The Industrial College of the Armed Forces (ICAF) was established 80 years ago in response to a deficiency in the U.S. security environment. It was a shared shortcoming affecting both the War and the Navy Departments. Recognizing this joint problem, the departments decided that Industrial College students should come from various backgrounds. The Army Industrial College, as it was first named, became a successful model for additional joint professional military education institutions.

Working together has always been a challenge for the Army and Navy, even in an academic environment. The attitude of officers is best captured in the words of Captain Caspar Goodrich of the USS St. Louis. In 1898 in reference to the Spanish-American War, the captain stated: I wish the Army appreciated the excellent work done for it by the Navy, but our sister branch of the service is a spoiled child and takes every exertion on our part as a matter of course. From its point of view the Navy is but a handmaid to the Army. Some of the things done lately have not been calculated to soothe the nautical temper. Especially it is hard for us to put up with an irritating assumption of superiority. Of its only maritime enterprise—the moving of troops from Tampa to Daiquiri, it is well not to speak. Some day a grave scandal will probably be unearthed.

The following year, Goodrich became the president of the Naval War College. Clearly there was a need for the Navy and Army to understand each other. What better place to accomplish this than an academic environment? Dual purposes could be served; the Armed Forces could work...
toward solving the Nation’s problems and, by doing so, could understand each other better. This was one of the fundamental principles for establishing joint professional military education. The National Defense University (NDU), and each component that eventually became a part of it, was created in an effort to solve problems facing our nation. The joint aspect of each new college became a fundamental reason for its success.

In the mid-1970s, political and economic considerations evolved to a point to induce the merger of some of the war colleges. ICAF and the National War College (NWC) joined to create NDU. The Joint Forces Staff College (JFSC) joined the university in 1981. This article describes the origins of the Industrial College and the influence that two of its graduates had on the establishment of NWC and JFSC.

**Industrial College of the Armed Forces**

By the end of any major conflict, the U.S. military has gone through a period of assessment and instituted change based on lessons learned. The oldest component of NDU is ICAF, situated at Fort Lesley J. McNair in Washington, D.C. World War I was the conflict that brought to light the need for this institution. American industries were unable to support the war effort. For example, the War Department ordered some 50,000 pieces of 75-mm field artillery, yet only 143 American-made units were available to U.S. forces on November 11, 1918. The statistics for wartime production were similarly dismal for such critical war items as tanks, aircraft, and food.²

During postwar assessment, the criticism of American industries and business performance was strong, not only by the Federal Government but by allies as well. David Lloyd George, Britain’s prime minister during the war, later reflected:

*No field guns of American pattern or manufacture fired a shot in the War. The same thing applies to tanks. Here one would have thought that the nation who were the greatest manufacturers of automobiles in the world could have turned out tanks with the greatest facility and in the largest numbers, but not a single tank of American manufacture ever rolled into action in the War.*³

Transport was so defective that ships sometimes took a couple of months to turn round at ports, and on land it was so badly organized that, in spite of help from other armies, a large number of the American troops who fought in the Argonne in the autumn of 1918 were without sufficient food to sustain them in their struggle in a difficult terrain.

The War Department’s supply bureaus and programs were condemned in a series of congressional hearings in 1918 and 1919.⁴ Political pressure forced the Department to come up with a solution to preclude the mistakes of World War I from ever being repeated. Tension between Congress and manufacturers led directly to the War Department’s review of America’s industrial preparedness. One of the initial steps taken to solve the problems was the National Defense Act of 1920, which reorganized the structure of the War Department. One new position was an assistant secretary of war charged with ensuring that the Department would be prepared for future wartime mobilizations.⁵ Additionally, this assistant secretary was empowered to plan for the entire wartime economy, a daunting task.⁶ President Warren Harding appointed John Wainwright to this post in the spring of 1921. One of the first individuals Wainwright consulted with was the Chairman of the War Industries Board, Bernard Baruch. Wainwright’s staff constantly asked Baruch to review their plans for industrial mobilization. Proposals of how to train and educate individuals in the arena of industrial support for a war were discussed frequently by the staff and reviewed by Baruch over the next several years.⁷

President Harding replaced Wainwright with a new assistant secretary of war on March 21, 1923. Dwight Davis, a former colonel in the American Expeditionary Force in France, had a strong interest in educating officers in procure-
ment and industrial mobilization planning. Four months after taking office, two of Davis’ staff members presented him with a proposal to establish a school specializing in the education of industrial mobilization. Initially, Davis was skeptical; however, after careful examination of the preparations his staff officers had made for such a school, he became convinced enough to propose it to the Secretary of War on October 11, 1923. The proposal was accepted.

Originally chartered as the Army Industrial College, the institution was established by the War Department’s General Orders, Number Seven, on February 25, 1924:

*A college, to be known as the Army Industrial College, is hereby established for the purpose of training Army officers in the useful knowledge pertaining to the supervision of procurement of all military supplies in time of war and to the assurance of adequate provision for the mobilization of material and industrial organization essential to war-time needs.*

Today, the purpose of the Industrial College is the same as the original vision of Baruch, who had great appreciation for the complexities and challenges of mobilization and for the ability of industry to support national defense. While Baruch lectured at the Army War College on February 12, 1924, a student asked his opinion on how the military should be organized in time of peace to be ready to mobilize in time of war. Baruch stressed the importance of establishing:

*little school or something of the kind . . . where those of us who did serve . . . could give the benefit of our experience to these possible industrial leaders. . . . Let it be a living thing. . . . The military-minded man who has to devise the machines of destruction should keep in touch with the man of industry who can go out and get those things and who knows how he can turn a factory that is making one thing into another thing. They should keep in touch all the time so that if war has to come, we shall be ready for it.*

Two other individuals, both Army officers, had early associations with the Industrial College and would later become instrumental in establishing institutions that would eventually become a part of NDU. Major Henry H. (“Hap”) Arnold, who would become one of the pioneers of military aviation, was a member of one of the first classes to graduate from the Army Industrial College. The other was Major Dwight Eisenhower, who reported to the Industrial College in 1932 immediately following his graduation from the Army War College. Eisenhower graduated and taught at the Army Industrial College during the interwar years. During this time he established a close relationship with Baruch.

Almost from the beginning, the Army Industrial College included students from other services and stressed the importance of understanding each other’s capabilities. The first Navy students arrived in February 1925. When Eisenhower reported, 25 percent of the class was composed of Navy and Marine Corps officers. Eisenhower would frequently refer to the positive aspects of a joint student body later in his career.

Classes at the college were suspended for a time during World War II. When they resumed in 1944 with short courses in contract termination and surplus property disposal, civilians were members of the student body for the first time.

**National War College**

Early on in World War II, it was apparent to key service leaders that there was a need for officers educated in joint operations. A new means of education was desired to alleviate the conflicts surrounding respective roles and capabilities of the Army and Navy.

Hap Arnold, Commanding General of the Army Air Forces, submitted a proposal to fellow members of the Joint Chiefs of Staff: General George Marshall, Army Chief of Staff, and Fleet Admiral Ernest King, Commander in Chief of the U.S. Fleet and Chief of Naval Operations. Arnold proposed that a study be undertaken by the Joint Chiefs to determine the feasibility of establishing a war college. Arnold’s recommendations established the initial groundwork for the Joint Forces Staff College and National War College. His memorandum of December 26, 1942, stated that the purpose of the War College would be twofold:

1. To train selected officers of the Army and Navy for command and staff duties with unified (Army-Navy) commands.

2. To develop methods and ideas for the most effective unified employment of all arms and services and to translate lessons learned in the field into appropriate doctrines. Conclusions reached should be spread through the services both by service publications and by the influence of the graduates of the College in planning and conducting operations.

The Joint Chiefs of Staff began an examination of the proposal in mid-March 1943. The Navy Department did not totally agree with Arnold’s proposal. King responded on April 1, disagreeing on three major issues: the location, jurisdiction, and curriculum. In this memorandum, the Navy proposed that a “Joint Army and Navy
Staff Course” be formed while the details establishing the college crystallized.14

The issues were finally resolved, and on April 10, 1943, Marshall signed a memorandum that documented the requirement for a special course of instruction to train Army, Navy, and Marine Corps officers for staff and command duties with unified commands. Greater weight would be given to instruction in air operations, as King had proposed. The location would be as the Army suggested, Washington, D.C. The course would fall under the jurisdiction of the Joint Chiefs, also as the Army had proposed.15 The Army-Navy Staff College was established in Washington on April 23, 1943, with a mission to train selected officers for command and staff duty in unified or coordinated commands. The students from the initial class were told to meet on August 5, 1943, in the new War Department building.16 In a display of the unity of effort envisioned for the college, General Marshall and Admiral King each spoke at the opening ceremony, and General Arnold provided the concluding remarks.17

The course of instruction at the Army-Navy Staff College was 4 months. The composition of the student body reflected the desire for an increased understanding of each other’s service. Classes were composed of officers from each service, at times including students from the United Kingdom and Canada and even one from Australia. To fulfill the goal of producing students who understood the relationship between the diplomatic corps and military, the eighth and all subsequent classes included one to three Foreign Service officers from the State Department.18

With the ongoing war, the services began to examine the possibilities for improving professional military education. In January 1944, the Commandant of the Army-Navy Staff College, Lieutenant General John Dewitt, USA, was tasked with examining the future of joint education. One of the two civilians named to assist the commandant in this study was Baruch. Dewitt’s study recommended that a national university be established, composed of a joint industrial college, joint war college, and State Department college.19
Nothing was decided about these recommendations until broader issues were resolved: What should the postwar military look like? How joint should the military be? Should there continue to be separate services, and what should become of the Army Air Corps? To answer these questions, the Joint Chiefs formed the Special Committee for Reorganization of the National Defense in late 1944, which was frequently referred to as the Richardson Committee after its chairman, retired Admiral James Richardson, USN. The committee interviewed senior officers worldwide in over 80 meetings. Richardson’s group was in favor of a “single department system of organization” for the military. One member, however, cast a dissenting opinion—the chairman. Admiral Richardson thought the two-department system under the Joint Chiefs would be adequate if a joint secretary were added.

Once the committee described their recommendations for the shape of the services, their report provided a vision for joint professional military education. The Richardson Committee had a profound effect on the shape of professional military education in the United States and NDU in particular. It stated:

*There are three basic requirements of the Armed Forces for the program of joint education and training. First there must be an exchange of duties and joint training on appropriate levels particularly designed to enable juniors to work together in the execution of joint plans drawn by their seniors. Second, joint education must be provided at intermediate levels to develop officers capable of planning and participating in joint operations. Third, joint education must be provided at high levels to develop officers capable of formulating strategic concepts and conducting, in command positions, large-scale operations employing all components.*

The third level of education referred to by the Richardson Committee is directly applicable to NWC and ICAF. Intermediate-level education would be attained at the Joint Forces Staff College, which today is a part of NDU. The committee recognized that the Army Industrial College already functioned as a joint institution since its faculty and student body were composed of both Army and Naval officers. The committee’s intent was to place responsibility of the institution with the Joint Chiefs instead of the Army, and to have the name of the college reflect the inclusion of all services.

Out of the many Richardson Committee recommendations came the National War College. Since the Industrial College, in the view of the committee, had been a joint institution, it was important to rename it and place it under the Joint Chiefs of Staff to reflect its actual operations. Another recommendation loosely described a function of a university when it referred to an integrated effort in common fields. However, without some entity fulfilling the function of a university, this goal was not achieved until NDU was actually established years later. Foreign Service officers were included in the student body of the National War College from the beginning and later added to the student population at the Industrial College.

The recommendations from the Richardson Committee were indeed controversial. For example, General Eisenhower and Admiral Chester Nimitz had opposite opinions of how the Armed Forces should be structured. The issue was just as contentious when presented to Congress. While the different options were being considered in congressional hearings, the Senate Military Affairs Committee prematurely provided the Richardson Committee report and recommendations to the press on November 3, 1945. This created quite a commotion because the Secretary of the Navy, James Forrestal, let the press know that Admiral King was in disagreement with Generals Marshall and Arnold. The effect of these dissensions was to prolong a decision while precious time was lost in planning for a military education system.
On November 16, 1945, the Senate Committee on Military Affairs questioned General Eisenhower on his views on unification of the Armed Forces. His testimony underscored the reason he placed such high importance on joint education, a theme he would return to when he became Commander in Chief.

This testimony was only one side of the debate. General Eisenhower and Admiral Nimitz led U.S. forces to victory in opposite theaters of combat during the war and similarly were in opposite theaters in considering how the defense establishment should be structured. This was not an Army versus Navy argument, as plenty of individuals from each service differed in their views. Every warfighter testified to the need to fight together, but peacetime training and education was another matter. One of the fundamental questions dealt with how professional military education should be structured: Is it more constructive to educate forces in a joint environment (such as the National War College) or in a separate environment (such as the Army War College)? Some feared that service identity would be lost in the joint environment. They also believed that competition is healthy for an organization.

This debate was not resolved in 1945 and, to a certain extent, remains with the military today. The Joint Chiefs of Staff disagreed with General Eisenhower’s assessment that the overall organizational structure had to be decided before the military educational system was devised. The Joint Chiefs continued to develop a postwar plan while Congress considered the reorganization of the Armed Forces. On December 19, 1945, President Truman forwarded a special message to Congress recommending the establishment of a Department of National Defense. His message contained many indirect references to the need for joint education:

*I recommend that the Congress adopt legislation combining the War and Navy Departments into one single Department of National Defense. Such unification is another essential step—along with universal training—in the development of a comprehensive and continuous program for our future safety and for the peace and security of the world. . . . True preparedness now means preparedness not only in armaments and numbers but also in organization. It means establishing in peacetime the kind of military organization that will be able to meet the test of sudden attack quickly and without having to improvise radical readjustment in structure and habits.*

This message from the President helped military leaders put to rest the controversy of what should be done with the two-department system under which they had been operating. The Commander in Chief had spoken, so now the services could devote their energy to finalizing the plans for establishing the War College, Staff College, and Industrial College as recommended by the Richardson Committee. Proceeding with the planning turned out to be a wise decision because President Harry Truman did not approve the National Security Act of 1947 until July 26.

The act provided for a Secretary of Defense and for a National Military Establishment comprising Departments of the Army, Navy, and Air Force, and related staff agencies.

Soon after Truman’s message to Congress, the War Department commissioned another major study of officer education. The Commandant of the Army Command and General Staff School, Lieutenant General Leonard Gerow, was placed in charge of the study. The Joint Chiefs heavily influenced the group’s report. The board met in Washington between January 3 and 12, 1946, and interviewed several individuals knowledgeable about joint professional military education, including Lieutenant General Dewitt, by now retired. Gerow’s report had many similarities to Dewitt’s proposals from 2 years earlier. In February 1946, Gerow submitted his board’s recommendations to General Eisenhower, who was now Chief of Staff of the Army. The Gerow board proposed five joint colleges, which would collectively form a National Security University located in Washington and fall under the direction of the Joint Chiefs of Staff. In addition to the Industrial College and National War College, the board proposed a joint administrative college, a joint intelligence college, and a Department of State college. The function of the university was to prescribe the scope and supervise instruction for the five colleges.

Ultimately, the fate of the proposed university and the five colleges came down to resources. The Gerow report recommended that the Army
War College, which was suspended during World War II, remain closed; that the new National War College occupy the facilities; and that the Army War College funding be used for the new college. The proposals for a national security university, joint administrative college, joint intelligence college, and Department of State college were ultimately rejected.33

As the Gerow board was meeting and developing an overall plan, there was a desire to work on the specific details for a national war college. To plan the actual curriculum, student composition, and other essential specifics for the college, the Chief of Naval Operations, Admiral King, selected Vice Admiral Harry Wilbur Hill to replace General DeWitt as the Commandant of the Army-Navy Staff College and be responsible for creating an implementation plan. Admiral Hill took over the Army-Navy Staff College in August 1945, and the twelfth (and last) class graduated on December 7, 1945, enabling Admiral Hill to devote his full attention to plans for the new college. On January 22, 1946, Admiral Hill forwarded his proposed curriculum to General Eisenhower and Admiral Nimitz, who had assumed responsibilities of Army Chief of Staff and Chief of Naval Operations, respectively.34 Admiral Hill brought up the location for the college and submitted the identical proposal contained in the Gerow report of using the building in Washington once occupied by the Army War College. Eisenhower not only donated the building but also ensured that the Army would provide the funding to maintain and operate the institution,35 including hiring civilian faculty members.36

The mission of the National War College, as identified by Hill, was:

1. to prepare selected ground, air and naval officers for the exercise of command and the performance of joint staff duties in the highest echelons of the armed forces
2. to promote the development of understanding between the high echelons of the armed forces and those other agencies of government and industry which are an essential part of a national war effort.37

The Joint Chiefs of Staff authorized the National War College on April 23, 1946, and the first class started on September 3 of that year and was made up of 30 Army ground force and service officers, 30 Army Air Force officers, 30 Navy and Marine officers, and 10 Foreign Service officers. George Kennan was assigned to the faculty to act as Admiral Hill’s deputy for foreign affairs. Kennan was a career diplomat and recognized as one of the State Department’s outstanding experts on Russia.38 The selection of such a prestigious individual was an indication of the tremendous support the State Department offered to the institution.

Joint Forces Staff College

The National War College was not the only college that evolved from the Army-Navy Staff College. The Richardson Committee had recommended an intermediate-level school to develop officers capable of planning and participating in joint operations. However, no detailed planning had been conducted to prepare for a joint college to fulfill that requirement. Recognizing this, General Eisenhower sent the following memorandum to Admiral Nimitz on April 17, 1946:

There is a need for a school which will conduct short courses of approximately five months duration in joint staff technique and procedures in theatres and joint overseas operations. These courses will be similar to those conducted at ANSCOL during the war. I visualize that this school will be operated on a co-equal basis by the Army, Navy and Air. There is a distinct joint necessity for a school of this type for officers of our services prior to attendance at the National War College, thus permitting the scope of this college to embrace national planning and strategy. Since the National War College and the Industrial College are
located at an Army installation, I presume you would like to have this new school located at a Naval installation.”39

This set into motion a working group that would feverishly develop a plan for establishing such a college.

Eisenhower’s presumption that Nimitz would like to have the new school located at a naval installation was correct. On receiving the memorandum, Admiral Nimitz assigned two admirals to work out the details with their Army counterparts. The committee was directed to identify a wartime facility that would no longer be of use to the Navy. The chosen site was the Receiving Station of the Norfolk Naval Operating Base.40

Soon after the working group had developed a draft plan for the school, a disagreement surfaced between General Eisenhower and Admiral Nimitz concerning the curriculum. Nimitz sent a memorandum to Eisenhower indicating that he was unhappy with the scope of the courses as described in a draft of the course descriptions. He thought there should be a clear distinction between the National War College and the proposed staff college. The war college should teach joint command and stress the development of commanders and doctrines associated with joint operations; these disciplines, however, should not be taught at the new staff college.41

There was also a discussion on the name of the new institution. Nimitz wanted to ensure that the distinction of its mission was clear by including the word staff in the name. Eisenhower, conveying his belief that there would soon be a separate branch of the armed services, countered the Admiral’s proposal of Army-Navy Staff College with Armed Forces College.42

The special committee of flag and general officers selected by General Eisenhower and Admiral Nimitz drafted a directive for the new college and submitted it for approval to the Joint Chiefs. The proposed name, Armed Forces Staff College, addressed both of the leaders’ concerns. The planned scope of instruction did include “study of the organization, composition, and functions of theaters and major joint task forces and responsibilities of the commanders.”43 as General Eisenhower had suggested. The Joint Chiefs of Staff accepted the proposal and approved the Armed Forces Staff College (AFSC) on June 28, 1946, just over 2 months after General Eisenhower’s original memorandum. The stated mission of the college was “to train selected officers of the armed forces in joint operations.”44

The first class arrived in late January 1947 for their 5-month course, which ran from February 3 until June 28, 1947. The students lived on the 55-acre site that had been used during the war for processing and reassigning Navy personnel. The U-shaped barracks housed the students and their families, and each building was named after a World War II joint land, sea, and air operation such as Sicily, Iwo Jima, and Okinawa.45 Although AFSC was initially not a part of NDU, it joined the institution in 1981.

Improving the education system has been a solution to problems facing the Nation and the military. The U.S. military has been encouraged to reorganize, reform, and transform—in other words, change. Change begins in the mind and that is why education has been the key. Joint professional military education thus contains curriculum components designed to educate students in preparation for working with officers and civilians from other services, agencies, and countries. The birth of the Industrial College may be credited to Davis, Baruch, and others, but the birth of the system should be credited to its graduates. Eisenhower appreciated the joint education he received at the Industrial College when he was Supreme Allied Commander, Europe, and then Commander in Chief. A few weeks before he passed away, he wrote a note to the ICAF Commandant and closed:

*It is my conviction that the educational programs conducted by the [Industrial] College are of the greatest importance in developing the kind of enlightened military and civilian leadership our Nation must have if its purposes and security are to endure.*

These words are as true today as when Eisenhower penned them from Walter Reed Hospital in 1969, and they are also applicable to the system of joint professional military education.

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