value of the program is dependent on the student educational level, how the program is conducted, and the faculty educational level. While he questions the efficiency of the current program, he concludes that it is appropriate to the needs of the

Air Force and does represent beneficial research. He does recommend a greater emphasis on suggested areas for research and more flexibility in the program.

1969. Use of Air University Graduates Assigned to the Air National Guard (ANG), Edward G. Gaylord, 58 pages.

The author makes several main points in his study, but most center around the fact that even though PME is important to ANG officers, only a few have the opportunity to attend. For this reason, many have to rely on ACSC by correspondence, and its effectiveness is limited. To resolve the problem, the author suggests an increase in ANG quotas for ACSC and the institution of an ACSC seminar program. The ANG seminar program would use ANG officers who are ACSC graduates to organize and monitor seminars within their own units. It was felt that this would greatly improve the benefits from a non-resident ACSC course for ANG officers. A limitation in this study is that it gave little thought to the actual implementation of the proposals of the willingness of past graduates to organize, develop, lead, and monitor unit seminars.

1969. Survey of Air Force Office Management Activities and Evaluation of PME Requirements, Joseph E. March, 86 pages.

This study is based on a survey instrument completed by 10,242 officers in grades 0-1 through 0-6. It required rating 128 PME topics in terms of "need-on-job" or need-to-know." The officers surveyed indicated a "need-on-job" for topics concerned with leadership, communications, creative/logical thinking, problem solving, ethics, discipline, and morale. Their "need-to-know" topics included items related to military organization, characteristics of leaders, management, security, and physical fitness. Based on the survey results, the author concludes that while some military education topics are

pertinent to particular career areas, they are only of marginal importance in other career areas. Additionally, he concludes that certain military education topics in the present curriculum have little practical value to officers or to officers who have not been made aware of their usefulness.

1970. Professional Military Education Schools for Chaplains, Earl E. Waugh, 15 pages.

The results of this study are based on a statistical analysis of a questionnaire which provide responses on the usefulness of PME to chaplains. The areas covered by the questionnaire were benefits of PME in promotions, assignments, future potential, and the ability to serve. Benefit to both the student and the Air Force was considered. The conclusions which the author drew were that PME is a valuable experience and provides the student with a broader understanding of the Air Force and other Air Force chaplains. He recommends that as many chaplains as money and space will allow should attend the PME schools. While the author's recommendation and conclusions drawn may be valid, it should be recognized that his data base is small. A sample of twelve officers was used and is too small to provide a significant basis for recommendations or conclusions.

1971. An Analysis of the System for Determining and Validating Air Force Professional Education Requirements, Gene E. Talbert, 95 pages.

This report represents the work accomplished by the System Development Corporation, Santa Monica, California, as part of the exploratory development program by the Air Force Human Resources Laboratory. Based on an analysis of the then current system, it was determined that the system did function as a system. The analysis further highlighted the strong points and the deficiencies of the system, and suggestions for improvement were included. The major deficiency noted was that there was no overall integration between

major programs in planning for and meeting evolving educational needs. The recommendations for improvement which were offered stressed that a review of officer positions, annually by career areas, is necessary to determine PME requirements. This review was undertaken to pinpoint the relative degree of PME schooling necessary for the job incumbent while recognizing that some trade-offs between PME and advanced degree requirements would probably have to be made.

1972. PME and the USAF Medical Service, Clifford D. Overfelt, Jr., 149 pages.

The author attempted to achieve his purpose by use of completed questionnaires which he analyzed to draw conclusions and provide recommendations. Based on the results of his survey, he concluded that attendance at PME schools broadens medical officers' outlook beyond their own areas of specialization and equips them for assuming greater responsibilities. Additionally, he concluded that while PME was a definite benefit to both medical officers and the USAF, the medical service was not receiving an adequate number of spaces to Senior Service Schools (SSS). The basic recommendation offered was that the quotas for medical officers in SSS should be raised. In line with this, he felt the Medical Service should insure the right officers were selected to attend; that it should determine its valid requirements for PME graduates and select from among all its officers and not just volunteers. Insuring proper utilization of PME graduates was also a must. Finally, he recommended that the Medical Service publicize the usefulness of PME and encourage officers who cannot attend resident courses to enroll in one of the non-resident programs.

1973. Comparison of Intermediate Service Colleges, (author unknown), 51 pages.

This comparison includes all the intermediate colleges of the USAF, Navy, Army, Marine Corps, and the Armed Forces Staff College (AFSC). The comparison covered twenty-four different areas ranging from mission to academic community relations. The report revealed that the Marine Corps school is the smallest with only 130 graduates each year, the Army school is the largest with approximately 1,100 graduates each year, and all colleges are roughly ten months in length except AFSC which is five months with two classes per year. It was interesting to note that as of the publication date, neither the Air Command and Staff College (ACSC) nor Armed Forces Staff College (AFSC) had civilian professors, while the other colleges did. ACSC did compensate somewhat by having a large number of civilian guest lecturers. This report provides an excellent comparison of each college, and the emphasis presents each without opposing one against the other.

1974. Development of an Academic Instructor Course for AWC Faculty Using the Instructional System Development (ISD) Concept, Daniel E. Skutack, 110 pages.

The author's thesis centers around the fact that the AWC faculty is required to attend AIC and that it does not meet their needs. The feeling portrayed is that AIC is more involved in training than education and does not adequately prepare officers for PME faculty duties. The study further addresses the hesitancy of Air University to employ ISD programs and recommends that ISD procedures at AIC be used for training AWC faculty members. One of the key points made by the author is that the criticality of applying ISD procedures to an educational situation rests with the selection of proper implementing tools. He feels that it can be done and is needed to allow AIC to respond adequately to needs of the AWC faculty.

1974. "Tactician" Training Within the Air Force PME System, Chris D. Wright, 60 pages.

This study used the overall objective of PME as a frame of reference and provides an excellent look at the missions of each of the three levels of PME. Conclusions drawn by the author are that PME emphasizes education, not training, and is designed to enhance professional competence rather than increase abilities in technical skills. The final point which the author makes is that tactician training within the PME system is already adequate when reviewed against each school's objectives.

1975. An Annotated Bibliography of AWC/ACSC Research Studies from 1948-1966 on PME, Arthur F. Machado, 27 pages.

The author reviewed all available studies from 1948-1966. He concluded that many of the studies were outdated and that some suggestions had already been implemented, and the prime future value of many was only for historical data. A recommendation was made to retain all the studies, but to remove most from active files. Evidently this has been done, since many which were listed are no longer on file within the library. The author's analysis of many of the studies was generalized and not very useful.

1975. Instructional System Development (ISD): Curse or Cure-all for PME, John A. Duncan, 58 pages.

This study provides a discussion of the problems and benefits which would be associated with applying ISD concepts to PME programs. The Air Command and Staff College was used as a basis for the study. The problems centered around the lack of knowledge and commitment by the staff and faculty while benefits derived would be in the form of increased feedback and more active student involvement. The author's final conclusion was that the benefits outweighed the problems, and ISD procedures should be implemented at least on a trial basis. The conclusions drawn were somewhat weak, and the study did not address cost or cost benefits. It merely assumed cost savings

would occur since ISD applications had saved money in previous Air Force situations.

1975. An Annotated Bibliography of AWC and ACSC Student Research Studies, 1967-1974, on PME, Selwyn G. Geller, 51 pages.

This study provides a source of information about proposals to improve PME which were accomplished from 1967 to 1974. It looks at the studies noted in the categories of administration, effective knowledge, curriculum administration, evaluations, instruction, and thesis. The author noted that only one report suggested major revisions in PME while others suggested only modifications to certain aspects. The author further concludes that the number of quality papers is limited, and the Fairchild Library should access only the best reports. The basis for determining which reports should be accessed would be advice from faculty committees and experts on the various subjects.

1976. Joint Operation Planning System (JOPS) Curriculum at the Air War College, Larry J. Bigham, 98 pages.

This study addresses the concept for JOPS instruction at the Air War College (AWC). The author's premise is that few people really understand the use of JOPS, yet it applies to all operational levels (wing, squadron, etc.). He concludes that this lack of knowledge may hinder its proper use and contribute to poor management decisions. For these reasons, the author recommends the integration of JOPS into the AWC curriculum as an elective. The subject of this study is narrow, and its future value is limited.

1977. A Case for Expanding the USAF Officer PME System through Correspondence Instruction, Henry L. Lavender, 81 pages.

The author provides a discussion of the meaning of "professional officer corps" in light of the doubt expressed by many military members after Vietnam. He reviews the current PME system and states a case for expansion

through a series of correspondence courses independent of the resident curriculum. The author concludes that the current PME system does not meet the requirements of the officer corps, nor does it meet its stated objectives. The main criticism he sees is that PME does not devote the proper time to development of judgment and analytical abilities, while covering too many other subjects. The author's proposed PME correspondence course would be spread over nine years, cover nine blocks of instruction, and be conducted much like an Air Force ECI course. Again, this study does not address costs and tends to overestimate the real value of correspondence work.

1978. The Air Command and Staff College Non-resident Program, G. Ronald Hertenstein, 117 pages.

Because of fiscal and physical constraints, nearly eighty percent of the Air Force's mid-level officers must receive their intermediate professional military education through non-resident programs. These programs cannot match the quality of the resident course due to limitations in methodology, time, and rigor. Nevertheless, increasing budgetary pressures could place greater emphasis on the non-resident mode. Therefore, the non-resident program must be highly selective in course content to insure that it concentrates on the most needed skills. For the most part, the off-campus program has been a miniaturized and superficial version of the resident course, based on general perceptions of what should be taught. This study offers newly derived empirical data on officer career patterns to determine the need for change. In defining the ACSC goals, this report arrived at recommendations for immediate changes in the curriculum and, as a spin-off, a future concept for all of Air University's non-resident programs.

1978. Andragogy: Its Application to the Air War College, Phil C. Hurley, 71 pages.

The Services' professional military education schools and colleges are under continuing pressure to reduce costs while maintaining or improving the quality of their curricula. They are constantly searching for more efficient and effective ways of teaching. This report reviews the latest theories and technology in the field of adult education and selected senior executive development programs from private industry to see if there are techniques that could be implemented to enhance the Air War College. It was discovered that private industry approaches senior executive development in such diverse ways that it is difficult to draw general conclusions from their efforts for application to a standard Air Force program. From the study of adult education, however, three recommendations are made: first, the Air War College should offer more individualization in its curriculum; second, it should train its students and faculty to be more effective in small group discussions; third, the present evaluation system should be oriented more toward student self-evaluation and expanded to provide more feedback about the educational process and its results.

1978. *The Commander: Enhanced Leadership Effectiveness Through Education and Training*, Hubert C. Place, 137 pages.

A review of current leadership and management development theories provide the foundation for evaluating current USAF leadership and management development programs. Programs for both commissioned officers and enlisted personnel are examined with primary emphasis on the different types and levels of learning. The need for an education and training process is elucidated through an in-depth examination of the who, where, what, and scope of USAF leadership and management problems. While the value of education and training to the leadership and management setting is unquestionable, the USAF is not providing the squadron/detachment commanders with an appropriate

developmental program which will enable them to be more effective in the discharge of their duties. Recommendations designed to eliminate this inequity are provided.

1978. A Study of Sociometric Peer Nominations in AFROTC: Phase I, Glen R. Bixler, 79 pages.

The principal purpose of this study is to investigate the ability of sociometric peer nominations to provide significant measures of student performance and potential in AFROTC. A sample approximating one-sixth of the student population attending AFROTC field training in the summer of 1977 was used to acquire peer nominations of student leader and co-worker preferences. These peer nominations were subsequently weighted, converted to T-scores, rank ordered and correlated with an instructor rank order rating of student leadership abilities. Using the Spearman rank correlation formula, the study examined the relationship of peer nominations with instructor ratings. In addition, the same methodology was used to examine the relationship of two AFROTC student selection variables and the peer nominations and instructor ratings from field training. The significant level was established at the .05 level. The study demonstrated there was a significant correlation between peer nominations and instructor ratings, but no correlation between AFROTC selection variables and peer/instructor ratings. It concluded that peer nominations do provide significant measures of student ability and potential and recommended Phase II of the study be initiated at the end of Academic Year 77-78.

1978. A Survey of Attitudes Toward the System Approach to Curriculum Development at the Five Military War Colleges, Walter E. Hines III, 112 pages.

This study has sought to determine existing attitudes at the five military war colleges with respect to using the system approach in curriculum

development and management. The Air War College, Army War College, Naval War College, National War College, and Industrial College of the Armed Forces (ICAF) were the target institutions. All of the faculty members and administrators (289) connected with the senior resident programs of the war colleges were asked to complete the Air University Systems Approach Survey prepared specifically for this research. Replies from 165 were received and analyzed. The main conclusion is that respondents' attitudes are unfavorable toward the system approach. In addition, they generally do not feel the approach could be effective at the war colleges. No significant differences were found between faculty members and administrators or between civilian and military subjects. Likewise, educational level and teaching experience failed to produce differences. Subjects citing management as their main academic/professional qualification, however, have significantly less unfavorable attitudes. The most unfavorable attitudes are present among those with military art and science and general non-technical qualifications. Finally, significant differences were found among the individual colleges on both attitude toward the systems approach and its perceived effectiveness. ICAF subjects have the least negative attitudes, while those of the National and Naval War Colleges are the most negative. The ICAF subjects also indicate a significantly higher stand on the effectiveness of the approach.

1978. ACSC Curriculum Management Information System CURMIS, James J. Davern, 148 pages.

Much of the curriculum development effort for the Air Command and Staff College (ACSC) in the student scheduling, guest lecturer scheduling, and test question areas is currently accomplished by hand. This project represents an effort toward automation of these areas through development of a Curriculum Management Information System (CURMIS). CURMIS provides a user-

oriented system for update and maintenance of ACSC curriculum scheduling, guest lecturer scheduling and information, and test question handling. Further CURMIS enables the user to generate a number of time-constrained curriculum and guest lecturer reports. The system is designed to provide ACSC faculty members with a capability to administer the ACSC curriculum via computer terminal with no special training. Users guides and programmers maintenance guides provide the necessary information to use and maintain the CURMIS system.

1978. The ACSC Ethics Program: Is it Adequate?, Douglas M. Carson, 37 pages.

Events of the last few years have led many people to question the ethical conduct of senior military leaders, especially in the Air Force. Questionable ethical conduct by several senior officers raises questions of the adequacy of ethics education for US Air Force officers. Specifically, does the Air Command and Staff College ethics program provide adequate knowledge of ethics to future Air Force leaders? This study evaluates the current ethics program against five criteria which were developed as standards, identifies deficiencies, and makes recommendations for improving the ACSC ethics program.

1978. ACSC Student Feedback Acquisition Methods, Peter S. Smith, 71 pages.

This paper begins with the hypothesis that by applying developed criteria to an analysis of methods of acquiring undergraduate feedback, a "best possible" system of data-gathering can be designed for the Air Command and Staff College (ACSC). The author develops these criteria and applies them to the existing system and to some alternative methods used at other professional military schools. Out of these analyses the author identifies three areas in the current ACSC system where improvement is possible, and he then recommends the procedures necessary to make these improvements.

1978. AFROTC and the All-Volunteer Force Environment, Harold J. Icke, 143 pages.

The objectives of this study were to determine the extent of the impact of the all-volunteer force on the Air Force Reserve Officers Training Corps (AFROTC), analyze the effectiveness of present programs to correct adverse trends, and recommend new initiatives. The data available showed that both the quantity and quality of AFROTC graduates had declined significantly since the end of the draft. The study contains numerous recommendations to improve recruiting and enhance retention of students after enrollment. Major initiatives are recommended in the areas of national advertising, regional recruiting, curriculum support and content, and faculty selection. The concluding recommendation of the study is for increased flexibility in the AFROTC program to meet the challenges of the all-volunteer force environment.

1978. AFROTC Field Training—A New Model, Michael T. Clay, and Donald Y. Thompson, 73 pages.

Two opposing methodologies are prevalent in current officer procurement programs: authoritarian or stress training, with a rigorous militaristic "boot camp" framework; and nonauthoritarian or non-stress disagreement exists between Air Force Reserve Officer Training Corps (AFROTC) Flight Training Officers as to which methodology should be utilized in AFROTC Field Training. This study identifies the methodology which should be emphasized within the current objectives of Field Training, and presents options which implement the correct methodology and improve standardization. The recommended model involves consolidating Field Training at one location and emphasizing career orientation.

1978. Academic Freedom and Nonattribution Policies of Air University, Carey D. Sapp, Jr., 47 pages.

The three Air University professional military education resident schools for officers, Squadron Officer School, Air Command and Staff College and Air War College, have provided large numbers of graduates with vast amounts of knowledge. That knowledge is due in part to the policies of academic freedom and nonattribution which exist in all three schools. This study investigates possible inconsistencies between those two Air University policies and the Freedom of Information Act of 1974. Findings and conclusions are based on the hypothesis that Air University must retain the policies if its mission is to be accomplished. Specific recommendations are provided for Air University consideration.

1978. An Analysis of Case Studies Used in the Squadron Officer School's Leadership Program, Robert J. Karel, 113 pages.

The case method is a valuable method for teaching leadership to Air Force officers at Squadron Officer School. The method is being used effectively, but a need exists to increase the effectiveness of the live case studies used in the field leadership program. This study establishes the criteria for successful use of the case method, applies these criteria to the leadership program, and recommends ways to improve the program. This application shows that the live cases must be made more believable and interesting; the faculty need to be used more effectively; and student participation and preparation must be increased.

1978. The Current ACSC Student Research Requirement: Does it Fulfill Differing Student Needs?, John A. Lindstrom, 36 pages.

The relative inflexibility of the requirement that each Air Command and Staff College student complete an acceptable research study, or its equivalent, limits individual learning opportunities and the total educational contribution of the Air Command and Staff College curriculum. The author

examines the need for research as derived from the needs of society, the Air Force and the individual. Also, he analyzes the current research program as a part of the ACSC curriculum. He concludes that a curriculum that offers the students a choice between pursuing research or accomplishing an equitable number of electives would be more responsive to the needs of all who attend ACSC. Further, this option would increase the total educational contribution of the institution to the students it serves.

1978. Guide for Air University Seminars, Hershall D. Hall, 46 pages.

The present Guide for Air University Seminars (AU-4) was written in 1962. Since that time, numerous books on group dynamics, processes and techniques have been published. The 1962 pamphlet was written for popular use; thus, no footnotes or bibliography are provided. This study provides the basis for a new pamphlet which will incorporate information on group dynamics published since 1962, and includes documentation of sources. Major features of this study include succinct, useful information for all seminar members, beneficial advice for leaders, brief explanations of group activities and a thorough bibliography.

1978. A Look at Junior Reserve Officer Training Corps, Nancy L. Rust, 33 pages.

This study examines the history of Junior Reserve Officer Training Corps (JROTC), the intent of Congress in establishing the JROTC program, and the current philosophy and mission objectives of the program. The study analyzes the intent and concludes that the program responsibility could be transferred to the Department of Health, Education and Welfare without degrading an already working program.

1978. Methods to Improve Air Force Senior Non-commissioned Officer Management Capabilities, Denis M. Drew, 60 pages.

The managerial responsibilities of senior non-commissioned officers will increase as the Air Force operates in a financially austere environment. However, Air Force senior non-commissioned officers are neither selected nor trained optimally. This study analyzes selection and training problems in the non-commissioned officer corps structure, professional military education system, and promotion system. The author suggests alternative courses of action in each problem area. The author concludes with a series of recommendations that will maximize senior non-commissioned officer quality and managerial capabilities through improvements in corps structure, professional military education, and promotion programs.

1978. A Study of NCO PME: Curriculum Differentiation and Commandant Selection, William E. Flinn, Jr., 53 pages.

NCO PME has expanded from two to five phases since 1973; simultaneously the proliferation of NCO PME phases has increased the educational opportunities for NCO's, but it has also exacerbated existing problems in NCO PME. The first problem area is excessive curriculum overlap among the five phases. This study describes the curriculum of each phase then suggests how curriculum overlap can be reduced by matching NCO PME phases to taxonomic learning levels. The second problem area concerns the commandant selection process. The study discusses the role of commandants then suggests how to select commandants with both military management and education leadership skills.

1979. ACSC Automated Tailored Instructional Program (ATIP), Vernon H. Dibeler II, 134 pages.

Real time control of faculty manpower, students, and course offerings during the Air Command and Staff College (ACSC) Tailored Instructional Program (TIP) is mandatory for the effective use of Air Force resources. This

curriculum project provides data required for the exercise of management control. ATIP provides a user-oriented data processing system for update, maintenance, and report generation to provide ACSC faculty members the capability to better manage the ACSC Tailored Instructional Program.

1979. AFROTC Production in the All-Volunteer Era, John R. Denny, 114 pages.

Since the draft ended in 1973, the Air Force Reserve Officers' Training Corps (AFROTC) has had to adjust to the all-volunteer force environment. This study evaluates the record of AFROTC production in this new era. The most distinguishing characteristic has been a recurring shortfall in meeting production objectives, especially those objectives for officers in scientific and engineering specialties. Several alternatives to rectify this shortfall are proposed and discussed. The study concludes that the AFROTC scholarship program, particularly the four-year scholarship program, is the alternative offering the greatest potential to eliminate production shortfalls.

1979. An Annotated Bibliography of Research Studies Concerning the Air Force Reserve, David F. Bitonti, 52 pages.

This paper provides, in a single document, an annotated bibliography of Air War College and Air Command and Staff College student research papers written between 1972 and 1978 dealing with the general subject of the Air Force Reserve. A total of fifty-five research papers are included in this bibliography covering the spectrum of the Air Force Reserve from Operations to Personnel. All papers and articles included in the bibliography are on file in the Air University Library, Maxwell Air Force Base, Alabama.

1979. An Evaluation of Simulations within the Air Command and Staff College, Bronislaw F. Baranowski, 97 pages.

The use of simulations and games in the military environment is not new. When coupled with the capabilities of the computer, numerous appli-

cations in the "real world" areas of operations, planning, resource allocation and system analysis manifest themselves. Success in these endeavors has thrust the technology upon the education and training activities of the Air Force. This paper examines the history of simulation and gaming in the military, the impact of the computer on the Air Force Education programs, and the pros and cons of the five major ACSC simulations. These analyses then provide the base-line upon which future ACSC simulation efforts should be built. Recommendations are focused on the organizational structure required to support this technology if its inherent capabilities and benefits are to be realized.

1979. Guide to 279 Aviation Related Periodicals, Alan H. Bruce, 76 pages.

The purpose of this directory is to provide a systematic method for determining what information is available in 279 separate aviation related periodicals. It is arranged in two parts. Part one lists all of the periodicals by subject groupings. It refers the reader to part two. Part two lists all the periodicals alphabetically. Each one is described in a short paragraph that explains the information in the publication. The directory gives the researcher access to a large amount of data, and wastes none of his or her time.

1979. Individualizing an Academic Instructor Course for Air Command and Staff College Faculty Members, Thomas J. Rissmiller, 77 pages.

Faculty Instructors of the Air Command and Staff College have historically attended the Academic Instructor School in preparation for instructional duties. This study used an occupational survey to identify the teaching competencies required of ACSC faculty in order to determine which of those competencies should be emphasized at the Academic Instructor School. The results of the survey were then used to make recommendations for an individualized course of instruction for prospective ACSC faculty members attending the Academic Instructor School.

1979. Is Squadron Officer School Meeting the Needs of the U. S. Air Force in the Communicative Skills?, Robert E. Snyder, 107 pages.

There is much emphasis in the Air Force on communicating clearly through effective use of the communicative skills. The objective of this study is to determine if SOS was meeting the needs of the Air Force in teaching communicative skills and what staff instruments were used the most frequently. This is important since SOS is terminal PME for eighty percent of the officer corps. Fourteen staff instruments are identified as being used the most frequently. These are compared with the SOS communicative skills curriculum. A recommendation is presented on what formats should be taught and a method of teaching them.

1979. USAF Officer PME in the 1980's: A Look at the Air Force Need for Professional Military Education in the Coming Decade, John M. Dorger, 96 pages.

This study examines the need for PME and the types of professional development required by the Air Force. The author defines and outlines the three roles of PME, and looks at the likely environment of the 1980's to determine if future challenges would increase the need for the specific development which is provided by PME. He points to the dynamic international environment, declining resources, and the changing nature of war/weapons as foci for professional developments efforts in PME. Recommendations define the need for Air Force Leadership to formally recognize the growing need for PME, to resist efforts to reduce it, and to develop an Air Force study group to explore PME alternatives. The author's final recommendation is that the focus of future Air Force PME policy reviews should be aimed at seeking new ways to increase the effectiveness of PME programs and to increase the number of officers who can attend in residence. This is an excellent study, well written with current application.

1979. A Proposed Air Command and Staff College (ACSC) Athletic Program for the Class of 1980, Raymond G. Lapierre, 50 pages.

This author felt the role and objectives of the ACSC athletic program were unclear and neglected. He desired to provide the athletic program administrators with a clear guide for future programs. Conclusions were that a well-organized and well-staffed athletic program was essential to ACSC in developing the "whole man" and would provide officers with a better understanding of the needs/benefits of physical fitness. The recommendations include several methods for dealing with the administration of developing, providing, and managing an adequate program. The author based his recommendations on his own single school year; yet some good ideas are offered and at least a portion has been adopted.

1979. Air Force PME and Executive Leadership and Management Development, Robert L. Taylor, 82 pages (unpublished draft).

This report is the result of a four-month effort involving a review of literature concerning PME and executive development. The study contains a summary of the research plus a comprehensive bibliography of some 130 books and articles. The main thrust of the study compared military PME to programs found in public and private organizations: USAF "executive development" compared to private firms' "executive management development." The intent of the study was not to provide specific recommendations regarding Air Force PME. One of the primary conclusions which this author makes is that there is a unique demand on the military officer. The Air Force must not only prepare the officer force for peacetime, but the outstanding leaders must be identified and developed in preparation for future wars. This fact makes Air Force PME much different from other forms of executive development. The study also relates that in the public and private sectors, a larger number of personnel are offered resident training at more frequent intervals than in the Air Force;

however, the emphasis is on short courses and workshops. These programs rarely last longer than three months, and many people are provided with some development opportunities. Furthermore, the civilian programs are used to help assess strengths and identify potential managers while the Air Force PME attendees are selected based on demonstrated potential. The final conclusion of the study was that executive leadership and management development in private sectors provide an incomplete model for Air Force PME, but do provide some important issues for continued study. This is an excellent study and offers some provocative ideas.

1980. Why PME? The Purpose of Professional Military Education, Wayne C. Pittman, Jr., 71 pages.

The concept of professional military education (PME) is discussed from the viewpoint of the nature of professionalism, the particular expertise of the military profession, and the functions served by professional education in general. From this conceptual base, an evaluation of the state of the professional military today is drawn. Against this current status, the various functions which could or should be served by PME are developed. A description of the Air Force PME system follows, including a brief review of its development and changes in its purpose. The conclusions are that the current system generally meets the needs developed and that the orientation of the curricula is appropriate. Several recommendations for future study are made in areas where it appears the program could be strengthened.

1980. HQ AFROTC Curriculum Division—An Organization and Functional Analysis, Gary H. Fuquay, 40 pages.

A detailed look at organizational activity is beneficial in determining the efficiency and effectiveness of that organization. This study analyzes the work effort of the Headquarters AFROTC Curriculum Division and compares

the organizational structure and activity of the division to that of selected professional military education schools. The study recommends alternative approaches to the current curriculum organization.

1980. Textbook Publication and Management Procedures—AU, Robert R. Hicks, Jr., 12 pages.

Air University has had some difficulty in the past few years with excessive salvage of textbooks. This study examines the textbook publication and management procedures for the Air Command and Staff College Directorate of Non-resident Operations and recommends some changes to current procedures to improve overall efficiency.

1980. Comparison of Squadron Officer School Resident and Non-Resident Curricula, Thomas P. Quance, 76 pages.

The purpose of this study is to determine the extent to which the Squadron Officer School non-resident course (NRC) parallels the resident course (RC). Then should a prerequisite course be developed, the portions which overlap would most easily be used in the course. The study concludes that only twenty-eighth percent of the NRC objectives parallel the RC objectives. If the desired learning levels of 47 objectives were changed, then fifty percent of the objectives would be parallel. A prerequisite NRC is not recommended.

1980. Are Squadron Officer School Students Really Happier with the new Evaluation System?, Charles R. Knarr, 48 pages.

Squadron Officer School changed its student evaluation system in July of 1979. One reason for this change was increasing student dissatisfaction with the old system. This report identifies eleven areas of dissatisfaction with the old system and examines survey results which measure the degree of dissatisfaction with each of the areas both before and after the evaluation system change. The report concludes that the change reduced student dissatisfaction,

but also identifies areas where little progress was made. The report then closes by recommending several areas for further analysis and change.

1980. Squadron Officers School Faculty Upgrade Program (ACSC Phase II): An Analysis, Howard E. Nestlerode III, 25 pages.

The Squadron Officer School (SOS) Faculty Upgrade Program is an Air University program through which specially selected SOS faculty members, upon completion of their normal duty tours, are permitted to attend Phase II of ACSC (January-June). Since its beginning in 1962, the program has graduated a total of 193 officers. This study reviews the origin and administration of the program, discusses problems associated with it, and makes recommendations to improve it.

1980. Annotated Bibliography of Research on the USAF Professional Military Education (PME) System, Glen A. Kendrick, 49 pages.

This annotated bibliography is a single source document of all research and staff studies on the USAF Professional Military Education (PME) System from 1946 through 1980 which are available within Air University. The majority of the referenced studies are available in either the Air University Library or contained in historical files located at Headquarters Air University. A very few are located within the school specifically addressed by the report or study. The information is provided for a reader, either scholar or practitioner, interested in PME research in the Air Force. It will enable the reader to rapidly focus on those studies which would be of the most assistance and should greatly facilitate any subsequent PME research or study.

1980. The Effect of Fatigue During an Eight-Hour Lecture Day, Richard C. Taylor, 28 pages.

The General Accounting Officer has recommended the Air Force convert all technical training courses to an eight-hour day regardless of the method used to teach the course. This study examines previous research on listening and how fatigue affects learning during a course taught primarily by lectures. Although there is some evidence to suggest fatigue decreases listening ability and learning after approximately six hours, it is inconclusive. The Air Force should accelerate a current Human Resource Laboratory research project on fatigue during learning. That information is necessary to determine the practicality of an eight-hour day for those courses taught using lectures only.

1980. Base Commander's Management Course, Technical Note 386-3, William C. Lewis, 34 pages.

There is no specific block of instruction in the Base Commander's Management Course covering such subjects as time management, the use of the executive secretary, duties of the deputy commander, and the control of the telephone and correspondence in the executive officer environment. This Technical Note will be used as a basis of discussion for those topics during other periods of instruction. It presents an integrated executive support approach to executive office management.

1980. SOS, ACSC, and AWC: A Writing Evaluation and Comparison, John J. Weaver, 48 pages.

To date, no complete written evaluation and comparison of SOS, ACSC, and AWC exists. This report makes such a comparison: stating the objectives, assumptions, and limitations; describing the methodology used; providing broad grading data and analysis; showing student sample papers; ranking the schools according to the grading results; and drawing conclusions/recommendations for future writing programs.

1981. Concept Development for Air University's Command Readiness Exercise System (CRES), Ronald M. Bandsuch, 1 volume.

A project team from Air University's Air War College is in the embryonic stage of designing a new integrated war gaming facility. Among other things, this facility will include a new computer system. This computer-based system eventually will provide the USAF's professional military educational environment linkages to other service schools for joint war gaming exercises. The purpose of this report is to delineate, as facility requirements are developed, some hardware and software considerations.

1981. A Study of the Air Command and Staff College Non-Resident Seminar Program, Robert B. Knapp, 52 pages.

The Air Command and Staff College Non-resident Seminar Program is an important component of professional military education. Student feedback is essential to curriculum planners to assist them in maintaining the highest standards possible. This report analyzes data collected through an end-of-course critique for academic year 1980, identifies those areas receiving critical review, and recommends program changes based on these comments.

1981. Trends in Leadership and Management Theory in the Air Command and Staff College, Herbert D. Wright, 39 pages.

The purpose of this study was to identify the similarities and differences between civilian management thought and ACSC management emphasis. It was found that there was a high correlation between the concepts presented in the curriculum and the management thought in the civilian sector.

1981. View of an Innovative Change to the Air Force Reserve Officers' Training Corps' (AFROTC) Flight Instruction Program. Ronald P. Wajack, 31 pages.

Economic constraints demand that Air Force programs be both effective and efficient. This study examines the Air Force Reserve Officers'

Training Corps' Flight Instruction Program against these two criteria. It concludes with a discussion of an alternative program as well as a recommendation for immediate implementation.

1981. A Study of the Career Timing of Attendance at the Air Command and Staff College, Tome H. Walters, Jr., and Joseph D. Weatherford, 20 pages.

This study examines the timing of attendance at Air Command and Staff College by comparing profiles of the first class (1947) with the current class (1981). Findings and conclusions are presented.

1981. An Analysis of Evaluation Changes at Squadron Officer School, 1973-1980, Robert S. Todd, 32 pages.

Evaluation at SOS changed five times between 1973 and 1980 without any significant analysis. During this time, many questions remained unanswered concerning performance by different categories of students. This report compares twelve student variables with seven evaluation areas through correlation tables, regression tables and cross-tabulation tables. The report summarizes changes that have occurred, identifies pretest as the best predictor of success, and discusses categories of students with abnormally high or low performance statistics. The report concludes with several recommendations for similar analyses.

1981. An Evaluation of the AFIT Teleteach Expanded Delivery System (TEDS) Method of Instruction (Phase I), David E. Fortna and Ronne G. Mercer, 154 pages.

The School of Systems and Logistics, Air Force Institute of Technology (AFIT), located at Wright-Patterson AFB, Ohio, is responsible for providing graduate and Professional Continuing Education (PCE) to the Air Force, and in selected interest areas, to the Department of Defense (DOD). Neither the facilities nor the manpower, however, has been available to meet the demand for the continuing education program. As a result, AFIT implemented a

telephonic educational delivery system to help provide the quantity of education necessary to prevent backlogs. The purpose of this study was to determine if the Teleteach Expanded Delivery System (TEDS) used was as effective educationally as the previous delivery system; if the TEDS was an acceptable mode of learning for both students and instructors; and if the TEDS was less costly on a per student basis than the previous mode. The authors concluded based on an evaluation of one continuing education course, LOG 220, that TEDS is as effective educationally as the previous system; TEDS is more economical on a per student basis than the previous system; and TEDS is not acceptable to either students or faculty.

This section contains research done by faculty of Air University, individually or in groups.

1951. Professional Education for USAF Officers, Benton F. Fuller, Jr., 407 pages.

This study was presented to Yale University as part of the requirements for a Degree of Doctor of Philosophy. It attempted to point out significant developments, locate educational problems, and to suggest a general means for improvement in the professional education for Air Force officers. A number of sources (regulations, directives, etc.) were analyzed to determine which aspects of the AU educational program should be investigated. These aspects were then compared against "desirable" standards which had been established. The findings were that AU had a desire to develop its educational program unhampered by tradition, and that PME was needed to develop officers to the greatest degree. Additionally, the study pointed out that AU already had provisions for a continuous study and evaluation of its instructional programs. The recommendations offered were that AU should emphasize education rather than training, periodically evaluate student selection criteria, look into the

need for a joint service school for officers below the rank of O-5 (Lieutenant Colonel), and designate a Curriculum Board to supervise and coordinate activities for future critical investigations of AU education.

1955. Analysis of the Purpose, Pattern, Scope, and Structure of the Officer Education program at Air University, Dr. Ralph W. Tyler, 260 pages.

This report, by a prominent and highly regarded educator, is broad in nature and contains four major phases in the planning of an educational program: deciding on educational objectives, selecting learning experiences useful in obtaining the objectives, organizing the learning experiences to increase their cumulative effect, and developing the means for evaluating the program's effectiveness. The report further describes and explains the "ideal" procedure for each of the four phases and compares it against present procedures used at Air University. Suggested improvements are offered to bring the actual procedure closer to the ideal. The report is excellent and comprehensive and stresses that it should not be approached with a view toward "reject or accept." Rather, it was intended that the report should serve as a basis to help the Air University staff in planning and conducting its educational programs.

1961. Comparison of Curriculums for Air War College (AWC), Air Command and Staff College (ACSC), and Squadron Officer School (SOS), Headquarters Air University, 5 pages (with attachments.)

This study uses the AWC curriculum as a basis for comparing the curricula of the three schools. The comparisons are based on three main areas: communications skills, international relations, and military subjects. The comparison is not concerned with quality of instruction and provides an excellent series of charts and graphs portraying a comparison of the school's curricula. The study found that similarities did exist but were justified, since only eighteen percent of SOS graduates attend ACSC and only thirty-two

percent of ACSC graduates attend AWC. Other findings and conclusions were that the greatest area of suplication was in communications skills, the greatest disparity between the three schools was international relations, and that all three schools devote the majority of their curricula to military subjects.

1961. Report of the AD HOC Committee on the SOS Athletic Program, Headquarters Air University, 13 pages.

The basic source of information for this study was SOS itself. The SOS athletic program was developed in response to AFR 50-5 which required commanders to establish a fitness program for military personnel of at least four hours once each week. The SOS program meets this requirement for a total of fifty-six hours during the entire course. The SOS response also pursues the theme that athletics provide a release from academics, promote pride in the basic unit (seminar), and provide leadership training. The committee could not find a single individual acquainted with the program who advocated that it be discontinued. It was felt that the current three sports are the best of choices because they are enjoyable, require good conditioning, and allow for maximum participation. The committee pointed out that the associated costs were low (AF costs only about \$2 per person) and that while injuries could probably be reduced, the numbr was not excessive. The final recommendation was that the SOS athletic program should be recognized and treated as an excellent physical conditioning and recreation program. Its leadership role is, and should remain, secondary to academics.

1962. Presentation by AU/CC (Air University Commander in Chief) to the Air Staff on Expansion of the Air War College (AWC), Headquarters Air University, 12 pages.

This article is actually the script of a briefing which the AU Commander presented to the Air Staff in March, 1962. The Thrust of his briefing was that current emphasis on "degrees" might be overshadowing Air

Force PME needs. This presentation points out that there are only about 1,400 AWC graduates in the Air Force, about half of what is needed to meet essential Air Force needs; and most of these 1,400 will be retired by 1972. Additionally, the rate of AWC graduates leaving the Air Force will be greater than the number completing AWC; therefore, a need for 3,500 graduates by March 1972 exists. Two recommendations were offered: reduce the service levels (years) required for attendees, and increase the number of attendees. The second recommendation would require expansion of the AWC, and this expansion was subsequently proposed to the Air Staff in late March 1962.

1962. Air University Views on Selection for PME Schools, Headquarters Air University, 14 pages.

The Air University viewpoint of who should attend the Air War College (AWC), Air Command and Staff College (ACSC), Squadron Officer School (SOS), and their equivalent schools and when they should attend was presented by this study. The recommendations were:

- a. AWC - ten percent of eligibles (senior O-5s and O-6s)
- b. ACSC - thirty-four percent of eligibles (O-4s)
- c. SOS - all officers (between 3rd and 6th year of service)

The study stressed that schooling should be timely to be most beneficial. Those who could not attend resident schools should use extension study, and those who did attend in residence should be fully and effectively used. It was also recommended that Headquarters USAF should centrally select officers for AWC and ACSC on a best qualified basis, but that MAJCOM (Major Command) boards should select officers for SOS. This is an excellent review of PME timing and selection recommendations.

1962. Report on Academic Levels of Faculties of the Professional Military Schools, Air University AD HOC Committee, 14 pages.

This AD HOC Committee was established to review academic levels of the faculties of the Air Force PME schools. The committee developed a set of criteria and looked at the problem in terms of achieving maximum educational outcomes while providing maximum prestige to the PME schools and the Air Force. Some specific recommendations were offered, and the attainability of recommended goals was considered. Somewhere during their study, however, the committee lost sight of its objective and its major recommendation dealt with PME schools offering accredited study at the undergraduate, graduate, and Ph.D. levels.

1963. Factors Involved in Determining the Appropriate Structure of the PME System, Headquarters Air University, 28 pages.

Results of this study are based on a review of several previous studies, reports, and other correspondence. The analysis of these documents indicated that factors which must be considered in deciding on the appropriate structure of PME can be classified into four main areas: Air Force requirements, Air Force Career Progression, Air Force resources, and correlation with other education programs. A total of thirteen conclusions were drawn. Most notable among these conclusions were that very little money is being spent on PME, that the typical Air Force officer does not possess the knowledge of AF subjects necessary for proficiency in his profession, that major commands/senior AF officers support the present PME programs, and that many of the current PME difficulties are caused by the abnormal force structure created by World War II and the Korean Conflict. The major recommendation which came out of the study was that any proposed change to PME should be evaluated to the extent to which it met Air Force requirements, provided the development needed by officers to perform at higher levels, and was an economical use of manpower, money and facilities. This is an excellent study and is still surprisingly pertinent today in view of its age.

1963. Relationships Between Attendance at Squadron Officer School (SOS) and later Officer Evaluation Reports (OER), Ernest C. Tupes, (Personnal Research Laboratory), 13 pages.

The criteria used for determining effectiveness was OERs completed on officers in the two years immediately following SOS. The findings were that no differences existed which could be attributed to either attendance or nonattendance, nor to performance during SOS. The study pointed out that the OER was not an especially good criterion for evaluation of the outcome of a general military training course.

1963. Final Report on Professional Military Education, Task Group on PME, 150 pages.

The report of the Task Group provided an analysis of the current PME activities. The group found that no official definition of PME existed, and no philosophy of PME existed either. The group further found that the best officers were not being educated, the selection process was inadequate, graduates were no being properly assigned, and faculty qualifications were suspect. The group's position was that correspondence courses were not an integral part of PME, and the PME curricula themselves were somewhat unstable. The final recommendation of the Task Group was that it had identified many areas which needed further review and implementation, but they were beyond its authority.

1963. A Study on Comparison of US Senior Military Colleges for Academic Year 61-62, Headquarters Air University, 10 pages (with attachments).

The data for this study was obtained by an examination of documents such as curriculum booklets and catalogs, Reports of Visits to AWC and the Army War College, and questionnaires completed by senior Air Force representatives at each of the War Colleges. A review of the curriculum of each

college was completed. Additionally, a look at the methodology of instruction, a review of student and faculty characteristics, a review of evaluation methods used, and a review of the George Washington University programs associated with each school were accomplished. Similarities and differences in each area were discussed, and detailed information is provided as attachments to the basic study. No specific conclusions were drawn and no recommendations were made though the study itself was comprehensive.

1963. Air Force Educational Requirements Board (AFERB) Report on PME (Vol I), Air Force ERB, 13 pages (plus Addendum of 44 pages.)

Volume I of this report contains six sections which address various aspects of PME. The AFERB took a close look at PME and proposed a PME system for the future. Two of the prime recommendations were to reduce the number of schools from three to two, and to substitute a new Joint Military School for Air War College. Sections II through V are the Key portions of the report:

- a. Section II—contains background information and a summary of the deficiencies and required corrective action.
- b. Section III—provides the rationale and description of the Board's recommended system of PME.
- c. Section IV—lists the recommendations on PME.
- d. Section V—outlines the AFERB's position on matters which could have a profound effect on the success of proposed PME program, and which were not addressed in other sections of the report.

The Addendum was submitted in response to a HQ USAF inquiry and included modifications directed by the AFERB. Additionally, it presents options designed to attain the final optimum PME program. This is an excellent study which provides a good background for PME as we know it today. Review of this report is a must for future issues or discussions on the PME system.

1963. Report of the Curriculum Advisory Group Meeting of July 1963, Headquarters Air University Curriculum Advisory Group, 3 pages (with 5 tabs).

The curriculums of AWC, ACSC, and SOS were presented by representatives of each of the schools, who also addressed current happenings and problem areas of the respective school. As a result of discussions during the meeting, several recommendations were offered. The more significant ones include; advice to continue placing emphasis on communication skills throughout the curriculum of each school, to investigate ways to achieve a longer curriculum planning cycle so that curriculums can be completed one to two years prior to actual implementation, to investigate ways to achieve maximum inter-relationships among the student bodies early in the course; and to provide some time within the curriculum of each school for the study of civil rights.

1963. Summary of the Curriculums of Air University Colleges and Schools 1963-64, Headquarters Air University, 22 pages.

This document provides a curricular summary of all AU schools including Air War College, Air Command and Staff College, and Squadron Officer School. Academic hours for each school are listed, and they include the necessary break and evaluation time; but time required for individual preparation, research, or writing is not included in the academic hour totals. This report is useful for comparing past curriculums with current or future curriculum proposals.

1964. Review of the Air University Ten-Year Plan for Development of Air Force Professional Education (1963-1973), Headquarters Air University, 26 pages.

This plan was prepared on the recommendation of the 1962 AU Board of Visitors. It summarizes the objectives and recommendations in the AU Ten-Year Plan and reviews recommendations offered by the 1963 AU Board of Visitors and Headquarters USAF. Only a small part of this review (pages five to

seven) is concerned with PME. The review committee felt that "number goals" should be established for AWC, ACSC, and SOS and that a seminar/correspondence program should be used to meet requirements not met with the resident program. The committee was careful to recommend that shorter courses should not be the method used to meet quantitative requirements. Recommendations to establish career phase points for completion of the various levels of PME and to require advanced degrees by the PME faculty were also discussed. A final point suggested that completion of PME be required for promotion, but this was not acceptable to HQ USAF.

1964. Professional Military Education for all Career Officers, Headquarters Air University, 10 pages, (with 5 attachments).

The basic conclusion of this study was that if PME is desirable for some, it is necessary for all officers of equal grade and years of service. While it is not possible for all officers to acquire minimums through correspondence or seminar programs. The study points out that school quotas for residence attendance in ACSC and SOS have been less than the goals established by past Air Force boards. The shortfall of students could possibly be made up through the correspondence program, however, the course is not mandatory and many who sign up do not complete it. Others take far too long to complete (up to three years). SOS is required before completion of twelve years service, but is not mandatory for promotion. The study assumes that operational requirements will preclude raising quotas in the future and addresses many areas which the lack of professional education will impact; quality of the force, the individual officer, major commands, and Air University. The solution to the problem is provided in the form of three plans requiring PME for all officers. Each of these plans is outlined in the study, and each combines a mixture of resident, correspondence, and seminar courses to insure all officers complete PME in some form.

1964. Selection, Assignment, and Promotion of Students and Faculty of the Air War College (AWC) and Air Command and Staff College (ACSC), Air University AD HOC Committee, 19 pages.

This document outlines criteria for the selection of the AWC and ACSC faculty and discusses the characteristics of the present faculties. The characteristics outlined were educational level, PME completed, OER index, previous experience, and aeronautical rating. These were all reviewed and compared against "desired" criteria to determine how the faculties "measured up." The comparison pointed out the following:

- a. OER profile - based on performance ratings, officers on the faculty are not as good as desired. Records should be screened carefully prior to selection for faculty duty.
- b. Educational level - faculty educational levels were satisfactory and continued emphases should be placed on obtaining officers with graduate degrees. Officers without undergraduate degrees should not be accepted.
- c. PME completed - the faculty did not contain an appropriate number from PME schools other than Air Force schools.
- d. Previous experience - the faculties were not representative of the major commands.

1964. The Air War College Image, Headquarters Air University, 9 pages.

This is one of a series of AU/ED papers dealing with proposals which could help improve the overall mission of Air University. Factors such as philosophy of education, a non-teaching faculty, the quality of faculty and students, a weak evaluation systems, and the curriculum were cited as major reasons for a lack of prestige by the AWC. Methods for improving the AWC image basically answered the weak points cited and a stronger public relations program was also suggested. Even at the writing of this report, many of the suggestions had already been initiated, and the writer simply recommends they be continued. The weakness of the document is a lack of "hard facts."

1965. Air University Plan for the Development of the Air War College, Headquarters Air University, 42 pages.

This plan reflects fundamental changes in the educational philosophy, program objectives, curriculum content, organization, and faculty selection. The document brings to light the fact that many qualified officers avoid faculty assignments based on a fear of retarded promotion opportunities. It stresses that AWC students should be the most qualified officers with the highest potential, and recommendations concerning student selection, assignment, and promotion are offered. This study is a good one and the problems concerning promotion exist today.

1966. An Analysis of the Air Force Staff Writing Practices and Air University Writing Instruction, USAF Writing Practices Study Group, 36 pages.

This AD HOC committee conducted an analysis of the PME curriculums to determine the extent of instruction on staff writing, formats, and writing procedures. The review of the Air War College, Air Command and Staff College, and Squadron Officer School curriculums was done in light of findings which the committee determined to be characteristic of Air Force Writing styles and formats. Generally, it was found that writing instruction was barely adequate and several improvements were recommended. The recommendations stressed greater familiarization by PME students with the variety of instruments and formats used throughout the Air Force, provisions for more writing opportunities, and that students with poor writing skills should be identified and provided with supplemental instruction.

1966. Procedure for Raising the Educational Level of the Air University Faculty, Headquarters Air University, 14 pages (with attachments).

Since 1946, the Air Force has sought to raise the educational level of its officer corps. Because of this, the AU faculties needed to increase their educational level, and by 1966 the overall educational level of the faculty was

beginning to be higher than the student body. The need for advanced degrees, however, was still greater than the current educational levels of the faculty. This report is the committee's effort to determine the educational level required for each faculty position and compare requirements against assigned personnel. The report shows the comparison in tableized form, and the shortfall was found to be 110, and a second step was prioritization of the positions to insure the most critical were filled first. Finally, procedures to reduce the deficit were developed, and two recommendations were made to help reduce the shortfall: AU should receive priority on assignments and should sponsor AFIT tours for future faculty members.

1968. Air University Plan for the Reconstitution of Professional Military Education, Headquarters Air University, 7 pages (with 7 annexes).

Initially, this plan provided background information on why curtailment of some PME quotas was necessary. Some quotas for the Air War College and the Air Command and Staff College had been cut by as much as thirty percent and Squadron Officer School up to forty percent. This study is nothing more than a plan of action to be instituted on notification of reconstitution which was updated in January 1969 and again in December 1969. The annexes to the basic plan simply provide tasking for various organizations within Air University.

1968. Air War College and Air Command and Staff College Response to the Sterling Institute Study, "Appraisal of Future Military Education Needs of Senior Air Force Officers," Air University (AWCAI/ACSCCM), 45 pages.

The Sterling Study identified a large number of learning objectives which were felt to be necessary for future senior Air Force officers and which should be adequately addressed in PME. Both the AWC and ACSC responded to the appropriate learning objectives stated in the Sterling Study and outlined how their respective curriculums supported those objectives, e.g., by seminar,

lecture, field trips, or research reports. Without the actual Sterling Study itself, the responses are not as meaningful as they could be. They do, however, provide the reader with a look at learning objectives which were felt to be important to senior Air Force officers and provide an analysis of the extent to which the AWC/ACSC curriculums supported these objectives in 1968.

1969. Professional Military Education Program Selection Policies, Air Force Military Personnel Center (AFMPC), 25 pages.

This "fact sheet" on selection policies explains and describes in considerable detail the PME program. It discusses the purpose of PME, rules governing the selection of officers for attendance at all PME schools, and the opportunities for participation in correspondence and associate programs. An excellent publication but may not coincide with today's procedures.

1971. Report of the Air University AD HOC Committee on Cost Reduction in PME, Headquarters Air University, 16 pages (with 6 Tabs).

This study was directed by Headquarters USAF/DPT, and the task was to reduce costs, not education. Several individual panels were formed, and each panel was tasked to examine specific cost reduction items, and panel reports are provided as tabs to the basic report. Four major cost reduction alternatives were reviewed: eliminate Squadron Officer School, combine Air War College and Air Command and Staff College, combine Air Command And Staff College and Squadron Officer School, and reduce Air War College and Air Command and Staff College to twenty-two weeks each. The committee arrived at the conclusion that none of the cost reduction items studied offered a way of saving money while maintaining the quality of PME.

1971. Minutes of the May 13-14, 1971, Air Force Educational Requirements Board (AFERB), Air Force ERB, 2 pages (with three attachments).

The AFERB generally found guidelineness concerning PME requirements to reflect wide variations in the basic philosophy regarding requirements. New guidelines were developed by the AFERB and forwarded to all MAJCOMs. Attachment 3 to the basic report contains those guidelines. The AFERB premise was to provide changes necessary to insure guidelines were consistent among all MAJCOMs and would be useful in identifying specific positions requiring PME expertise. The attachment containing the guidelines is the most useful portion of the report.

1974. Staff Review of Project Alpha, Headquarters Air University, 28 pages (with attachments).

The Task Study Group Alpha recommended that Air War College (AWC) and Air Command and Staff College (ACSC) be combined. Failing in this, it recommended to retain ACSC in its present course length and make several changes: combine the non-resident programs of AWC and ACSC, schedule more joint lectures by guest speakers, and revise and delineate the curriculum of all three Air Force PME schools. The Staff Review is just that, a review of the Alpha Report. It analyzes its assumptions, its facts, its considerations of certain factors, and the impact of such changes as suggested by the report. Members of the review committee suggested that no action be taken on the Alpha Group's recommendation to combine ACSC and the AWC resident or non-resident programs. They did agree that the ACSC curriculum was too much like AWC and should be reorganized. They also concluded that there were better alternatives which should be examined more closely. These alternatives to be examined were: a forty week ACSC with a new curriculum, a twenty-two week ACSC-(PCS) Permanent Change of Station, and an all non-resident ACSC. Options 2 and 3 were felt to represent the most significant cost savings. This is an excellent report which provides a close look at many

PME options from the viewpoints of two different groups. Many of the arguments either for or against the alternatives are still true today.

1976. Officer PME Policy Study, Headquarters Air University, 20 pages.

This study group was chaired by AF/DPP and was actually composed of two groups; Air Staff and Air University. These two groups worked separately at first then combined after the initial ground work had been laid. This document provides a summation of the meeting which the AU study group held or attended at HQ USAF. The most useful part is the summary of the initial joint meeting between AU and USAF. During this meeting, the groups developed a requirements determination model and established alternative PME structures. The main points of the overall study are contained in the report published by Headquarters USAF.

1976. Air Force PME Objective Study, Headquarters Air University, 8 pages.

This is actually a background paper outlining a proposed concept for studying PME objectives. The main idea presented is to insure proper identification of skill and competency requirements which can be translated into curriculum objectives and instruction. This can either be accomplished by shifts in the current curriculum emphasis or by the development of new programs to meet short term needs. The paper also stresses that before the educational objectives can be stated, you must first determine the nature of the Air Force mission in the future and how the changes will affect existing programs.

1978. Report of Air Force Views on Reducing Service Intermediate College Course Length, Headquarters USAF, 18 pages, (with 5 appendices).

This study outlines the role of intermediate level PME in officer career development. It relates that the curriculum is rapid and demanding and

that a five-month curriculum could not provide the skills and perspectives required for the remainder of the typical officer's career. A five-month curriculum would prepare officers only for the role of a staff action officer and would not reduce personnel turbulence. Additional arguments for and against the ten-month/five-month schools are provided in Appendix C to the basic study. One comparison which the study provides is that the USSR mid-level command and staff course is about four years in length. The "bottom line" was that a twenty-two week curriculum is unacceptable in scope and depth.

An analysis of these reports reveals that very little research has been done at Air University on facilities. A 1954 staff study requested more facilities, but there was not another until the last ten years when there has been a movement to reorganize and rebuild. One staff study in 1971 discussed cost reductions through consolidation of departments, but the more recent studies were written by students about computer programs rather than buildings. These five recent studies, 1976-1981, were descriptive in nature and discussed the Command Readiness Exercise System in 1981 for war gaming; the Joint Operations Planning System in 1976, also for war gaming; the Curriculum Management Information System in 1978 to track and manage individual student's curriculum; and the Tailored Instruction Program in 1979 and Tele-teach Expanded Delivery System used at AFIT for individualized instruction.

The staff and students had some concerns about personnel with both groups doing research about students more than faculty. There was a drive in the early 1960's to improve the educational level of the Air University faculty, because the student body had a higher education level than the faculty. In 1964 a student researcher discovered this phenomena, and the same year and Air University AD HOC committee prepared a paper setting the following four criteria for faculty selection: high performance evaluation, having completed

PME, higher education and varied command experience. Two years later a Headquarters Air University paper said faculty education level was higher than that of students, but there were few graduate degrees among the faculty. They suggested sending faculty to AFIT for higher education. In 1978, five years after the beginning of the Senior NCO Academy, a research paper suggested selecting commandants of the Academy who were more education minded and prescribed the selection criteria.

Except for a study in 1968 on how to increase the number of students, because the Vietnam War took them away, the staff produced only a fact sheet on policies for student selection (1969); a PME policy study (1976) without any recommendations; and in the same year a paper on how to establish objectives for future programs. The Air Force Education Requirements Board in 1971 established new guidelines for PME that was consistent for all major commands. Student research, however, was mostly concerned with who should attend PME; only regular officers in 1963, nurses in 1965, ANG in 1969, Chaplains in 1970, advanced degrees not to be given in 1971, medical officers to attend in 1972. A 1981 paper compared times of attendance of PME related to the officer's career during 1947-1981. Three studies researched in 1978-79 the effect of the all-volunteer military on ROTC recruitment. They discovered they were having trouble getting enough students and needed more scholarships. The third study recommended transfer of Junior ROTC from military to the Department of Housing, Education and Welfare. There was also a 1978 study indicating the caliber of non-commissioned officers was not as good because of the all-volunteer military. A paper done in 1980 studied fatigue during the eight-hour lecture days common in AU. The University has maintained a strenuous regimen for its students since its inception. The study called for further research.

The ninety other research papers were on curriculum. There were eleven articles in the Air University Review; two of these were staff studies done in 1954 and 1956, describing a typical student and a student selectee. The fictional student described the Squadron Officer Course curriculum, and the fictional student selectee described the Command and Staff School curriculum. Three other writers wrote descriptive articles: a former SOS commander in 1971 bragged about their program, a civilian faculty member gave a twentieth anniversary of AU commemorative explanation in 1975, and a commander explained, also in 1975, that he had not liked PME until he became commander. He then saw the benefits. The earliest writer in 1947 just described what he thought the present curriculum should be like, mentioning the whole man concept, then a 1972 writer echoed the whole man idea, suggesting more humanities and social studies be studied. Almost all the writers wanted lots of civilian-like subjects, but Ralph in 1976 argued for a more combat oriented SOS. It would be hard to justify giving Air Force officers, most of whom are graduates of civilian educational institutions, more civilian training unrelated to their profession and call it professional military training. Ralph is right. Bruenner in 1971 compared USAF, British and German PME. The British is like ours, and the German is switching to our system, except they both have no curriculum overlap and give promotion and preferred assignment as awards for attendance. This is something that has been suggested numerous times for AU and is an excellent idea but never implemented.

The curricula has been heavily studied and ninety papers have been written by students, staff and others. Five articles were discovered during the course of this study in other publications. One in 1974 just reported the fact that the American Council on Education had accredited the different schools at AU, and another, in 1976 traces the history of PME at the University and

expresses a need for increased emphasis of PME. Keegan, in 1977, compared PME to Soviet PME but said the Russian system was better. The only suggestion of change was made by Rose and Daugherty in 1975. They said PME should be a continuum instead of three separate tiers or levels widely separated in time and should be done at civilian institutions or as they said, "centers of educational excellence." Guwang and Vosse, 1977, reported what appeared to be real research instead of just written assignments, by evaluating 642 letter critiques of ACSC. They discovered the main reasons for attendance included: helped promotion, established career-helping relationships, and was better than correspondence. They recommended updating course materials, curriculum, evaluation procedures, and the way seminars were organized. They just expressed unhappiness but gave no specifics.

During the early sixties (1961-1966) there were seventeen studies made by AU faculty and staff on the curriculum which amounted to a complete re-evaluation. The studies ordered by Headquarters, Air University, did not add much changes. Seven of them gave favorable reports, and seven others offered almost no suggested changes. The first one in 1961 decided the "curriculum overlap" (repeating subjects) was okay because not very many students repeated the next higher PME. It is one of the poorest excuses for repeating subjects ever given, because those who attend higher PME have to repeat the subject not those who don't. If you could skip a lower level, then it would be okay, but they cannot skip. The other 1961 study believed SOS athletics was good. Many of the papers were just descriptive reports: 1962, 2 gave percent of officers selected for attendance at PME; 1963, favors PME; 1963, compared senior service colleges; 1963, gave summary of all curriculum. The list of changes suggested by these studies included: 1962, increase AWC attendees by reducing years of service required before admittance; 1964, develop seminar program

and use PME for Promotion; 1964, PME required for all; and 1964, use public relations to improve AWC image. There was only one mildly critical report in 1965; they reported officers avoid faculty assignment and admitted students attending are not the best. Again, they wanted to offer the excellent idea to offer a promotion for those who would serve as faculty. Headquarters USAF has never agreed.

In 1968 the staff responded to a Sterling Institute study. They claimed they were fulfilling all the suggested objectives. Also in 1974, they reviewed the results of Project Alpha which recommended AU combine AWC and ACSC. The staff recommended no action even though they agreed ACSC was too much like AWC. They would concede a 22-week ACSC which would be part of a permanent change of station for the student or maybe an all non-resident ACSC. The Project Alpha program was not implemented. Air University, like many organizations, is not good at substantive change.

Several recommendations came from specially appointed groups. In 1963 an AD HOC committee of AU recommended giving credit towards degrees for PME, and another in 1966 thought the writing instructions used at AU were barely adequate. The University's own Curriculum Advisory Group in 1963 produced a paper urging larger emphasis in communication skills, increased length of planning cycle from present three years, and adding a section on civil rights, thus reflecting the national concern. Air University Personnel Research Laboratory made a study in 1963 which indicated that SOS didn't improve officers' efficiency. Those recommendations and studies came to mild conclusions which suggested little change, but the AF Educational Requirements Board meeting in 1963 discussed the future of PME and suggested reducing to only two schools and substituting a Joint Military School of all services for AWC. Through the years there were many suggestions of consolidation,

reduction and even elimination of the program, but AU has survived in practically the same form it started, though larger. The most devastating criticisms were made by a Task Group on PME in 1963. They reported that the best officers were not selected to attend, that the graduates were not properly assigned to superior positions, that the faculty quality was suspect, and that the curriculum was unstable.

Students too were more concerned with curricular matters than with personnel and facilities. Many of the papers were descriptive, and twenty-four of the fifty simply reported personal observations and were highly favorable to AU. Nine saw something unfavorable and suggested in 1969 that PME was not job specific, in 1978 that better leadership training was needed, that ethics was not taught enough, that better feedback was needed from students, that SOS case studies were not believable, and SNCOA curriculum overlaps. Further, in 1980 students appeared unhappy with evaluation methods, and no time management was being taught in Base Commander's Course; while in 1981, it was reported that the evaluation system was changed five times in SOS between 1973 and 1980. They also found that pretest was the best predictor of success on failure.

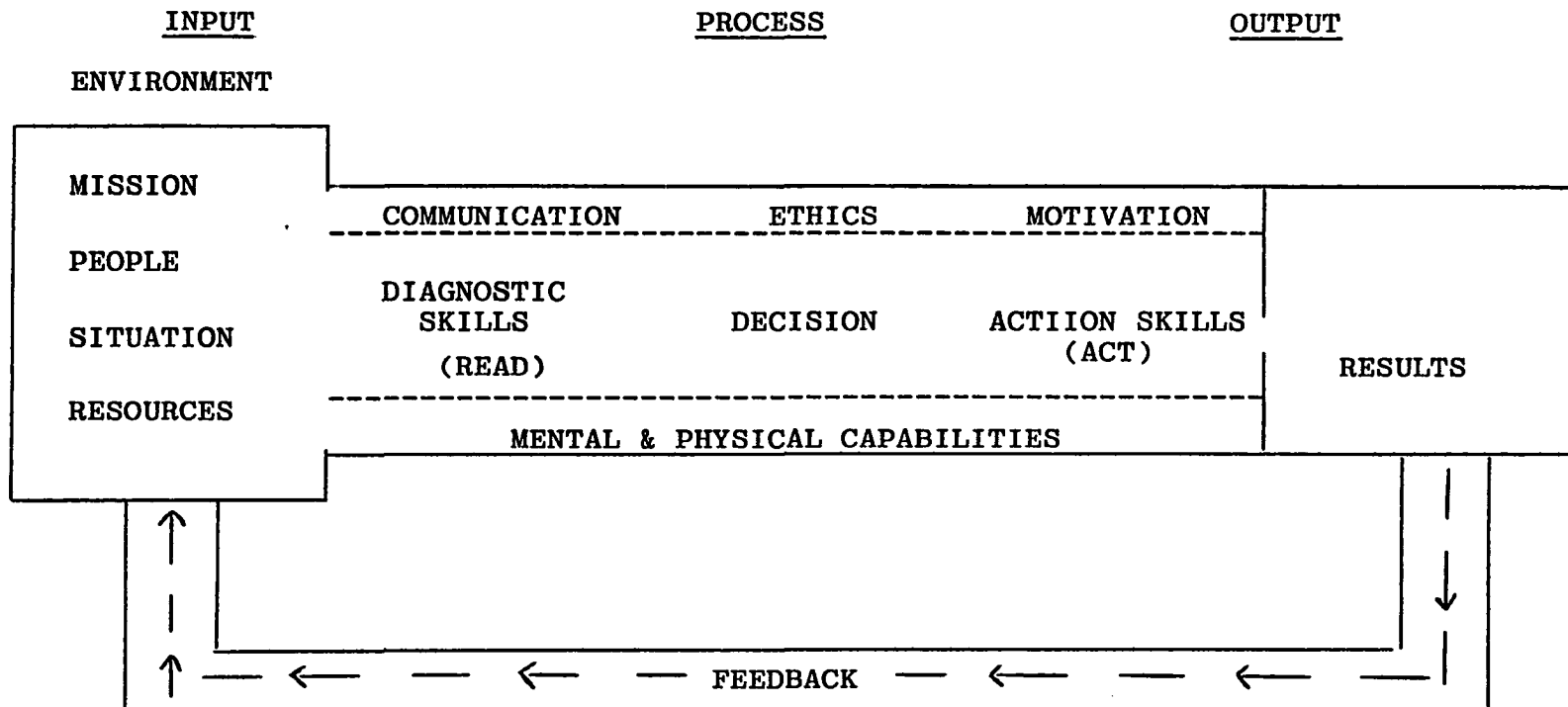
Two researchers thought the Academic Instructor Course should offer ISD for AWC and ACSC faculty, and four wrote on the thesis program; two for it, one against it, and one wanting a choice between doing research or not. Six studies showed some concern over the extension department's seminar and correspondence programs, with three being against it, one for it and two just reporting on the program. Five annotated bibliographies were produced. Most of the effort was not research in the university sense but merely reported impressions and opinions. Perhaps the first real paper using research methods was done by Hines in 1978 who found that the systems approach to management

was lacking in the curriculum and that most military respondents did not like the systems approach.

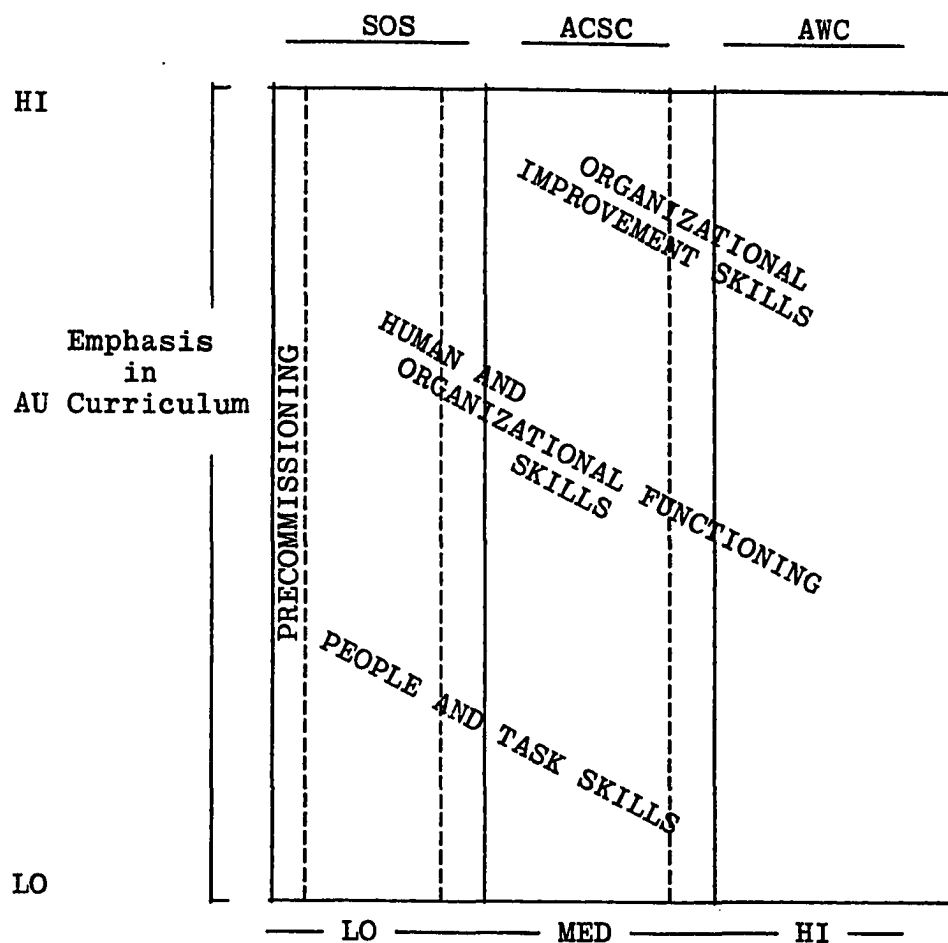
Appendix IV

The Practice & Format of Leadership Training at Air University

LEADERSHIP AND MANAGEMENT MODEL



ATTACHMENT 2

LEADERSHIP AND MANAGEMENT CURRICULUM DEVELOPMENT MODEL

CONTINUUM OF L-M LEVELS

1. Necessary redundancy -
 - a. For foundation to meet needs of students who did not attend the earlier AU organization in the continuum
 - b. For review after a span of intervening years

ATTACHMENT 3

The 1959 Air Force Education board listed the following missions, objectives, philosophies for the professional military education of officers. This is not a summary of all departments of Air University but gives clues to the board's thinking.

1. SQUADRON OFFICER SCHOOL

a. Mission. To increase the abilities of selected officers to execute the command tasks associated with squadrons and to perform staff tasks normally encountered by lieutenants and captains.

b. Objectives.

(1) To increase understanding of the duties and responsibilities of the squadron officer, the principles of organization, and the functions of command.

(2) To increase understanding of the characteristics, principles, and techniques of leadership, and their relation to squadron discipline, esprit, and mission accomplishment.

(3) To increase understanding of air doctrine and the employment of air forces and other military forces in peace and war, and the impact of technology on air warfare.

(4) To develop an ability to solve problems logically and to communicate effectively.

(5) To initiate a program for continued professional improvement to include an understanding of ideological conflicts and their effects upon the policies and strategies of the United States and the USAF.

c. Course Philosophy. The Squadron Officer School is concerned with education, not training, with the broad outlook of the commander and staff officer rather than the concentrated outlook of the specialist. In the professional development of young officers, the Squadron Officer School seeks to develop the whole man. In the mental, physical, and spiritual areas, the Squadron Officer School seeks to guide the young officer toward his maximum potential as a leader in the Air Force.

The principal elements of the commander's decision are the abilities to solve problems systematically and logically, to communicate clearly and concisely, and to apply sound concepts of human relations and techniques of leadership. These are the abilities that the

Squadron Officer School seeks to increase in the selected officer who attends the school. They suggest the subject areas which form the core of the curriculum. In the decision-making process, the Squadron Officer School has recognized a guiding principle which is stated as the school theme, "Think—Communicate—Cooperate."

The school recognizes the need for officers who are dedicated to preserving our democratic way of life. To meet this need, the school seeks to develop positive attitudes that include a deep sense of ethical and moral responsibility. School situations are designed as a challenge to the individual and the group, and offer the opportunity to realize the importance of accepting new situations and responsibilities with determination and courage. The voluntary acceptance of these challenges serves to orient the young officer as a member of a team working toward a group goal.

d. Method of Instruction. Lectures provide the student with facts, principles, and concepts. Small-group work supervised by the section leader stimulates interest, promotes understanding, and provides opportunities for application in problem-solving seminars, staff exercises, and outdoor activities. These seminar problems and exercises are student-centered. Situations and activities are created to provide the maximum opportunity for each student to acquire knowledge on his own initiative. Further learning is acquired through informal and formal counseling by the section leader. During these scheduled counseling periods, the instructor discusses with each student identifiable strengths and weaknesses and suggests measures for self improvement.

e. Scope.

(1) The curriculum is designed to support the hard-core areas of airpower and leadership. Through an integration of subject matter in these areas, the student increases his understanding and ability to execute command and staff tasks normally encountered by squadron grade officers.

(2) The curriculum emphasizes understanding of basic principles which can be applied to any command level rather than the technical skills required of a specialist. Principles are explained by applying them at squadron level when appropriate.

(3) The curriculum is organized in five instructional areas, each area specifically supporting a school objective, e.g., Area I, objective (1), etc.

f. Basic Data.

(1) Enrollment and number of classes. Three classes are conducted each year: Class 59-C, 928 officers; 60-A, 978; 60-B, 1028; all classes after 60-B, 1028 officers.

- (2) Length. The course is 14 weeks long.
- (3) Number of scheduled hours per class. 625:30

2. COMMAND AND STAFF COLLEGE

a. Mission. To increase the professional qualifications of selected USAF captains and majors; to improve their abilities to perform the command and staff tasks required to implement air strategy and execute missions of the Air Force; and to contribute to the development of doctrine, strategy, and tactics.

b. Objective. The single broad objective of the Command and Staff College, defined further in terms of the basic behavior areas, is:

"TO INCREASE OFFICER ABILITIES TO PERFORM COMMAND AND STAFF TASKS IN DEVELOPING AND EXECUTING PLANS AND PROGRAMS, By—

- (1) Imparting knowledge of—

Military, national and international matters considered to have—

Immediate and predictable influence upon accomplishing—

The command and staff tasks normally assigned to—

USAF officers of intermediate rank.

- (2) Developing skills and habits in—

The reasoned and visionary use of knowledge, and

The effective acquisition and expression of knowledge.

- (3) Instilling attitudes of—

Confidence based upon expanded knowledge and ability.

Interest in continuous effort toward developing capacity for increased responsibilities.

c. Curriculum Scope. The Command and Staff College curriculum is designed to satisfy the college objective (see above). Instruction is presented in several homogeneous units that follow logically from one to the next. Beginning with fundamentals, the curriculum proceeds to subjects of ever-increasing complexity to form a complete, comprehensive course.

The curriculum explains the role of aerospace power in contributing, together with the other instruments of national power, to the achievement of national objectives. Based on instruction on the elements of power, basic doctrine and fundamental employment principles, and command and staff techniques, instruction then concentrates on the key processes of estimating, planning, and programming for the effective employment of aerospace power. The Command and Staff College curriculum emphasizes awareness of the USAF's responsibility to be ready to conduct global warfare on instant notice, to deter it if possible, or - failing to deter - to wage war successfully regardless of the form it takes.

The curriculum is divided into two phases: Phase I, Aerospace Power Fundamentals; and Phase II, USAF Operations.

(1) Phase I, Aerospace Power Fundamentals, centers about principles of basic command and staff doctrine:

(a) Application of individual skills required by commanders and staff officers (Unit I).

(b) The elements of power of nations and governments (Unit II).

(c) Basic military doctrine (Unit III).

(d) Application of USAF command and staff principles (Units IV, V, and VI).

(e) A special treatment of air capabilities for Allied officers attending Phase I only (Allied Officer Project).

(2) Phase II, USAF Operations, is concerned with present and future employment doctrine, using the requirements for planning future USAF operations as a vehicle. Phase II is analogous to a Commander's Estimate of the Global Situation, including USAF capabilities and concepts for future operations. Most of the material presented in Phase II is classified. The study areas are:

(a) Scientific and technological developments (Unit VII).

(b) The strengths and weaknesses of the enemy, the free world, and the United States and their significance to the USAF (Units VIII and IX).

(c) USAF planning and programming (Unit X).

(d) Application and appraisal of current military strategies and employment concepts (Units XI, XII, and XIII).

(e) A forecast of the future environment in which the

USAF will operate and an evaluation of air doctrine's validity for that future (Units XIV and XV).

(f) **Special Studies Program** (begun in Phase I).

d. **Basic Data.**

(1) **Enrollment.** The current Command and Staff College student quota is 600. Approximately 500 are USAF, Army, Navy and Marine officers on extended active duty; the balance is divided almost equally between Allied officers and Reserve USAF officers on short tours of active duty.

(2) **Classes.** There is one CSC class each year.

(3) **Length.** The class is nine and one-half months long (September to June).

3. **WAR COLLEGE**

a. **Mission.** To provide instruction to prepare senior officers for high command and staff duty, and to develop sound understanding of the elements of national power to assure the most effective development of air power in the national interest.

b. **Objective.** In implementing this mission the War College has the overall objective of developing a comprehensive understanding of the capabilities and limitations of air warfare systems in support of national policy. Sub-objectives of the course of instruction are:

(1) To expand the student's capacity as an individual and as a member of a group to analyze, appraise, and develop sound solutions to problems.

(2) To gain a more complete understanding of international relations, the nature of conflict, the essential elements of strategy, and sound employment doctrine.

(3) To further develop an appreciation of current problems facing the U. S. Air Force.

(4) To prepare the student to project more effectively his inquiries, recommendations, and solutions.

c. **Curriculum Scope.** The present curriculum is organized into six phases of study. The first two phases (13 weeks) provide an introduction to the War College for the student officer and develop the nature and scope of international relations. These phases of study include an assessment of historical factors as well as the current dimensions in world politics. The third and fourth phases (16 weeks) are primarily devoted to assessing the factors affecting and the actual capabilities of national military forces to conduct cold, restricted and

unrestricted war. During phases five and six (11 weeks) consideration is given to the probable trends in factors affecting allied and enemy strategies and the probable parameters of these strategies. Throughout the curriculum the military, political, and economic interrelationships involved in war are analyzed and the long-term requirements for national allied defense efforts are assessed.

d. Basic Data.

(1) Enrollment. The War College student body numbers 166 of which 130 are Air Force officers.

(2) Classes. One 10-month class is operated each year (August to June).

The following is taken from 1964-65 catalog of Air University. It is a summary of curriculum from the earliest catalog now available in the library of Air University. It will be compared with the curriculum in 1972-73 and 1981-82, which are also attached, to see what changes have occurred over the years. The 1964-65 and 1972-73 catalogues signaled significant times at Air University: 1964-65 was the beginning of expansion of the war effort in Vietnam, and 1972-73 was at the time of the close of the war effort. The present curriculum is added for further comparison.

SUMMARY OF AIR UNIVERSITY CURRICULUM

	<u>1964-65</u>	<u>Clock Hours</u>	<u>1972-73</u>	<u>Clock Hours</u>	<u>1981-82</u>	<u>Clock Hours</u>
Air War College	Introduction	24	Orientation	18	Orientation	14
	Basis of Conflict	136	National Power and		Military Employ-	
	National Security	196	Policy	234	ment	322
	Science, Tech.		Command & Manage-		National Security	160
	Weapons	92	ment of Resources	150	Leadership and	
	Strategic Esti-		Strategy and		Management	149
	ments	146	Capabilities	259	Other Activities	955
	US and Allied		National Security	190	Airpower Symposium	
	Strategy	235	Intelligence Briefs	14	National Security	
	Future Strategy	95	Electives	48	Forum	
	Thesis	7	Professional		Intelligence	
			Studies	112	Briefings	
	TOTAL	931	Independent Study	527	Research and	
			Admin. & Ceremonies	48	Electives	
			TOTAL	1,600	Admin. & Ceremonies	
					Independent Study	
					TOTAL 1,600	
Air Command and Staff College	General	52	Orientation	19	Orientation	14
	Management	256	Communication	18	Staff Communicat.	75
	Environment	161	Environment	178	Leadership and	
	Employment	370	Command & Mgmt	278	Management	221
			Employment	318	National Security	103
	TOTAL	839	Electives	48	Warfare Studies	333
			Field Trip	8	Electives	40
			Counseling, Individ.		Tailored Program	100
			and Group	24	Testing	14
			Intelligence		Operations & Review	16
			Briefing	19	Athletics	24
			Athletics	80	Admin. & Ceremonies	30

	<u>1964-65</u>	<u>Clock Hours</u>	<u>1972-73</u>	<u>Clock Hours</u>	<u>1981-82</u>	<u>Clock Hours</u>
			Admin. & Ceremonies	15	Conferences	30
			Research Study	200	Developmental	
			Independent Study	395	Studies	30
			TOTAL	1,600	TOTAL	1,600
Squadron Officer School	Communication Skills	82	Communication	96	Officership	30
	Leadership	59	Leadership	185	Employment	53
	National Power		National Power		Leadership	127
	& Relationships	44	& Relationships	37	Communication	62
	The Command & Staff Team	59	Management	51	Tests & Review	10
	Employment of Forces	93	Forces Employment	82	Commandants Option	6
			Tests & Review	15	Admin. & Orient.	20
			Quizes	3	Independent Study	
			Admin. & Orient.	21	and Research	4
			Counseling	3	Progress Reports	5
	TOTAL	337	Independent Study and Research	54	Precourse Test	3
			General	13	Special Activities	4
			TOTAL	560	TOTAL	314
			Supplemental Films	35	Optional Periods	27
Senior Non-Commissioned Officer Academy	No		No		Communication	27
					National Security	32
					International Relations	19
					Employment	13
					Leadership and Management	113
					Manage. Resources	23
					Leadership Techniques	38

	<u>1964-65</u>	<u>Clock Hours</u>	<u>1972--75</u>	<u>Clock Hours</u>	<u>1981-82</u>	<u>Clock Hours</u>
					Leadership Applications	52
					Concentrated Studies	36
					TOTAL	353
Allied Officer Course	Orientation	14	ACSA Orientation	11	Orientation	31
	English	141-164	Communication	16	Communication	187-193
	English Commun.	9-35	Military		Information	
	U.S. Culture	21	Environment	178	Program	58
	Acclimation Visits	15	Command and Management	63	U.S. Org. of National Defense	4
	U.S. Organization and Doctrine	6	Military Employment	108	Physical Training	14-26
	TOTAL	250	Elective	24	Study and Preparation	14-20
			TOTAL	400	TOTAL	320
			Still have famil- iarization course like 1964-65	320	Now have Foreign Officer Medical School. Also, Foreign Officer Academic Instructor School	
Academic Instructor Course	Orientation	2	Administration	4	Administration	3
	Professional Background	19	Educational Foundations	32	Educational Foundations	40
	Communications	16	Communications	20	Communications	16

<u>1964-65</u>	<u>Clock Hours</u>	<u>1972-73</u>	<u>Clock Hours</u>	<u>1981-82</u>	<u>Clock Hours</u>
Methodology	92	Methodology	73	Methodology	98
Evaluation	26	Technology	4	Technology	2
Optional Labs	20	Evaluation	29	Evaluation	33
		Optional Labs	20	Optional Labs	20
TOTAL	175	Study and Prep.	18		
		TOTAL	200	TOTAL	212

Special Courses:
Outgrowth of
Special Services
School. All
Special Courses
needed by Air
Force Officers
Some examples
listed

Warfare System School

Aerospace
Operations 98
Allied Officer
Missile & Space
Indoctrination 28
Counterinsurgency 74
Employment
Indoctrination 82
Space Fundamentals 23

Air University
Institute for Pro-
fessional Development

Professional Per-
sonnel Management 240
Professional Mili-
tary Comptrollers 360
Judge Advocate
Staff 240

Had separate Air Force
Chaplains School

Leadership and Manage-
ment Development Center

Commander's
Seminar 39
Professional
Military Comp-
troller School 312
Professional Per-
sonnel Management
School 200
Leadership and
Management
Instructors
Course 88

Air Force Chaplain
School is part of
LMDC

	<u>1964-64</u>	<u>Clock Hours</u>	<u>1972-73</u>	<u>Clock Hours</u>	<u>1981-82</u>	<u>Clock Hours</u>
Air Force Reserve Officers Training Corp.	Freshman Year, 1964-65: Aerospace Power	3	General Military Course for Freshmen and Sophomores		Same as 1972-73	
	Changed 1965-66 added for:		Academics	60		
			Corps Training	60		
	Freshman & Sophomore: World Military Systems	3	Professional Officers Course Juniors & Seniors			
	Juniors: Aerospace Powers	5	Academics	90		
			Corps Training	30		
	Seniors: Global Relations 1964-65	5				
	The Professional Officer 1965-66	5				
Air Force Institute of Technology	<u>School of Engineering</u> Had both graduate and undergraduate for twelve types of Engineering unique to the Air Force.		<u>School of Engineering</u> Still twelve courses. Same except for two name changes.		<u>School of Engineering</u> Three B.S. programs Twelve M.S. programs One Ph.D. program Provides Professional Continuing Education Program (PCE). Electronic Teleteach Blackboard Program to selected bases.	
	<u>Civil Engineering Center</u> Taught seven non-degree courses for civil engineers.		<u>Civil Engineering School</u> Four courses same name. Dropped: Control Center Management, Network Planning Cold Regions Engineering. <u>Added</u> thirteen courses		<u>School of Civil Engineering</u> Twenty-seven courses offered.	

<u>1964-65</u>	<u>Clock Hours</u>	<u>1972-73</u>	<u>Clock Hours</u>	<u>1981-82</u>	<u>Clock Hours</u>
There was also a:		<u>School of Systems and Logistics.</u>		<u>School of Systems and Logistics.</u>	
<u>Defense Weapons Systems Management Center and a School of Systems and Logistics.</u>		Two major programs offered.		Four Programs with Sixty-Five courses.	
		<u>Civilian Institutions Program</u>		<u>Professional Continuing Ed.</u> With fifty courses offered.	

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