

CHAPTER 2

THE ORIGINS OF THE ARMY INDUSTRIAL COLLEGE, 1918 - 1924

The true beginnings of the Army Industrial College can be traced to our experience in World War I and its aftermath. The United States relatively poor performance in industrial mobilization to support American entry in that conflict prompted a series of post-war inquiries in Congress and the War Department aimed at finding ways to put in place systems and professionally educated senior leaders capable of responding to any future contingency. The Army Industrial College was founded as part of the national security initiatives in this era.

WORLD WAR I: THE AFTERMATH

Wartime Experience

When the United States entered the war in April, 1917, hostilities in Europe had already been raging for nearly three years. Woodrow Wilson, re-elected to the Presidency in 1916 on the Democratic Party's reminder that, "he kept us out of war," now faced the challenge of a massive conflict in France. Giving way to a heretofore strong national sentiment of isolationism, the country sent its young men to "kill the Kaiser," and rallied in support of "the war to end all wars," a war that promised to "make the world safe for democracy" (Coffman, 1968; Morison, 1965).

General John J. Pershing and a few elements of the American Expeditionary Force (AEF) reached Paris on Independence Day in the summer of 1917, but delays in recruitment (a Selective Service law was eventually enacted), training, and transportation delayed significant American participation in the fighting until the spring of 1918 (Morison, 1965; Garraty, 1987).

Despite the advantage of its late entry into the war, the United States was unprepared to support the logistical needs of what was arguably its first large scale conflict in which sophisticated modern equipment was introduced in sufficient numbers to influence the outcome of events. Critical reviews and analyses in the years which followed reflected a war waged by American soldiers fighting with British and French equipment. American pilots, like the great "ace" Captain Eddie Rickenbacher, flew British Sopwiths and De Havillands or French Spads and Nieuports. Theodore Roosevelt's son, Quentin, was shot down while flying a French Spad over Chateau-Thierery in July, 1918. The War Department ordered some 50,000 pieces of 75mm field artillery, but only 143 American made units reached U.S. forces by war's end on November, 11, 1918. Of the 23,405 tanks ordered, only 16 had been delivered

overseas by the time of the Armistice. While orders were placed for 1,741 new steel ships, only 107 were completed during the conflict. This kind of performance was not for lack of effort. The Hog Island shipyard, for instance, employed over 34,000 workers at its peak, but did not complete its first vessel until after the war ended. British and French arms suppliers stepped in to fill many of these voids. The huge long-range guns used in the war were made in France, and of the 8.8 million rounds of ammunition fired by American troops, only some 8000 were made in the United States. With a War Department and industrial base more attuned to the needs of 19th century warfare, the Army was, however, able to procure 7,000,000 pairs of spurs and 366, 528 gas masks for horses (Abrahamson, 1983; Garraty, 1987; Gill, 1984; Huston, 1966; Kreidberg, 1955; Thatcher, 1943, Vawter, 1983).

As David Kennedy (1980, p. 194) summarized the situation in his historical analysis, Over Here, "The American doughboy in France was typically transported in a British ship; wore a steel helmet modeled on the British Tommy's, and fought with French ordnance."

Military Requirements and Industrial Responsiveness

The reasons for the sluggish responsiveness of the American war machine were many. There was confusion in military requirements. The War Department had five independent supply bureaus when the war began (eight by the time the conflict ended), each levying heavy, competing requirements upon industry in virtual isolation from one another. Moreover, many factories were already producing at near capacity filling orders from the British and French (Abrahamson, 1983; Coffman, 1968; Garraty, 1987).

By the War Department's own assessment in 1919, the supply bureaus not only acted independently in their dealings with industry, each was in the habit of presenting its own claims to the Appropriations Committees of Congress. Adding to the confusion, the Department acknowledged that "a comprehensive statement of the duties and functions of the original supply bureaus is probably not to be found anywhere" (Annual, 1919, p.5). The War Department's General Staff had responsibility for procurement and logistics (and for oversight of these bureaus) during the war, but it had little understanding of these functions and generally gave them short shrift (Gough, 1991b).

A number of other factors have been cited to explain the slow military-industrial responsiveness of our material support for the war. Cuff (1973, p.11) points to the "ambiguous state of business-government relations under the Wilson administration." Even before the War, General Leonard Wood, in 1915, had lamented to Wall Street speculator Bernard Baruch about the gulf separating the military establishment from American society and the business community. Finally, anti-war and isolationist

sentiments which helped carry the Democrats to victory in 1916, fueled a persistent opposition to preparedness among the public and Congress long after U.S. involvement seemed increasingly inevitable (Cuff, 1973).

In the final analysis, some industries were swamped with orders they were unable to fill; some were ruined by the sudden cessation of their normal business; and some were tainted by greed and profiteering on part of unscrupulous businessmen (Thatcher, 1943). In fact, it was during this era that the War Department used the highly questionable practice of "cost plus a per cent of cost" contracting -- a technique which creates temptations for abuse through incentives for almost limitless spending by contractors and which was outlawed in later years (Nagle, 1992).

Council of National Defense and War Industries Board

None of these difficulties went without earnest attempts to remedy them. A Council of National Defense (CND) was created by law August 29, 1916, seven months before the United States entered the War, although it did not become fully engaged until March 1917. The Council consisted of six Cabinet officers (Secretaries of War, Navy, Interior, Agriculture, Commerce, and Labor) and a seven member advisory commission (Annual, 1919). Wilson placed the sizeable mobilization task in the Council's hands but gave it no practical authority to do the job properly (Garraty, 1987).

Some have suggested that the relative impotence of the Council also indirectly enabled the Army to successfully resist reforming its separate supply bureaus until early 1918. The Secretary of War, Newton D. Baker, was selected as Chairman of the Council, and he also served as President Wilson's chief adviser on industrial mobilization. Koistenen (1980) argues that, as council chairman, Baker failed to rise above War Department interests and used his position to maintain its more parochial prerogatives. Thus, for almost a year after our entrance into War, the Department insisted, rather unsuccessfully, that the civilian economy adjust to its decentralized supply systems.

Finally, following the American declaration of war, the Council, in July 1917, created a War Industries Board (WIB) to oversee industrial production and distribution (Garraty, 1987). At first operating as part of the Council itself, the WIB was of questionable effectiveness. It reflected ongoing tensions between the War Department and the corporate "dollar-a-year men" that composed it, and feelings of strong pessimism clouded its future (Cuff, 1973).

That winter Secretary of War Baker announced a War Department re-organization. He replaced the Ordnance Corps and Quartermaster Corps Chiefs and proposed an inter-agency board to coordinate War activities with the Council of

National Defense, and called into question the continued existence of the War Industries Board altogether. In response, Baruch and other prominent industrialists appealed directly to Congress and the President, advocating not only its continuation, but arguing for strengthening it as a "highly centralized authority" (Cuff, 1973, p. 139).

Secretary Baker and Baruch subsequently met in January and hammered out an agreement that confirmed the WIB would not administer contracts nor perform any purchasing functions (areas which Baker defended as the exclusive prerogative of the War Department), but would be given authority in the area of industrial production priorities. Baruch then met with the President and, on March 4, 1918, Wilson publicly appointed Baruch to chair the newly empowered WIB (Koistenen, 1980). Codified by the Overman Bill passed by Congress in May, Wilson separated the War Industries Board from the Council of National Defense and made it an executive agency reporting directly to him (Cuff, 1973).

Baruch, a prominent Wall Street speculator, had been given near dictatorial power to set industrial production priorities for the country. While his War Industries Board was staffed with industrialists who served without compensation, they nonetheless maintained their positions in private business, creating at least the appearance, if not substance, of strong conflict of interest. The necessity of wartime responsiveness offset the reservations by Wilson, the Congress, and the public, of surrendering vast power to private interests which, while they held enormous capabilities, had also demonstrated occasional capacities for greed (Koistenen, 1980).

In an attempt to understand and meet the needs of the War Department the WIB set up commodities sections to deal with various military requirements. Cuff (19773, p. 162) notes that the "inability to predict future needs had long been a major stumbling block in economic mobilization and a special point of contention between civilian business advisors and military officials." There was, in fact, a continued clash between specialized business knowledge and hierarchical military authority. As late as September 1918 one WIB official complained that the military still went about its business as if the Board did not exist. Relations eventually became smoother, however, after Wilson finally compelled the War Department to place military officers on WIB Committees (Garraty, 1987; Koistenen, 1980) and the Army finally organized along commodity lines. No small credit is also due to one young Army Captain Hugh Johnson who participated in the WIB, won the respect of senior officers and industrialists alike, and crafted a circular in Aug 1918 on military-industrial integration coherently and concisely articulating the WIB's "power to control resources" with the War Department's "power of purchase" (Cuff, 1973, p.166).

In spite of the tensions between military and industrial officers, a realistic balance appears to have been struck between extremes. The War Department's own internal difficulties with setting requirements and coordinating independent supply

bureaus made vividly clear it was in no position to orchestrate the entire economy's production capacities. As for industry, while some business leaders would undoubtedly have been anxious to remove procurement authority from the military, the more shrewd and perceptive among them realized such an attempt would draw public outrage and forced major reforms or even dissolution of the Board (Koistenen, 1980).

On November 30, 1918, following the Armistice of November 11, 1918, Baruch resigned and closed down the War Industries Board. He wrote to Wilson that "the right course is being followed in handing over to the proper permanent Departments those activities of the Board with which the government ought not permanently to dispense" (cited in Cuff, 1973, p.262). Ironically, in the final analysis, this prompt act of dissolution probably served to strengthen public confidence in the American industrial system, and it may well have been one of the most important consequences of the War Industries Board experience. Moreover, Wilson had been relatively successful in a delicate balancing act. While avoiding a radical re-ordering of American institutional systems, he was able to maintain a reasonably appropriate role for the military in industrial mobilization while simultaneously being wary of public reaction over concentrating too much power in a state agency dominated by businessmen.

Post-War Criticism in Congress and the Press

As young Americans returned home from Europe, the initial ebullience of their victory was gradually replaced by a period of critical introspection as soldiers began to recount their experiences with supply and equipment shortages and the use of British and French equipment became more widely known. Stories and suspicions about industrial profiteering from war contracts further fueled the criticism.

In response, the Congress held a series of hearings in 1918 and 1919. In assessing the War Department, they were particularly critical of the supply bureaus and their supply programs "handled by military men whose training did not give them an adequate preparation for the task" (Annual, 1919, p. 18).

The press joined the critical analysis, especially in their condemnation of those in industry who had earned excess profits from the war. In one editorial, the Christian Science Monitor (Christian, 1923) criticized munitions makers who made "preposterous wages" in 1917 while soldiers "died in the trenches for a pittance." Admonishing that this kind of injustice must not be repeated in any future war, the editorial intoned that:

Neither the digger of iron, the smelter, the puddler, nor the millionaire magnate who controlled the operation of all, should be allowed as the fruit of his labor during the continuance of the war more than what the boy in the trenches would be getting -- namely, a bare livelihood. The profiteer would be eliminated. (p. 20)

The critical mood of the country over the failings and excesses of wartime industrial mobilization may well reflect a larger understanding that the country and the world had witnessed a more profound change in the very nature of warfare. The outcome of modern war, it seemed, had now begun to transcend the confines of the battlefield. It had become inextricably entwined with industry and the economy of combatant states.

The American industrialist, Howard E. Coffin, captured the essence of this emerging realization with the admonition that "twentieth century warfare demands that the blood of the soldier must be mingled with from three to five parts of the sweat of the man in the factories, mills, mines, and fields of the nation in arms" (cited in Martin, 1934, p.512).

Decades later, Martin Van Creveld (1989, p. 163), in reflecting upon the convergence of technology and warfare in this era, echoed a similar sentiment, observing, "war itself extended its tentacles deep to the rear, spreading from the trenches into the fields, the mines, and the factories."

But, if the nature of warfare had indeed profoundly been altered in this way, it demanded that the need for cooperation between combatants and suppliers be underwritten by an entirely new body of knowledge and action to rival the strategies and tactics of battlefield generals. Thus, in the early 1920s, began an era which would hallmark the foundations of serious military-industrial thinking.

FOUNDATIONS OF POST-WAR MILITARY-INDUSTRY THINKING

National Defense Act of 1920

The first formal impetus for crafting new patterns for action in military-industrial thought came in the form of the National Defense Act of 1920, passed by a critical Congress and enacted into law on June 4 of that year. Incorporating the painful experiences of World War I, it provided an entire new War Department structure for procurement and mobilization (Industrial, 1949). Creating a new Assistant Secretary of War post, Section 5a of the law specified that:

...the Assistant Secretary of War, under the direction of the Secretary of War, shall be charged with supervision of the procurement of all military supplies and other business of the War Dept pertaining thereto and the assurance of adequate provision for mobilization of materiel and industrial organizations essential to wartime needs. (Eisenhower, 1939, p.1)

The law preserved some role for the General Staff in this area, however, charging it responsible to "prepare plans for...the mobilization of the manhood of the Nation *and its material resources* in an emergency..[italics added]" (Eisenhower, 1939, p.1). While the General Staff held traditional responsibilities for war plans and manpower mobilization, their new charter in material mobilization appeared to overlap the authority given to the new office of the Assistant Secretary of War (OASW). In a move which heralded a series of conflicts between the General Staff and the OASW, the War Department convened a Board on July 7, 1921, to clarify lines of authority.

The Harbord Board (named after Gen James G. Harbord, Deputy Chief of Staff, who headed the group) recommended some clarification of responsibilities, but still left sufficient ambiguity that the War Department eventually clarified the situation by issuing General Order No. 41, August 16, 1921 which said:

...the ASW is charged, in general, with the formulation of all policies which relate to the procurement of supplies...[to include}...the assurance and timely provision for the mobilization of the material and industrial organizations essential to wartime needs. (cited in Thatcher, 1943, p. 8)

In addition, the General Order omitted all reference to the mobilization of material resources in outlining the functions of the General Staff (Thatcher, 1943; Scammell, 1946).

In spite of this clarification, a series of conflicts over proper spheres of authority and responsibility -- outgrowths of persistent bureaucratic power struggles within the War Department -- continued between the General Staff and the Office of the Assistant Secretary of War (OASW) (Eisenhower, 1931). Frictions occurred over the standardization of military specifications and the supervision of research and development. One Army regulation, 850-25, dated December 15, 1924, directed the supply branches to cooperate with the ASW on standardization but only "through the General Staff" (Thatcher, 1943, p. 10).

Nonetheless, Congress had succeeded in its primary intent to put eight independent Army supply bureaus under one Assistant Secretary of War (ASW) in the hopes they would coordinate their industrial requirements and not disrupt economic mobilization in a future emergency. Moreover, since the ASW would be organizationally equal to the Chief of Staff in the War Department's hierarchy, the Secretary of War would have two principal advisors, as opposed to one -- the Chief of Staff -- before 1920 (Koistenen, 1980).

Equally noteworthy, the new Assistant Secretary of War would be empowered to plan for the entire wartime economy -- an unparalleled responsibility for anyone in the War Department. Gough (1991a) argues that Congress, uneasy in appearing to give

the War Department what was clearly a civilian responsibility -- planning for the mobilization of the entire economy in an emergency -- may have deliberately crafted unclear lines of authority and ambiguous means to achieve necessary ends to stem an inordinate consolidation of power here.

Nonetheless, it was apparent that some potentially dramatic new ground had been broken for the War Department and its civilian leadership. Quickly recognizing, however, that its senior leaders were ill-prepared and un-educated in matters of industrial and economic mobilization, Secretary of War Newton Baker told Congress there was a need to establish some sort of schooling in this area. In testimony before the House Committee on Military Affairs in 1920, Baker observed:

We hoped to have Belvoir...for maintaining a school of industrial conditions...so that there would be in the country a school for a special line of industrial knowledge tied up to the Army in which the possibility of expansion and conversion of business into the Army might be studied out in advance of any emergency. (cited in Scammell, 1946, p. 20)

Changes brought about by the fall elections that same year would soon help foster a climate favorable to moves in just such a direction.

Warren Harding and a "Return to Normalcy"

In the autumn of 1920, Senator Warren G. Harding (Republican from Ohio) won election to the Presidency by promising a "return to normalcy". Correctly gauging the public temper, his campaign speeches suggested, "America's present need is not heroics but healing, not nostrums but normalcy, not revolution but restoration" (Morison, 1965, p. 885). Harding also aligned himself and his Administration with a climate favorable for government cooperation with business, intoning, "We want less government in business and more business in government" (Garraty, 1987, p.739; Morison, 1965, p. 918). The business community, in turn, rendered their strong support for both Harding and his Vice President, Calvin Coolidge, also a staunch advocate of business.

War Department

Forming his Administration in the spring of 1921, Harding appointed John W. Weeks, a former Senator, as his Secretary of War, and John M. Wainwright as the first Assistant Secretary of War under the provisions of the National Defense Act of 1920. John M. Wainwright began setting up his new organization on March 21. Acknowledging the need for training his staff in the industrial aspects of modern war he consulted with senior military officers and industry officials, including Bernard Baruch (Industrial, 1949; Scammell, 1946).

In May, Wainright appointed Colonel Harley Ferguson, Engineer Corps, as his Executive Officer. Ferguson, at the time, enrolled in the Class of 1921 at the Army War College, was brought to the Office of the Assistant Secretary of War (OASW) several months before graduation for this assignment (Thatcher, 1943). Designating a successful officer this senior in rank to the new OASW organization and the relatively small staffs which existed in those days, undoubtedly sent a strong signal regarding the importance attached to this function.

Wainright, lacking funds to set up a formal training institution, initially asked Ferguson to establish a series of Procurement Planning Sections. By the fall, those sections were combined, and on October 25, 1921, under Memo Orders No. 1, OASW, the Assistant Secretary of War formally established the Procurement Division (headed by Col Ferguson) and its two component branches: the Planning Branch (headed by Col Charles Saltzman, Signal Corps) and the Current Supply Branch (Bauer, 1983; Industrial, 1949; Thatcher, 1943).

Meanwhile, Colonel Ferguson selected seven additional officers, including a Major Morgan L. Brett (Gough, 1991b), for assignment to the Planning Branch and assigned each one to a major phase of industrial preparedness. Their task was guided by the official records of the Council of National Defense and the War Industries Board which had been transferred to the OASW by Executive Order on April 21, 1921 (Scammell, 1946; Thatcher, 1943). Ferguson planned to have officers in the Branch work primarily on these records for two to three years "until they should know more about their subjects than anyone else" (Scammell, 1946, p. 21). New officers were assigned to the Branch would continue to learn industrial preparedness from their fellow staff officers and the wartime agencies' official records now in their custody -- a kind of "apprenticeship" system.

There were, of course, some shortcomings in this plan: far too few officers, relative to needs, could be trained this way and the system relied almost entirely upon self-study for a group of officers whose other regular duties would compete with this task (Industrial, 1949). One wonders, too, if the fact that these officers were studying three year-old static portraits of now rapidly changing industrial sectors did not cause concern. Nonetheless, Colonel Ferguson actively engaged his staff in attending industry conferences, corresponding with civilians in industry -- to include former members of the War Industries Board -- and establishing professional relationships with a number of trade associations and engineering societies (Scammell, 1946).

Bernard Baruch, former Chairman of the War Industries Board, was prominent among those with whom the OASW kept in close contact. Colonel Ferguson encouraged this professional friendship with a man sometimes viewed as a stern critic of the War Department. While his advice was not always followed, Army officers

nonetheless continually sought out his criticism and comments on their plans for industrial mobilization. Moreover, the Planning Branch files were said to have held copies of much correspondence with Baruch with profuse expressions of the high regard in which he was held (Thatcher, 1943).

Senior Military Education

Coincidental with the considerable activity and "apprenticeship" training in the Planning Branch and the Office of the Assistant Secretary of War, an interesting and somewhat indirectly related development occurred elsewhere in the War Department. On August 15, 1921, General Pershing officially restored the name of the Army War College. Closed during the war, classes had resumed there in 1919 under its older name, the General War College (Fort, 1954; McClellan, 1993).

In a move apparently aimed at restoring prestige to the institution and acknowledging its importance, Pershing told the Army War College class that summer of 1921 that he could not have organized American Expeditionary Forces in France without help of the graduates of the College (Fort, 1954; McClellan, 1993). Whether or not Colonel Ferguson and his colleagues in the supply communities took note of these developments is, of course, a matter of conjecture. What is certain, however, is that General Pershing spoke these words before the graduating class in which Colonel Ferguson had been a member before being prematurely removed to work for the new Assistant Secretary of War.

Meanwhile, other developments in senior military officer education were occurring elsewhere. While the Naval War College was established in 1884, a formal senior program did not begin there until 1911 with the enrollment of 14 students in the first annual course (Masland, 1957). While the Navy culture continued to downplay the role of senior military education in career advancement, by 1919, the Service had convened a Board which concluded that attending the Naval War College would be a desirable step for those officers advancing to the flag level. Furthermore, by the early 1920s, increasing interest in educating senior supply officers in business practices had prompted the Navy to begin sending officers to the Harvard Business School. Following suit, in 1923, the Army announced plans to send eight officers to Harvard as well (Industrial, 1949; Masland, 1957).

Once again, the extent that these events may have influenced thinking about the need for senior military education of comparable stature among key people in the Planning Branch is a matter of conjecture. The close juxtaposition of timing and interests, however, seems at least relevant for consideration. In any case, a climate favorable for establishing a new senior military college devoted expressly to the needs of those charged with industrial mobilization planning was becoming ever more favorable.

AN EMERGING CLIMATE FOR COOPERATION AND EDUCATION

Calvin Coolidge: "The business of the United States is business"

On August 2, 1923, President Harding died in San Francisco following a trip through Alaska and the aftermath of what has been variously described as food poisoning and illness or, more recently, suspected as having been a heart attack. While his Administration has since become closely associated with a series of scandals (Teapot Dome and others), Harding was generally quite popular and, at the time of his death, the public was not widely aware of the scandals with which history later tainted him (Garraty, 1987; Morison, 1965).

Calvin Coolidge, Vice President, assumed the Presidency and strengthened even further the Republican Administration's favorable climate for government cooperation with industry. "The business of the United States is business, he said" cited in Morison, 1965 p.918). Perhaps more dramatically, he insisted that, "the man who builds a factory builds a temple" (cited in Garraty, 1987, p. 741). Thus, Coolidge proved to be an even stronger friend of business than Harding. He was a strong advocate of laissez-faire, and under his administration, the Justice Department allowed government cooperation with trade associations (such as those interactions by the Planning Branch) in ways that had previously been considered illegal under the Sherman Act (Garraty, 1987).

A favorable climate, in general, began to pervade society and the economy in this period as well. Following some volatile developments in 1920 and 1921 (inflation, unemployment, strikes, and a "Red scare"), the stockmarket was booming by 1922 and business propaganda was trying to suggest that the very act of collective bargaining was somewhat "un-American". By late 1923 and 1924, the entire economy was booming, real wages rose, unemployment declined, and consumers were buying homes and automobiles (Garraty, 1987; Hofstadter, 1959).

It was also in this era that the country experienced Prohibition. Put into effect in 1920 with the ratification of the 18th Amendment, it outlawed the manufacture and sale of alcoholic beverages. Popular in its initial design, its enactment soon produced second thoughts, regrets, and some fundamental questions about the regulatory role of government over business and its citizens (Hofstadter, 1959; Morison, 1965).

The Assistant Secretary of War and Proposals for Education

Under the Coolidge Administration, John Weeks continued as Secretary of War. Dwight F. Davis, appointed by Harding, continued as Assistant Secretary of War.

Davis had been a Colonel in the American Expeditionary Force in France where he won the Distinguished Service Cross. A strong advocate of military preparedness, he hailed from a wealthy business family. Coincidentally, Dwight Davis was also an excellent tennis player during his undergraduate days at Harvard University, and he was the donor of the sport's legendary trophy -- the Davis Cup (Gough, 1991b).

Soon after Dwight F. Davis became the new Assistant Secretary of War on March 21, 1923, he made it known that he felt larger numbers of Regular and Reserve officers should be trained in procurement and industrial mobilization planning. Noting the scarcity of officers with formal preparation in this area, he sought to expand the scope of training and asked the Planning Branch to prepare an "Orientation Course of Reading" (for Regular officers) and "Instructions for Reserve Officers as to Procurement Plans," thus effectively paving the way for an eventual organization dedicated to studying industrial mobilization and procurement planning (Bauer, 1983, p. I-3; Industrial, 1949, p. 3; Scammell, 1946, p. 21).

Davis' interest in industrial preparedness education only served to reinforce the similar designs of those officers already working in the Office of the Assistant Secretary of War. At least two initiatives had been undertaken or were underway when the new ASW assumed office that spring.

A year earlier, in the winter of 1921 - 1922, Major Richard H. Somers, the head of training in the Office of the Chief of Ordnance, had collaborated with Major Brett (who worked for Colonel Ferguson in the Planning Branch) on two studies examining concepts for industrial mobilization. While they concluded that the task of mobilizing the entire economy in war was beyond the purview of military and should be under the control of a small group of business executives, they also argued that Army supply officers would need to be sufficiently educated in this area in order to be familiar "with the economic conditions of the country to enable them to gauge its possibilities, to coordinate the military needs, to load it as evenly as may be to its maximum capacity" (Gough, 1991b, p. 262).

In reality, Brett ultimately may have had in mind putting military officers in charge of the mobilization effort (instead of civilian industrialists), since the business group they envisioned was essentially a War Industries Board. In fact, Gough (1991b, p. 263) observes that the capabilities they ascribed to military officers thus educated, "actually negated much of the need for the superagency Brett and Somers said they wanted." In any case, the two officers proposed establishing an Institute of Economic Preparedness which would include military officers as both director and members of the faculty (Gough, 1991b).

A second initiative came from two other officers in early 1923. Major James H. Burns and Major Sidney P. Spalding of the Ordnance Corps had strong interests in

procurement, industrial mobilization, and capable officers trained to carry out the first phase of these activities, pending the involvement of businessmen during an emergency (Industrial, 1949). At the time, Major Burns was working on the West Coast, having been assigned there in early 1923 as the 9th Corps Area ordnance officer (Scammell, 1946). He shared an apartment in San Francisco with Major Spalding, an Assistant Professor of Military Science and Tactics at the University of California at Berkeley. Burns spent most of the war in the Office of the Chief of Ordnance in Washington and four months in France dealing with problems of ammunition supply in the AEF. Spalding spent most of war in the U.S., but went to France in May 1918, where he was put in charge of the AEF's ammunition supply (Gough, 1991b; Scammell, 1946).

Disparaging the notion that only "captains of industry" could man key mobilization planning positions, Burns and Spalding saw the responsibility as primarily a military one, and they sent a letter to Major Richard Somers (in the Office of the Chief of Ordnance) recommending that the Ordnance Corps and the Assistant Secretary of War establish two schools -- one run by the Ordnance Corps for their officers, and another by OASW for the Army as a whole. Major Somers, of course, had been working on similar ideas with Major Brett, and relayed the idea from Burns and Spalding to Major General Clarence C. Williams, Chief of Ordnance. General Williams had returned in 1918 from the AEF to take over and strengthen the Ordnance Department (Gough, 1991b; Scammell, 1946).

Later that summer, in July 1923, Major Burns was transferred from San Francisco to Washington and assigned as Executive Officer in the OASW. (Gough, 1991b). A month later, on August 7, Burns sent his own memorandum to General Williams recommending that a small school be established in which senior Ordnance officers would study problems of wartime procurement and supply -- in light of experience in the last war. He doubted, he said, that sufficient numbers of officers currently understood these problems (Codd, 1946).

General Williams, vacationing in New England at the time, agreed with Burns. On 17 August, he wrote a memo to Major Somers (with Burns' memorandum attached). Explaining that he had discussed the idea with Burns while in Washington earlier that month, he asked that a committee be formed -- consisting of Burns, Somers, and a Major Charles T. Harris who was an Ordnance officer and currently a student at the Army War College -- to report to him when he returned to Washington on September 4. General Williams said he supported the need for "some system of instruction for our industrial war plans," and noted that he had also spoken to Assistant Secretary of War Davis about a similar idea (cited in Codd, 1946, p. 325). Actually, General Williams had been in Washington sometime after August 2 for President Harding's funeral and had discussed the education idea with the Assistant Secretary at that time (Codd, 1946).

Two weeks later, the committee recommended that the two schools they had discussed be formed. General Williams agreed and established the Ordnance Staff College under his purview as Chief of Ordnance. The Ordnance College operated only for a short period, however, and was discontinued as the impetus built for an Army-wide industrial college instead (Gough, 1991b).

"A LITTLE SCHOOL..."

That same summer, In July, 1923, Colonel Ferguson and Major Burns formally presented their idea of a school to Assistant Secretary Davis. While Davis was a strong advocate of the need for education in industrial mobilization, initially he was not as enthusiastic about their proposal for establishing a separate senior school. Burns described his reaction as "properly skeptical" (cited in Gough, 1991b, p. 265).

Ferguson and Burns subsequently managed to get Secretary of War John W. Weeks to visit their operation. Weeks observed instruction, read papers, examined materials, and asked how many military people truly understood this area. Ferguson told him that roughly six officers were well versed in the field, but that something on the order of 40 regular and 400 reserve officers needed such training each year. Ferguson said that he would like to start a place to train these officers and Secretary Weeks indicated that he agreed with the idea (Gough, 1991b, p. 265; Industrial, 1949, p. 4).

Meanwhile, General Williams conversation on this subject with Assistant Secretary Davis that August also proved to be influential. That month, Davis announced that he favored an Army-wide institution for industrial mobilization training, said that Secretary of War Weeks approves of the idea and directed Colonel Ferguson to set the project in motion (Gough, 1991b).

On October 11, 1923, Davis sent a memorandum to the Secretary of War formally proposing to set up a course in his Office for "regular officers trained for duty in the OASW in the beginning of an emergency," noting that it would be "a special course of about six months to be given to successive groups of ten officers from the Supply Branches" (cited in Thatcher, 1943, p. 24). The wheels were now firmly in motion to establish a school. Later that winter, when Colonel Ferguson presented a lecture in January, 1924 to the class at the General Service Schools at Fort Leavenworth, he mentioned that his staff had prepared "an organization plan" which would outfit the OASW with knowledgeable people to handle industrial mobilization planning for the War Department (Ferguson, 1924, p. 19).

The Army Industrial College

The following month, the Army Industrial College was formally established by War Department General Order No. 7, February 25, 1924, Establishment of The Army Industrial College. Colonel Harley Ferguson was named as the first Director of the College. The order (War Department, 1924, February 25, p. 1) read:

1. 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 materiel and industrial organization essential to war-time needs.
2. For the present such parts of the Munitions Building, located in Washington, D.C., as may be available and necessary will be assigned to its use.
3. Direct supervision and control of the Army Industrial College are vested in the Assistant Secretary of War.

The opening ceremony for the new College was actually held four days earlier on February 21, 1924 (Davis, 1924b; Weeks, 1924). Secretary of War Weeks spoke at the ceremony, telling the assembled crowd that the World War showed that the nation had solved the problem of raising manpower, but not of feeding, clothing, and equipping our army. He observed that the War Department had seen the value of the Army War College, pointing to a study which showed that a greater percentage of the officers who had performed well in France were War College graduates. Now, he said, it was time for a school which specializes in supply problems. While the Secretary acknowledge that the new Army Industrial College was somewhat of an experiment, he added that, "we believe the experiment will be successful and that the school will prove of great benefit to the nation ...[and become] an important permanent institution in the United States Army" (Weeks, 1924, p.1).

Assistant Secretary of War Davis also spoke at the opening ceremony. Citing the World War experience which showed that the Army's supply organizations were not properly trained, he began by acknowledging the useful role of "captains of industry" in the nation's mobilization effort. He added, however, that it was essential the War Department have a "reservoir of trained officers....to man the key positions both in the supply branches and in the Office of the Assistant Secretary of War, during the early part of the war" (Davis, 1924b, p. 3). The new Army Industrial College, he said, would help senior officers learn "sound & basic principles" of the "industrial activities of the world" (p. 6). In his remarks, Davis also alluded to the tensions which persisted between the combatant and supply officers and their respective education. "Each should be generally familiar with the broad problem of the other," he noted, "but their missions are distinctly dissimilar and should be kept so" (p.4).

Interestingly, the exact opening date of the new Army Industrial College has been variously reported. The relatively few written historical accounts of the College cite either February 21 (opening ceremony; informal establishment) or February 25 (formal establishment by General Order No. 7) as the opening date of the College (Bauer, 1983; Gest, 1990; Gough, 1991b, Industrial, 1949, Scammell, 1946). Archival materials, however, indicate that the actual start date was more likely February 1. Colonel Ferguson's first annual report to the Assistant Secretary of War says that the College "was actually started informally on February 1, 1924." (Annual, 1925, p. 1) Moreover, the report later lists the nine officers who comprised the first class as having been enrolled from "February 1, 1924 to June 26, 1924" (p.3).

Further evidence for the earlier start date can be found in the remarks made by Assistant Secretary of War Davis in a lecture at the Army War College on February 11, 1924:

Just as the War College fits officers to mobilize, train, and direct the manpower of the Nation, so there should be an Industrial College to fit officers for the mobilization and direction of the industrial power of the country. *Ten officers are now receiving a five months course of instruction in my office [italics added] to acquaint them with the fundamentals of military economics.* (Davis, 1924a, p. 3)

Founders: Ferguson, Burns, Baruch

Among the many individuals who helped shape and guide the establishment of the Army Industrial College, who should be considered its true founder? Many of the written histories of the College suggest the credit belongs to Colonel Harley Ferguson. Codd (1946) argues that the College came into being primarily at the instigation of Major Burns (both Codd and Burns were members of the Ordnance Corps). Thatcher (1943, p. 19) says that Bernard Baruch was "the godfather of the industrial mobilization plans fathered by the Planning Branch," and Bauer (1983, pp. 1-2) (along with many others) concludes that Baruch must assuredly be regarded as one of the "founding fathers," citing an early (and since famous) quotation by Baruch in which he suggested the need for "a little school."

Attempting to single out any one of these three men as the one founder of the College is probably a moot point. Clearly each played a pivotal role in the creation of the institution. Since Baruch's name is so often closely associated with the College, however, one clarification seems in order. Virtually every history of the College cites Baruch's words about the need for "a little school" as having been a key impetus for its formation. The story is frequently repeated to this day. Actually, Baruch spoke this phrase on February 12, 1924, some months after the decision to form the College had been made, and just 9 days before the opening ceremony was held (Baruch, 1924).

His remarks were made to a student at the Army War College in the "question and answer" session following his lecture there on that day, February 12. An excerpt of Baruch's somewhat lengthy words, is in order, since they have been cited so frequently, often erroneously in both time and substance:

I should like to have a little school, or something of the kind, now where those of us who did serve and have the experience...could give the benefit of our experience to these industrial leaders. ...I would make it as live a thing as I could. The military minded man who has to devise the machines of destruction should keep in touch with the man of industry. (Universal, 1924, p. 111)

Baruch's exact words from this lecture (and the question session which followed) were transcribed and entered into the Congressional record as part a series of Hearings held on Mobilization in March 1924 (Universal, 1924).

FORCES UNDERLYING THE ESTABLISHMENT OF THE COLLEGE

In the larger sense, what do these various events suggest for understanding the origins of the Army Industrial College? The College came into being for a variety of reasons, both direct and indirect, fueled by a combination of such factors as a favorable political climate, the country's national military-industrial mobilization experience in World War I, the creation of a new proponent organization in the War Department, and a variety of tensions between and within various key groups in the Army and the business community.

Political Climate

Warren G. Harding's election to the Presidency in the fall of 1920 clearly hallmarked the beginning of an era favorable to business interests. Continued under the Administration of Calvin Coolidge, this period witnessed the curtailment of federal regulatory influence over the private sector and a climate in which political leaders sought to build strong cooperation between government and industry. Certainly, political appointees in the War Department like Secretary of War John Weeks and Assistant Secretary of War Dwight Davis knew and subscribed to this ideology.

The political climate was further shaped by a Congress critical of both the War Department and the business community for their respective roles in the less-than-sterling endeavors to mobilize and equip the country for war in 1917 and 1918. The National Defense Act of 1920 was unmistakably a product of the scathing Hearings held on Capitol Hill in 1918 and 1919, reinforced by a press which trumpeted the excesses of industrial profiteering. The second round of Congressional Hearings in 1924, now more favorable in tone to industry, paved the final way for a new and more

balanced, collaborative relationship between the public and private sectors. Thus, the Industrial College, with its unique focus on understanding the interconnections of military requirements and the nation's industrial capacity, came into being as an important, tangible manifestation of a favorable political environment highly conducive to cooperation between government and business.

National Mobilization Experience

This same scrutiny by the Congress and press helped insure that the country did indeed reflect critically upon its national mobilization experience in the war. Increasingly, the public, along with national leaders in both government and industry, came to the recognition that modern warfare demanded the mobilization of not merely manpower and the military establishment, but the nation's economy and industrial base as well. Moreover, it had become apparent that the heretofore independent, decentralized, and uncoordinated efforts of the War Department and the business community, could not respond to these national needs in time of crisis. The fact that many of the country's factories were already near full capacity producing foreign equipment for Britain and France when the United States declared war in 1917, virtually guaranteed that, when massive orders for American designed armaments started pouring in, they would go largely unfilled. The experience cried out for some institutional mechanism to effectively and intelligently orchestrate national, economic, industrial, and military preparedness in any future large-scale emergency.

Military Experience

These kind of problems were further exacerbated by a structure within the War Department, which during the War, included five separate military supply bureaus, each operating independently in levying these enormous requirements on an already strained industrial base. Moreover, the General Staff, then responsible for overseeing procurement, had traditionally given scant attention to this mission. Furthermore, few military officers had adequate knowledge about the impact of taxing the nation's industrial sectors on a large scale.

In the aftermath of the War, a number of dedicated officers, to include the likes of Colonel Harley Ferguson, Major James Burns, and others, sought to outfit themselves and a new generation of officers with exactly that kind of knowledge. While some clearly had aspirations of controlling the entire national industrial mobilization effort in some future conflict, others sought a balanced mechanism for credibly and capably forming a collaborative, effective partnership between government and industry toward that end.

Finally, virtually every military officer in the Office of the Assistant Secretary of War in the early 1920s who came to be associated with the creation of the Army

Industrial College, had seen first-hand the fruits of inadequate mobilization during the War. Nearly all of them -- Ferguson, Burns, Spalding (and even ASW Davis, then a Colonel) -- spent time in France with the American Expeditionary Force. Military people of that time considered American armaments like the Springfield rifle to be among the best in the world, and many were unhappy to enter combat with foreign-made equipment. Those officers who helped found the Army Industrial College understood these lessons well.

Office of the Assistant Secretary of War

The new post of Assistant Secretary of War created by the National Defense Act of 1920 had an unmistakable influence on events leading to the creation of the Army Industrial College. First, this office established a senior civilian official, hierarchically equivalent to the military Chief of Staff, to oversee and coordinate the eight supply bureaus in existence in the post-war years. Second, it provided a staff proponent in the War Department power structure for industrial mobilization preparedness and education. Finally, it furnished a visible, central entity for interaction with leaders in the business community. All of these factors contributed to events which eventually led to the opening of the College, though not without a series of internal and external tensions which also affected the process.

Internal and External Tensions

The Government, War Department and Business Community. The period leading up to the creation of the Army Industrial College was undoubtedly influenced by tensions between the government and military leaders and their counterparts in the business community. Gough (1991b, p. 271) argues, "neither side viewed the other primarily as a partner in a mutually beneficial endeavor. Competition, as much as cooperation, was the underlying motif of interchange."

Even during the War, civilian industrialists on the War Industries Board viewed both military and civilians leaders in the War Department as people who knew little of modern economic organizations needed in war, were more concerned with protecting political flanks than restructuring systems, and inhabited a community infested with personal jealousies and selfish interests. Bernard Baruch, while vocally supportive of government-industry cooperation, was himself known to be somewhat critical in private. He once complained to a colleague that even Secretary of War Baker was "not working with us, but against us" and that the War Department could not "state its requirements" (Schwarz, 1981, p. 334). Explaining his view of the preferred relationship, Baruch told students at the Army War College that, during the War, the War Industries Board "was enabling the military to put its mind on military operations and leave the industrial side to those people who by training and temperament were able to handle the industrial side. No military man can visualize the industrial

necessities any more than an industrialist can visualize the military side" (Baruch, 1924, p. 113). In fact, Baruch viewed the challenge in this area as broad in scope and national in character, encompassing "men, money, maintenance, materials, and morale" (Baruch, 1920, p. 1).

On the military side, a number of officers in the Office of the Assistant Secretary of War thought planning and control were primarily military responsibilities which should not be surrendered to civilians in industry. Gough (1991a; 1991b) has written at length about the tensions between military and business leaders in this era. He believes there was a feeling among some military leaders that "dollar-a-year men had challenged the competence of supply officers and disparaged their logistical professionalism" (Gough, 1991b, p.270). Ultimately, he argues, a few "activist logistics officers" in OASW deemed it essential that they educate military officers with sufficient expertise in order to insure their complete "preeminence over civilians" in a future national mobilization (Gough, 1991a, p. 70).

If a few did harbor such enormous ambitions, Gropman (1995) points out that it likely betrays a certain arrogance and naivete on the part of young Army officers believing they could capably direct the entire U.S. economy, especially after a short course of five or six months duration (or, for that matter, after studying War Industries Board records portraying a static snapshot of industrial capacity in 1918, then trying to extrapolate the analysis to a dynamic and changing business structure in the 1920s or 1930s).

On balance, the tensions between military officers and business leaders probably illuminates the larger issue of power, roles, and relationships between government and industry. Baruch's proposals for a permanent advisory War Industries Board was rejected because it threatened the authority of the Cabinet. Moreover, while the War Department knew little of the impact its demands might have on the economy in war, it had created a new Assistant Secretary and the Army Industrial College, and "that was as far as the Army could practically and politically go in the 1920s" (Schwarz, 1981, p. 336).

The General Staff and the Office of the Assistant Secretary of War. The saga of strained, and sometimes bitter, relations that existed in this era between the General Staff and the Office of the Assistant Secretary of War reflects part of the traditional tensions between civilian and military leadership as well those between logistics and operational line officers. Relations became so bad at one point in the 1920s that General Summerall, Chief of Staff, actually forbade his subordinates to cooperate with OASW. In fact, at one point he recommended that OASW be abolished and he privately referred to the OASW Executive Officer as a "traitor" and "scoundrel" (Gough, 1991a, pp. 68-9; Koistenen, 1980, p. 52).

By 1923, conditions appear to have improved somewhat. That year, the Army belatedly (five years after the War had ended) conferred Distinguished Service Medals upon military officers who had served on the War Industries Board while in the midst of a War Department campaign to educate the public on the importance of civilian preparedness for war (Schwarz, 1981)

Nonetheless, the rivalry persisted in various manifestations. As late as February 19, 1924, just six days before the General Order was issued establishing the Army War College under the purview of the Assistant Secretary of War, ASW Davis foiled an attempt by the General Staff to bring the new school under its control (as was the case with other military schools and colleges) (Gough, 1991b).

Even after the Industrial College was established and operating, opposition from operational sectors in the Army opposition was prominent. It even took a year to induce the Army Register to agree to list the names of the graduates of the new institution (Industrial, 1949).

Competing Military Interests. Events leading to the creation of the College also reflect some internal tensions among groups within the military supply community. During the War "the Ordnance Department became a major competitor of the Quartermaster Corps over transportation facilities and for the purchase of many items of supply" (Coffman, 1968, p. 37). These kinds of tensions may be reflected in the recommendations in early 1923 by Majors Burns and Spalding, both of the Ordnance Corps, that OASW establish two schools -- one for Ordnance officers, and one for all other Army supply officers.

Institutional Prestige. Finally, events associated with other senior military colleges seem relevant to the climate under which the Army Industrial College came into being. Increasingly, after World War I, attending War College came to be viewed by many senior military officers as a worthwhile and prestigious endeavor essential for career success and promotion (Coffman, 1968).

The Army War College, although started in 1901, and ironically also graduating nine officers in its first class (McClellan, 1993), measurably increased in stature with General Pershing's 1921 tribute to its graduates' contributions in the War and his restoration of the institution's original name.

Similarly, the Naval War College, though operating on a minor scale since 1884, became more prominent with the recommendations of a Navy board in 1919 that senior officers advancing to flag level attend the institution.

None of these events likely escaped the attention of Colonel Ferguson and his colleagues as they endeavored to build a modern, professionally educated cadre of

military supply officers.

Even after the Army Industrial College was established, however, "considerable jealousy and unhealthy rivalry" persisted well into the 1930s, (Thatcher, 1943, p. 38) and, at one point, Bernard Baruch wrote to the Assistant Secretary of War, encouraging him to do something about the problem.

CONCLUSIONS

Sired by the multiplicity of competing interests and circumstance which so often characterize our nation's government, society, and assorted public and private institutions, the Army Industrial College was created in 1924 in the aftermath of America's mobilization difficulties in World War I. The institution came into existence as an outgrowth of military, political, and economic forces which collectively highlighted a critical void for both the nation and the War Department. In so doing, the respective interests of a loose coalition of military officers, industrialists, and political officials coalesced to capitalize on a climate conducive to the founding of a unique educational institution which would fill this apparent need. Thus began the noble "experiment" of which Secretary of War John Weeks spoke at the College's opening ceremonies, echoing his hope that it would indeed ultimately prove to be "of great benefit to the nation" (Weeks, 1924, p.1).