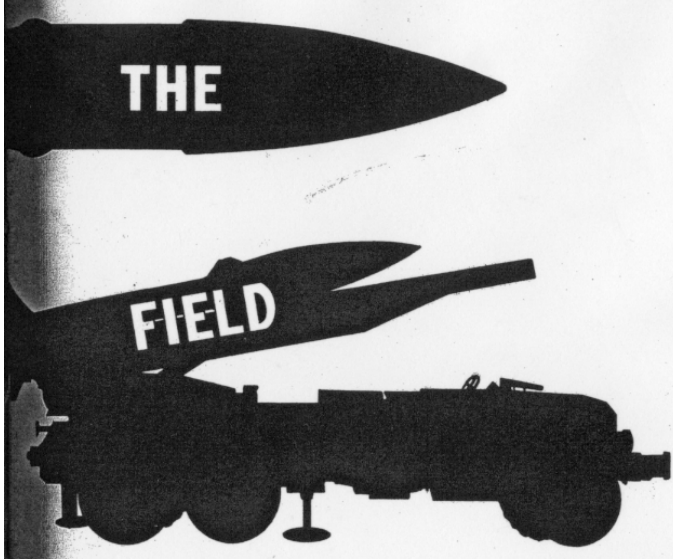
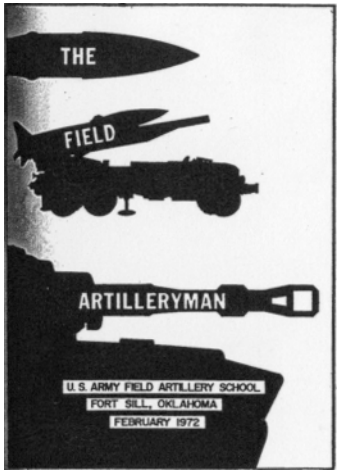
THE FIELD ARTILLERYMAN



U. S. ARMY FIELD ARTILLERY SCHOOL
FORT SILL, OKLAHOMA
FEBRUARY 1972

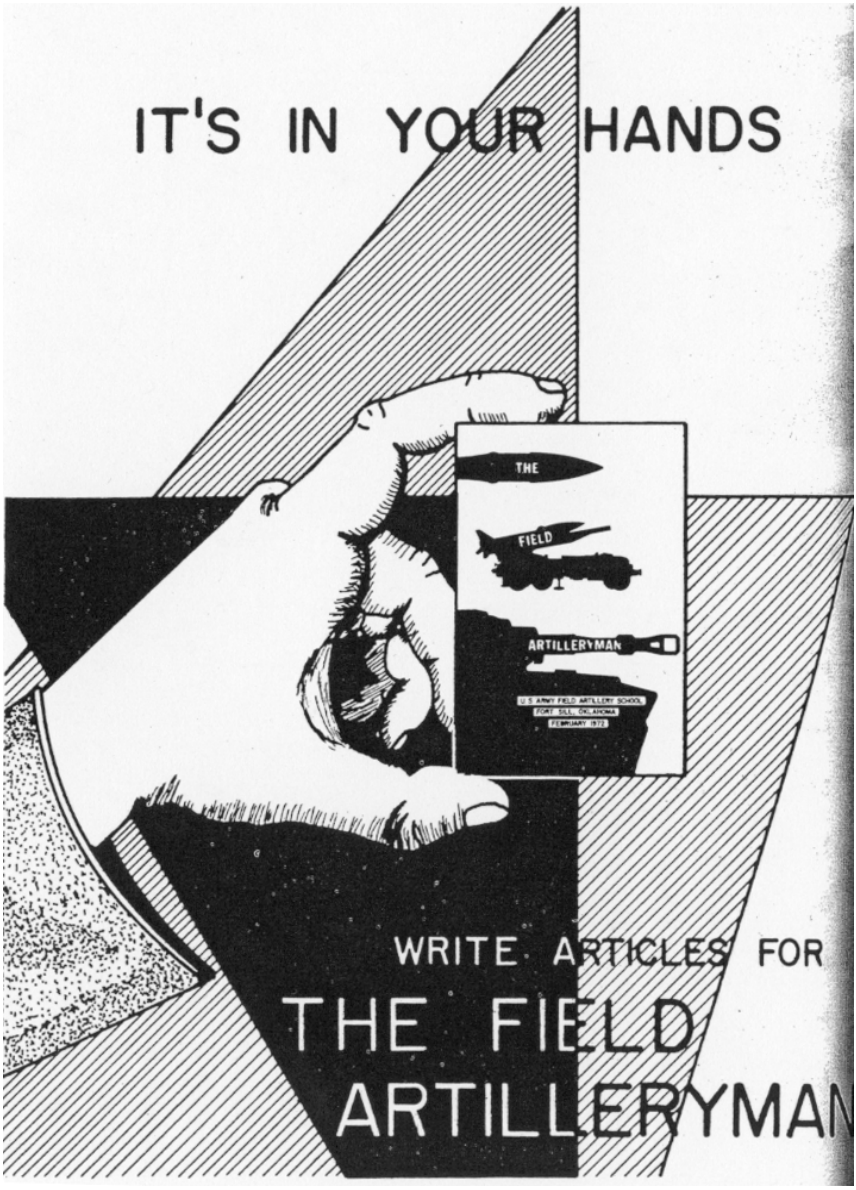


INSIDE THIS ISSUE

● COVER

INSTRUCTIONAL AID NUMBER 49

Three examples of field artillery materiel are shown on this issue's cover: a cannon projectile, a field artillery rocket, and a self-propelled howitzer. But there is more to the field artillery than munitions and the weapons which deliver them. This issue of **The Field Artilleryman** explores some other aspects, from computers and tactics to television and the Modern Volunteer Army.



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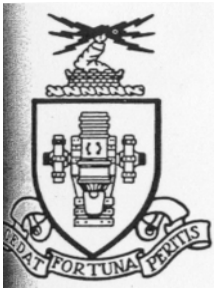

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WRITING EXCELLENCE AWARDS

The Writing Excellence Award is presented to the outstanding writer in each officer advanced course. The award is presented to the student who distinguishes himself by demonstrating outstanding ability in professional writing of an article for possible publication in a military journal.

The following five articles are the winning articles from the Field Artillery Officer Advanced Courses which graduated from April 1971 to December 1971. The views expressed in these articles are the authors' and do not necessarily reflect those of the United States Army Field Artillery School.

Rome Plow Operations

by CPT John E. Martin (FAOAC 1-71)

During World War II and the Korean conflict, the combat engineers were often referred to as the unsung heroes of the war. This same title applies to the engineers in Vietnam today. Combat engineers are busily engaged in constructing fire bases, building airfields, constructing roads, emplacing and destroying obstacles, and performing a variety of other tasks necessary to support allied combat troops. One of the little-known but important missions performed by engineers in Vietnam is that of land-clearing operations. Land clearing is accomplished by use of Rome plows. Rome plows are large bulldozer tractors equipped with a special blade for cutting down trees and clearing away underbrush. The protruding metal spike on the left side of the blade "stings" and slices through trees up to 5 feet in diameter. "The sharp projection splits the trees while the cutting edge shears them off at groud level. The operator is protected by a steel canopy and a guide bar that controls the direction of the falling trees."[1] The Rome plow has proved to be a simple and efficient piece of equipment for military land-clearing operations without appreciably disturbing the soil.[2]

Probably the most widely known use for the Rome plow is its use in road-clearing operations. Rome plows have been used extensively throughout South Vietnam to clear brush and cover from both sides of many major highways and roads, thus reducing the enemy's capability of ambush.

The plows clear all trees and brush from both sides of the road for a distance of 100 to 400 meters. As the brush is cut it is stacked in long rows, called windrows, by the plows or by regular bulldozers. These rows run perpendicular to the roadway and are usually kept to a height of under 8 feet. Once the windrows are complete they are allowed to dry a few days and then are burned.

The speed of road-clearing operations depends on the density of the brush to be cleared, on the contour of the ground and, of course, on enemy resistance. Normally one plow can clear a strip 50 to 100 meters long and 300 meters deep in an hour. Several thousand kilometers of road and railroad rights of way in South Vietnam have been opened and are relatively free from enemy ambush, thanks to the untiring work of the Rome plows.

In brush- and jungle-clearing operations, each plow can clear between 1 and 2 acres per hour, depending on the density and size of the trees to be cut and also on the density of the brush and the slope of the ground.[3]

The security of the plows is best accomplished by means of a tank company, an armored cavalry unit, or a mechanized-infantry company.

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1. "Clearing Operations," **The Army Engineer in Vietnam,** p 22.
2. **Ibid.,** p 23.
3. **TM 5-330/AFM 86-3,** Vol II, pp 5-11 through 5-14.

During the day the tanks take up positions on high ground overlooking the plows from which they can observe in all directions; the infantry remains near the plows. In areas of extremely dense vegetation reconnaissance of the area by dismounted patrols or reconnaissance by fire is desirable before the clearing operation begins. At night, the plows are brought into a centrally located defensive perimeter established and protected by the security unit. Routine patrolling and night ambushes help to keep the enemy off guard. This night defensive perimeter is moved every 2 or 3 days in order to keep up with the clearing operations and to keep the distance the plows have to travel to and from the clearing area to a minimum.

In many places in Vietnam it becomes necessary, for one reason or another, to construct a temporary road into or out of an area of operation. The problems of ground resupply in inaccessible areas in Vietnam are often not unlike the problems of resupply and transportation that plagued the early military expeditions into America. During the 1700's, roads into the interior of America did not exist to any extent and had to be cut by military forces as they went. In 1775 Major General Braddock employed some 300 axemen to cut a road for the baggage train that accompanied him and his troops on their expedition against the French at Fort Duquesne.[4]

Axemen are not used by the US Army in Vietnam, but the need for building military roads exists today just as it did in early America. Rome plows are often called upon to construct roads to remote fire bases and other military unit locations.

Three Rome plows and two bulldozers can construct a 50-foot-wide road, capable of supporting tactical wheeled and tracked vehicles, at the rate of about 1 to 3 kilometers of road per hour. The three Rome plows in line formation lead the operation, cutting overlapping strips as they go. The plows are closely followed by two bulldozers that clear any debris left by the plows from the roadway, and smooth out the surface of the road. In areas where the ground is bare and relatively free of trees and brush, the plows and bulldozers scrape a trail about 2 or 3 inches below the surface of the ground. By scraping a trail the roadway is cleared of any sharp protrusions which could puncture vehicle tires. Scraping the ground also helps to set off booby-traps and small mines. The shape and configuration of the blade and the vehicle afford the driver adequate protection against most booby-traps and anti-personnel mines.

Because of the ease and speed with which temporary roads can be constructed, it may be advantageous, in some cases, to build a new road every day or two. In an operation in August of 1968 involving the 1st Battalion, 69th Armor, and a platoon of Rome plows, the battalion commander decided to construct a new resupply road each day. During the first 4 days of the operation, the resupply of the battalion

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4. **ROTCM 145-20, American Military History 1607-1953,** pp 23-24.

was accomplished over a road constructed by Rome plows the day the operation began. After the fourth day, the battalion commander decided that using this original road was unacceptable because of the delay in delivering needed supplies and the mine damage incurred by tactical and resupply vehicles. The delay in delivering supplies was caused by the slow-moving minesweeping teams; it took nearly all morning to properly clear the road from the night location to the nearest paved resupply route. In spite of the painstaking efforts of the minesweeping teams, one tank, one personnel carrier, and one M548 cargo carrier were damaged by mines. Beginning the fifth day a new road was constructed each day —some 100 meters from the road built the day before. Once a new road was completed, it was secured by the battalion scout section for the remainder of the day and it was not used again after that day. As a result of this new technique of daily road building, the battalion did not suffer any further damage to resupply or escort vehicles during the remainder of the operation.

Rome plows have been employed effectively throughout Vietnam in clearing fields of fire from around fire bases, base camps, and airfields. Trees and brush are completely cleared for several hundred meters out from the perimeter of the fire bases. Trees and tall brush are also cleared from the ends of airfield runways to give helicopters and fixed-wing aircraft a better glide angle.

Rome plows and bulldozers have proven valuable tools in the destruction of enemy village and bunker complexes. Once an enemy complex is located and the resistance silenced, the plows and bulldozers are brought in to excavate and tear up the complex.

The operation mentioned above in which a Rome plow platoon and the 1st Battalion, 69th Armor, were working together involved the leveling and destruction of two village bunker complexes. The battalion had an overall mission of clearing an area about 3 kilometers wide and 6 kilometers long. Within this area were located the two villages of Thanh Lam and Truong Lam. Both villages were located on a sand strip near the South China Sea, and had been destroyed some months earlier by airstrikes and artillery fire. Even though the villages had been destroyed, many of the bunkers and tunnels were still intact and intelligence reports indicated that they were being used by the local VC force. Before the plows began their work, a tank-infantry team conducted a sweep through the villages with negative results. The VC had cleverly concealed the location and the entrances of the bunkers they were using. Once the sweep was completed, the plows began their methodical excavating and leveling of the villages and their bunker complexes. B Company 1/69th Armor had the mission of securing the plows while they leveled the villages. Tanks were strategically placed around the plows as they worked. The plows had worked for only about an hour when one of the tanks crew spotted two VC sneaking out of a bunker some 50 feet in front of the working Rome plows. These two VC were quickly captured and evacuated to battalion headquarters. A few minutes later

three more VC were spotted moving out of a tunnel 100 feet in front of the plows, and after a brief exchange of gunfire they were quickly captured. One more VC was captured later that day. Upon interrogation, all of the prisoners stated that they had come out of hiding for fear of being buried alive. They further indicated that probably several more of the local VC force were buried in their hiding places as the plows moved through the villages.

On the same operation, the plows proved valuable in excavating a collapsed VC bunker. The bunker had collapsed when a secondary explosion occurred after a grenade was thrown into it. Close observation of the bunker revealed at least one body beneath the debris. A plow and a bulldozer were brought in, and some 30 minutes later had uncovered three VC bodies and their weapons, several hundred rounds of ammunition, and several maps and documents. Throughout the entire operation the plows proved invaluable in uncovering the Viet Cong's hiding places and equipment caches.

This, then, is the story of the Rome plows. Whether their mission is clearing a highway, or a right-of-way, clearing fields of fire from around a fire base, or constructing a temporary road, the plows have proven that they are a capable and efficient new addition to the Army inventory.

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Captain John E. Martin received a B.B.A. degree from Wichita State University. His assignments prior to attending the advanced course included Germany and the Republic of Vietnam.

Too many courts-martial in any command are evidence of poor discipline and inefficient officers.—General William T. Sherman

Tiger Cat

by CPT Lawrence C. Petersen (FAOAC 2-71)

In April 1969 the Ninth Congress of the Chinese Communist Party met in Peking and approved a new party constitution which named Lin Piao as successor to Chairman Mao Tse-tung. (6:21) There has been much speculation as to what will happen in Red China when Mao leaves the scene. Some insight into this question can be gained by taking a look at Lin Piao: his history, his long relationship with Mao Tse-tung, his political inclinations, and his views of China's role in future international affairs.

Lin Piao was born Lin Yu-yung ("Fostering Demeanor" Lin) in Hupeh Province, central China in 1907. (2:127) His father owned a small felt handicraft factory but was ruined by extortionate taxes collected years in advance by a local warlord. His father's disaster helped to motivate Lin toward teenage revolutionary activities. (17:15) Due to his father's bankruptcy, Lin was unable to begin his schooling until he was 9 years old. A good student, however, he completed elementary school in 5 years and junior middle school in two. (10:250) In 1921, while in junior middle school in Wuchang, Lin joined the Social Welfare Society and became a member of the Social Benefit Book Store. This store operated in conjunction with a similar store in southern China founded by a gangly older student by the name of Mao Tse-tung. (2:127) In Shanghai, after graduating from junior middle school, Lin joined both the Kuomintang (Nationalist Party) and the Young Socialist League (which was soon absorbed into the newly formed Chinese Communist Party). 19:16)

Lin began his military career in 1925 when he enrolled as a cadet in the Whampoa Academy in Canton, a military school founded by Sun Yat-sen and subsidized by the Soviet Union. (2:128) He studied military strategy under Chiang Kaishek and political science under Chou Enlai, now the Premier of the People's Republic of China. While at the academy, Lin made two decisions; the results of which he would carry with him for the rest of his life. As was the custom when entering a military organization, he changed his given name. Thus the student Lin Yuyung ("Fostering Demeanor" Lin) became the military cadet Lin Piao (Tiger Cat Lin). (2:128) The other decision was required when Chiang Kai-shek put an end to dual party membership, and Lin had to decide between the Kuomintang and the Communist Party. Lin chose to stay with the Communists. (17:16)

Lin's class was graduated early (summer of 1926) to take part in Chiang Kai-shek's Northern Expedition against the feudal warlords. (2:128) Lin began as a company commander in the army of Chang Fa-kuei; but by the end of the expedition a year later, he had risen to the rank of regimental commander. (10:250)

In early 1927, with the warlords defeated, Chiang Kai-shek began to purge Communists from the Kuomintang Army. On 1 August Lin took part in the Nanchang uprising against Chiang's forces. (2:130) This attempt to capture Nanchang, although unsuccessful, is now celebrated as the birthday of the Chinese People's Liberation Army. When the uprising was crushed a week later, remnants of the rebel forces fled to the south and joined Mao Tse-tung in the mountains of Chingkangshan. (2:130) In December they formed the Workers and Peasants Red Army and for the first time adopted the Red flag. (17:16)

The period 1927 to 1934 was one of learning for Lin Piao. It was a period of countless campaigns, battles, and skirmishes. Mao Tse-tung wrote of the period, "Our chief method is to learn warfare through warfare." (8:41) Lin advanced rapidly in the expanding Red Army. In January 1932 at the age of 24 he became the commander of the First Red Army Corps and is credited with blunting several of Chiang Kai-shek's early attempts to take Chingkangshan. (17:17) Lin gained recognition as the most talented young officer in the Red Army and as the author of the "short attack." The short attack was described by Lin in 1936 in an interview with Edgar Snow as: "encouragement of over-confidence and over-extension of an adversary, deceptive retreat, dispersal, letting the enemy 'pass through' without serious resistance; then, backtracking, swift massing of attacking elements in surprise concentrations heavily outnumbering the enemy at a chosen weak point; limited destruction, followed by sharp disengagement and dispersal before reinforcements can arrive." (17:17) This short attack of Lin's, which was developed sometime between 1928 and 1934, bears a marked similarity of Mao Tse-tung's definition of guerrilla strategy which was written in 1937: ". . . avoid the solid, attack the hollow; attack; withdraw; deliver a lightning blow, seek a lightning decision." (7:46)

During this Chingkangshan period, Lin also began to demonstrate his abilities in the more political aspects of revolution. In 1931 he sat on the central bureau of the Communist Party with Mao Tse-tung and Chu Teh, the military commander-in-chief. (17:16) Mao gave Lin credit for adding two rules to the "eight basic disciplines of Red warriors," which would play an important part in winning the support of the Chinese peasants. His rules were: "Play for all articles purchased from the peasants" and "establish latrines well beyond people's houses." (17:16) Lin became known for humaneness and respect for the rights of civilians as well as for his concern for his men's welfare. (10:251) He gained considerable experience recruiting peasant soldiers and using Red Guards (youngsters armed with wooden spears) as auxiliary reconnaissance forces. He learned the importance of political indoctrination, and most of all, he learned the importance of keeping on good terms with Mao Tse-tung! (2:130)

Late in 1934 Chiang Kai-shek's forces were close to capturing the Chingkangshan stronghold, and Mao Tse-tung was forced to begin the "Long March." Lin Piao's First Red Army Corps acted as the vanguard during much of the 8,000- mile retreat which ended in the loess caves

area of Yenan in northwest China. Although he was often sick, Lin never faltered during the march. He personally directed parties searching for edible roots and grass and maintained a high state of moral and fighting ability among his troops. (2:132) By the time Lin's Corps reached Yenan, two-thirds of its members had perished. (14:29)

In Yenan, Lin was appointed president of the Red Army Military Academy, where he lectured and wrote on military tactics and politics. (2:132) His articles on guerrilla warfare became the standard texts for the Red Army and were also studied by the Nationalists. (17:16) A series of articles written by him during this period, with the general title "Struggle and War Revolution, attracted attention in the Soviet Union and Japan as well as in China. (10:251)

When the Communists joined forces with Chiang Kai-shek against the Japanese in 1937, Lin left the academy to command the 115th Division of the Eighth Route Army. On 25 September of that year he met and destroyed the Japanese Itagaki Division at Punghsing Pass. This feat was hailed as the first significant victory of that war, and thereafter the Japanese recognized Lin as a master tactician. (4:29) Sometime in 1938, however, he was seriously wounded and was sent to the Soviet Union for treatment. He remained there convalescing and studying military science for 3 years. (17:17)

Returning to China in 1941, Lin was attached to Chou En-lai's "Communist mission" in Chung-king, Chiang Kai-shek's wartime capital, and engaged in some of the Communist-Nationalist negotiations. An anecdote from this period demonstrates the methodical nature of Lin's approach to life. At a party in Chungking, he was exposed to ballroom dancing for the first time. Interested in this diversion, he returned to his room and tried to learn the steps by mapping them out on a blackboard like moves in a battle. (2:132)

Lin was recalled to Yenan in the summer of 1943 to once again head the academy, now renamed the "Anti-Japanese University." In Yenan he married, fathered two children, and prepared himself for the coming war with Chiang Kai-shek. (4:17)

Late in 1945, with the Japanese surrender and the renewal of Chinese civil war, Lin was dispatched to the north with a 50,000-man cadre and 100,000 troops to liberate Manchuria. He sent his cadre into the countryside with the orders: "Take off your leather shoes, lay down your office bags, put on the clothes of the peasants, and eat kaoliang," the coarse sorghum of Manchuria. (14:29) Lin's forces expanded rapidly during seven major campaigns in 1947. One Chinese historian estimates their strength in the fall of 1947 at 12 columns totaling over one million men. (2:135) By the end of 1948, Lin and his army had captured vast arsenals of equipment and munitions and had killed or captured 400,000 Nationalist troops, including 36 of Chiang Kaishek's generals. (14:30) Mao Tse-tung described Lin Piao's technique of isolating the Koumintang troops in fortified cities and then destroying them piecemeal, as devouring them "mouthful by mouthful." (17:17)

Late in 1948 Lin began his drive southward. He captured Peking in January 1949; and before that year was out, he and the other Communist generals had swept Chiang Kai-shek and his army across the Chinese-Vietnamese border. All of China, save Taiwan and a few small islands, was now in the hands of the Communists. (2:135)

In December 1949, 3 months after the People's Republic of China was proclaimed, Lin was named chairman of the South-Central Military and Administrative Committee. He was, in effect, both military and civil administrator of six provinces, covering some 400,000 square miles, with a population of 140 million people. Seven months later, he was named First Secretary of the party's South-Central Bureau, indicating his political prominence in the same area where he had been appointed military boss. (2:135)

But even after 23 years of warfare, it was not yet time for Lin Piao to lay down his sword. In 1950 he was back in Manchuria preparing a force of some 200,000 Chinese "volunteers" to intervene in Korea. In November his army crossed the Yalu River and, taking General MacArthur by surprise, drove the Americans southward, well beyond the 38th parallel. MacArthur's underestimation of the number of Chinese that could cross the Yalu, their ability to move and supply themselves, and (most important) their fighting qualities resulted in near catastrophe for the UN forces. (3:206 to 214) In January 1951, Lin left Korea, and command of the Chinese volunteer forces was turned over to Marshal P'eng Teh-Huai. (17:17) The reason for Lin's removal is a matter of some question. Edgar Snow reports that he left because of illness (presumably tuberculosis). (17:17) Loren Fessler cites personal reasons connected with the possible moral responsibility for the death of Mao Tse-tung's son, who was a young officer under Lin's command. (2:137) Other sources suggest that he was seriously wounded by a US bomb. (9:33) But whatever the reason, Lin's departure may have been the turning point in the Korean War. Up to this point the Chinese were doing extremely well—Seoul had been captured, President Truman had declared a national emergency, the US delegation to the UN had been instructed to discuss admission of Communist China to the UN and handing Formosa over to the Red regime as a bid for a ceasefire, and the Joint Chiefs of Staff were considering evacuation of all US forces from Korea. (3:219) But, during the second week of January, there was a sudden and unexplained slowing down of the Red offensive (at precisely the time that Lin Piao was departing the scene). A military stalemate then developed which lasted for 2 years and eventually led to the truce. (3:218-219)

Between 1951 and 1958 little is known of Lin Paio's activities. He spent some time in the Soviet Union during the early part of this period, reportedly convalescing from either war wounds or tuberculosis. (17:17) In September 1955, he was named one of China's ten marshals and received high decorations for service to party and country. (2:137) He was also appointed to several political positions and committees, but, for the most part, during these 7 or 8 years, Lin was not in the limelight of Chinese political activity. (10:252)

Meanwhile, however, Mao was getting into trouble. Mao had not been happy in 1957 with China's rate of economic growth. He asked the Soviets for larger quantities of aid, but they were not able to finance the unrealistic "instant utopia" that he had in mind. Late in 1957 he initiated the "Great Leap Forward" which lasted for about 8 months. The idea was to ignore the laws of economic growth and industrial production and to rely wholly upon China's enormous population to create, overnight, a modern, industrialized, 20th century China. The soldiers of the Red Army were conscripted as laborers, and another one hundred million peasants were added to make up the work force. Backyard steel furnaces, fields plowed to depths of 4½ feet, crops harvested too early, and lines of communications jammed with people rushing back and forth in futile attempts to accomplish impossible tasks were only a few of the symptoms of this great disaster. In the words of economist Albert Eckstein, "The Leap set China back a decade." (14:30)

About the same time, Mao also launched the "Hundred Flowers" movement, an apparent attempt to achieve conciliation with Chinese intellectuals who were dissatisfied with restraints on their academic freedoms. Scholars were encouraged to express their views openly, and promises of immunity from persecution were made; but after many anti-Maoists had aired their views, they were designated as "rightists," "war criminals," and "enemies of the State" and punished accordingly. This episode left deep scars in the attitude of the intellectual community, including many members of the party's hierarchy. (8:135)

As signs of the cynicism and national disillusion resulting from the Great Leap Forward and the "Hundred Flowers" movement, came to Mao's attention, he interpreted them as a "spontaneous tendency to capitalism." Mao felt that it was time to recharge the revolution. It is not surprising that he called upon Lin Piao, "The man whose legend and luck expressed the entire history of the Chinese Communist movement." (14:30)

In 1958 Lin reappeared in the very powerful position of Vice-Chairman of the Chinese Communist Party and was elected a member of the Politburo's Standing Committee. (10:152) In 1959 he became Minister of Defense and was assigned the task of reorganizing and revitalizing the Red Army, which was experiencing the worst period of demoralization in its history. (17:18) A rupture in the relationship between China and the Soviet Union arising over Mao's criticism of Kruschev's alleged cooperation with the West had resulted in the end to Soviet military aid to China. Therefore, in addition to the resentment caused by the Great Leap the army was suffering from the lack of modern equipment from the Soviets. (17:19)

Lin set out to reintegrate the army with the Communist Party. He increased the emphasis on idological training, with the study of the works of Mao Tse-tung as the central theme. (17:18) He abolished the privileges and the insignia of rank and required enlisted men and officers to address each other merely as "comrade." (10:262) He stressed hand-to-hand combat as the crucial

basis for all warfare, regardless of new weapon systems. (10:262) But most important, he reorganized the army to include political cadre in all units of squad size or larger and established party membership and loyalty to Mao Tse-tung as the primary prerequisites for success. The idea was that it was more important to be "Red" than to be expert. (14:30) Lin installed the People's Liberation Army, (PLA), with genuine political fervor (today it contains no less than one million party members), and Mao was so impressed that he made the PLA the model for the planned political transformation of China. (9:33)

With the army as the example (and as the primary instrument of power) Mao began to impose sweeping changes on his 750 million people. The "Socialist Education Movement," instituted in 1963, marked the beginning of the "Great Proletarian Cultural Revolution." (1:29) The Cultural Revolution moved slowly at first; but shortly after a secret meeting of the Central Committee in September 1965, it was decided that stronger doses of "Mao-think" were required to get the Chinese psychology back on the revolutionary track. High party officials began to fall from power; and others, including teachers, writers, and composers, fell victim to the purge. (1:29)

By 1966 China's economy was showing signs of recovering from the Great Leap Forward. Agriculture and industry were finally approaching the strength that they had had in 1957 before the Great Leap began. (14:130) Although it would appear that Mao should have learned his lesson in 1958, there was talk of a "New Leap" under the direction of Lin Piao. (14:30) But opposition was strong. The majority of the party leadership had not approved Lin as the man to lead the next economic push, and the growing anti-Mao faction controlled a majority in the Central Committee. (20:70) Mao Tse-tung, however, is not one to step down simply because he no longer holds the support of the majority of his party. As he once said to a Western reporter: "Revolution is not the same as inviting people to dinner or writing an essay or painting a picture. A brief reign of terror is necessary to make a revolution work." (16:200) So, in the name of revolutionary purity, on 18 August 1966 Mao and Lin Piao called the Red Guards into the streets. (2:64)

On that day, in Peking's Tienanmen Square, Mao Tse-tung, with Lin at his side, told a gathering of over one million students, teachers, and soldiers that they must "launch fierce attacks on bourgeois ideology, old customs, and old forces of habit." (2:64) Students were given little red books containing quotations by Mao (with an introduction by Lin Piao) and were taught a song that hailed Mao as "the Great Helmsman" (with lyrics written by Lin Piao). (9:33) For several months the Red Guards, as they were called, ran wild, destroying everything that smacked of old China, the West, anti-revolution, or anti-Mao Tse-tung. Reports are full of examples of the terror and wanton destruction that they created. One report from a Czech source was that fingers and noses had been chopped off 60,000 persons. (10:70) Some of the rules made up and enforced by the Red

Guards bordered on being ridiculous. Soldiers must execute "eyes left" rather than "eyes right;" all signs, inscriptions, and even the traffic policeman's white baton must be painted red; and all books not reflecting Mao-think must be burned. (14:28) Meanwhile, hundreds of "wrong-thinking" political leaders, including the President of the Peoples Republic of China, Liu Shaochi, were added to the list of those who had been purged, as were thousands of other people who held views considered to be anti-Mao. (14:29)

When the job was done and the revolution appeared to be out of control, Mao called on Lin Piao and the Army to halt the violence. (9:33) And so, on 1 April 1969, the "Ninth National Congress of the great, glorious, and correct Communist Party of China" was called to order, to the waving of little red books and chants of "long life to Chairman Mao!" (9:30) Besides officially naming Lin Piao as successor to Mao Tse-tung, Mao selected a new Central Committee as over two-thirds of the membership of this lawmaking body had fallen victim to the purge. (9:30) The anti-Mao faction no longer held a majority!

What about the future? It appears that Mao Tse-tung is once again in full control of the situation and should have no real problem maintaining his position (at least for the next few years). In the event of Mao's death, however, two questions must be asked concerning Lin Piao: Will he be able to maintain his control of China without the charisma of Mao Tse-tung? And, if he does, what effects is he likely to have on the relationship between China and the West?

As regards his ability to survive, there is a wide divergence of opinion among the authorities. Many of them expect China to disintegrate into several autonomous regions, as it has done so many times in its long history. (12:48) Others favor Premier Chou En-lai, who has retained his number three position in the hierarchy, for eventual leadership. The Premier, however, supported Lin in 1966 when he told a vast Red Guard pep rally, "We must respond to the call of Comrade Lin Piao to apply Chairman Mao's works in a living way." (15:16) Still others point to Lin's health problems and suggest that if he does outlive Mao it will probably not be for long. Lin has suffered for many years from various war wounds, tuberculosis, and chronic insomnia. (18:43)

Professor A. D. Barnett, chairman of the Contemporary China Studies Committee at Columbia University, believes that in China, "the military would hold the balance of power in any ultimate showdown. . ." (19:48) While some authorities feel that Lin doesn't have a secure hold on the army, others estimate that 40 to 60 percent of the army commanders are loyal to him. (6:21) Brigadier General Samuel B. Griffith II, US Marine Corps (Ret), author of the book, **The Chinese People's Liberation Army,** was asked about Lin's control of the army. He replied, "Oh, I think Lin Piao is in full control of the Army. You must remember that Lin Piao has been Minister of Defense since 1959. One must presume that he has pretty well packed the higher echelons of the Army." The general continued, "He has probably put his

men in command of all the military regions, the military districts, and the garrison commands. All these people would be hand picked by Lin Piao." (19:50)

The probability of Lin's success in the event that Mao Tse-tung dies is best summed up by Loren Fessler in her article "The Long March of Lin Piao": "Lin Piao certainly has enough influence in the People's Liberation Army and enough political savvy to take over power in the party and state to keep China on an even keel for some time. However, chances are that regional leaders will strengthen their positions, bargaining for more voice in national affairs. To maintain as much unity as possible in the face of what the Chinese consider manifold external threats, Lin and whoever sides with him will have to rule by compromise, allowing increased regional autonomy. Otherwise, ever-present political tensions in China could result in large-scale fighting and civil strife of the kind which plaqued the country four decades ago." (2:140)

On the question regarding Lin Piao's attitude toward the West, the answer is much more clear. Lin is totally devoted to the struggle against "US imperialism." He says of the United States, "It is the most rabid aggressor in human history and the most ferocious common enemy of the people of the world." (13:99) On 2 September 1965, Lin gave an address entitled "Long Live the Victory of the People's War," in which he proposed that "All peoples suffering from U. S. imperialist aggression, oppression, and plunder, unite! Hold aloft the just banner of people's war and fight for the cause of world peace, national liberation, peoples democracy and socialism!" (5:180) The main thesis of this address was that the poor nations of the world will isolate and overthrow the rich nations, just as China's peasants isolated and overthrew China's cities He drew an analogy which pictures Asia, Africa, and Latin America as the rural areas of the world and the United States and Europe as the cities. (5:174)

Anyone who suspects that, when Lin Piao takes the reins of power in China, it will lead to anything other than a continued hardline toward the West, should remember that the primary reason that Mao Tse-tung chose Lin as his successor was that Lin is faithful, convincingly loyal to Maoist dogma, and formally committed to carry on the Chairman's theory of perpetual revolution after Mao dies.

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Men must be habituated to obey or they cannot be controlled in battle, and the neglect of the least important order impairs the proper influence of the officer.—General Robert E. Lee

Siegfried Thrust 71

by CPT Rainer H. Vogelhaupt (FAOAC 3-71)

In a typical small town in West Germany, Hans Bartels was returning home after a long, productive day in his cabbage fields. He couldn't help being just a little proud of his straight rows of beautiful, shiny cabbages and reflecting that he might have the money to buy a new red motorcycle after all. That would save him a long walk every day and let him come home to his new bride that much earlier. On the other side of town, Johann Schuster had also finished his day's work and was returning home; but, unlike Hans, he was anything but happy. Cabbage borers infested his fields and it looked as though it would be a meager harvest. His mortgage payments, as well as the operation needed for his youngest daughter, Heidi, loomed in his mind. As these two men walked through the late spring sunshine, little did either dream of the events of the coming weeks.

Meanwhile, at Bad Widdenheim, Headquarters for the 7th Armored Division, final plans were being drawn up for a multi-battalion field training exercise, SIEGFRIED THRUST 71. The scheme of maneuver had been decided upon by the G3 and the division commander, times had been set, units had been chosen, and now only the location was in question. Examining area requirements, travel distances, and a multitude of other factors, the staff finally made its choice. Siegfriedsburg would be the location of what now would be an aptly named exercise.

The G5 and information officer were in constant attendance at meetings during the planning stages. The maneuver would commence shortly before the start of the annual German-American Week and favorable publicity was a must. Since the country around Siegfriedsburg was primarily agricultural and the harvest season was not far off, special pains had to be taken to insure that maneuver damage and ill feelings would be minimal. This was the realm of the G5 and the information officer and together they mapped out their campaign.

First, the mayor of Seigfriedsburg, the regional forest warden, and other local officials were informed of the scheduled maneuver. This was done either by phone or in person, and initial problems were considered and resolved. At the same time, the time and place for an initial meeting of those involved were established. At division headquarters, a maneuver damage control annex was prepared for inclusion in the exercise plans. Participating commanders were carefully briefed on maneuver damage control procedures, legal implications, and individual actions that would be required. The brigade commander, as well as the battalion commanders, were invited to participate in the upcoming meeting with the civilian leaders.

During the meeting many topics were discussed in detail. Here the interpreters and other Germans-peaking personnel were invaluable. They soothed many ruffled feelings

and reassured officials who were doubtful as to the adequacy of some of the proposed measures. The G5's plan was discussed, changes were considered and made, and additional considerations were included in the plans. After lunch the division personnel were conducted on a tour of Siegfriedsburg and the surrounding countryside so that they could actually see the terrain. Before leaving, the G5 left numerous posters with the mayor. The posters contained information concerning the location of the maneuver damage control command post, appropriate telephone numbers, and general information required for the speedy processing of claims. These were posted throughout the town and were even reproduced in the local newspapers.

A few days before the scheduled start of the exercise another meeting was held at the division by the G5, and this time much more specific guidance was given. In coordination with the provost marshal, the G3, and the local German National Police, specific primary and alternate access and egress routes were established for all the march elements. Individual responsibility was stressed in the prevention of damage, and bilingual leaflets were distributed to each battalion- and company-size unit. The leaflets contained the same basic information as the posters which had been distributed earlier and were to be given to German civilians in case of inadvertent damage to public or private property. The commanders were briefed on the location of the maneuver damage control command post as well as on the functions of the planned mobile assistance teams.

In Siegfriedsburg, Hans Bartels and Johann Schuster, like most of the local inhabitants, are relatively unaffected by the local happening. Hans is still spending long hours in his rapidly growing fields and now knows that his hopes for a good harvest will be realized. Johann, although also working long hours, has become silent and withdrawn during the past weeks. The damage to his fields will be even greater than he had imagined, and financial doom seems to lie in the near future. Both join with the other townspeople in their hope that the American "invasion" will prove good for business and won't be too disturbing to their settled and happy lives. Only the children show their excitement, and the shouts, "Die Amerikaner kommen, die Amerikaner kommen," echo through the streets.

At D-12 hours, the maneuver damage control team, headed by Major Frank, the assistant division information officer, leaves the kaserne and heads for Siegfriedsburg to establish its command post and to prepare for the arrival of the maneuver elements. As planned and previously announced, Major Frank sets up the command post in the city hall, making it easily accessible to both Germans and Americans. Major Frank is pleased to see Oberinspektor Dietrich, the liaison officer from police headquarters. They are good friends and have worked together before in similar maneuvers. It looks as though they might even have time for a heated card game at the gasthaus before the maneuver begins. Also present is a representative of the game and forest warden and a representative of the brigade S5.

After final coordination over a glass of cold beer, goodnights are said and everybody prepares for the next day.

The sirens shriek, horns blow, and telephones ring early on a foggy and overcast morning as exercise SIEGFRIED THRUST 71 begins. Within the hour the first armored elements roar through the sleepy towns and quiet byways on the way to their assigned destinations. Military police are stationed at strategic crossings to insure that preplanned routes are followed and that obvious safety hazards are corrected. Remaining maneuver damage control personnel accompany the elements on the march, advising commanders and staff officers, noting damage as it occurs, and coordinating with the engineer element to insure the immediate repair of minor property damage.

As the tanks and trucks finally occupy their initial positions, a soft rain begins to fall—good weather for cabbages but disastrous for armored exercises. The wet terrain will greatly increase the chance of damage to property and will increase the severity of damage manyfold. After a final conference with the division commander, the decision is made—the exercise will continue but several maneuver phases will be eliminated and will be included in future training. During the night, the rain continues to fall and by morning the ground is thoroughly soaked.

By midday, activity at the maneuver damage control command post is in full swing. All the mobile teams are on the road, examining recently reported damage and advising commanders as required. The initial number of claims is not as great as Major Frank had feared and most are for minor damage, such as a skinned tree, broken curbstone, and scared animals. Most of these claims can be processed on the spot and the landowner is assured of receiving a speedy and equitable settlement. Damage to public property is also reported and such claims will be submitted to the Maneuver Damage Control Commission in Worms, Germany, for the final settlement. All in all, it seems to be a routine operation and Major Franks secretly congratulates himself on a job well done.

Meanwhile, the division engineer element is also busy. In coordination with the civilian and military police and with the maneuver damage control command post, on-the-spot repairs are being made just as fast as available resources allow. The many ruts and holes which are being filled in will save the US Government many thousands of dollars in future claims. Less than 20 hours before the close of the exercise, the defenders are pushing the aggressor forces back to the east and are busy making preparations for the march home.

With only one more maneuver phase left, Sergeant Hobbs is jubilant. The exercise has gone much smoother than he had anticipated and his new tank crew has shown the results of his many hours of garrison training. If they perform well in the last phase, they have a good chance for the high score in the battalion and a well-deserved 3-day pass. Their mission is a simple one involving the night occupation of a forward position in preparation for an advance the next day. During the briefing of his crew, Sergeant Hobbs covers all the

elements which he feels are necessary for the successful completion of their mission. He can't help adding a few words of praise for his crew. As always, he emphasizes the importance of the maneuver and completes his briefing by touching on the requirements for maneuver damage control.

As they move out in the early evening twilight with other elements of their company, the tank crew waves to Hans as he return from his field. However, developments are not quite as planned in this stage. On the long upgrade, Sergeant Hobbs' tank overheats and is forced to drop out. The maintenance platoon soon determines and corrects the trouble; the tank will rejoin the column as soon as the engine cools down. While waiting, Sergeant Hobbs and his crew are surrounded by a group of chattering, laughing children from a nearby village. As they climb on the tank and marvel at the big guns, their grins assure the crew that they have made a few more friends.

Finally, it's time to move again and the tank rumbles forward through the dark and misty summer night. After 20 minutes, Sergeant Hobbs calls a halt and tries to remember exactly where he is to rejoin the convoy. He can hear tanks in the distance and knows that they are getting ready to turn in for the night. Here goes the chance for the high score and the pass. His gunner, Corporal Dullon, points to a glow on the left. Surely those are the lights of the column. Relieved, Sergeant Hobbs signals a left turn off the road and in a few minutes is back with his convoy and unit.

Early the next morning the sun breaks through the cloudy sky and the units return to their kasernes. However, not all the Americans depart. The maneuver damage control command post is scheduled to remain another couple of days to finish what has been quite a successful operation. Later the same day, Major Franks is called to the reception room to deal with another claim. Hans Bartels is in the office, holding a crushed cabbage in one hand. On his arrival at the field early in the morning, he had been greeted by a 3- by 200-meter strip of ruined cabbages. In addition, one of his fences had been damaged and an adjoining access road had been deeply rutted.

After hearing the story in detail, Major Frank decides to investigate this claim himself and goes to the field with the unhappy farmer. Finding that the damage was as described and that it was definitely caused by his division, Major Frank helps Hans in filing his claim. Hans is pleasantly surprised at the speedy and courteous assistance he receives and also finds that his claim is no rare occurrence. During the years, the Federal Republic of Germany and the United States have gone so far as to establish specific monetary remunerations for damages. Hans' claim is compared to the list, the value is equitably determined, and adequate payment will be made. Although still rather disturbed and unhappy, Hans is in better spirits as he sets out for home. Maybe his dreams of a red motorcycle are still possible.

Later that night, at the gasthaus, Hans recounts his experiences to his friends. A few have had similar experiences and all praise the Americans for their courteous assistance and fair judgments. The evening

ends in good humor anad hopes for the Americans' speedy return. Only Johann, seated at a corner table, does not join in the laughing group. His situation is worse than ever and there is little hope for improvement. As he listens to Hans and his friends, an idea is slowly taking shape in his mind. If others can receive such large sums of money for damage caused by the Americans, he sees no reason why he should be left out. The more he thinks about the plan, the more feasible it becomes, and as the gasthaus closes its doors for the night, Johann makes his way to the fields to carry out his plans. With an old road plow from his barn, he makes a series of paths and turns through his fields, knocks down a fence for good measure, and makes his way home.

Bright and early the next day Johann is at the city hall with his story: Since he was feeling poorly yesterday, he had not gone to his fields until this morning and then had been greeted with a catastrophe. It was quite obvious that a group of American tankers had maliciously destroyed a major portion of the best crop that he had ever had.

To add a little credibility to his performance and for added emphasis, the indignant Johann threatened to publicize the damage and write to his local government representative. Doing his best to calm the angry farmer, Major Frank sent Sergeant First Class Dorn to survey the damage. Plotting the location of Johann's fields on his map, Major Frank was surprised to find that they were located on the other side of town and far removed from any major maneuvers. When Sergeant Dorn returned with a confirmation of Johann's story, Major Frank processed the claim and promised speedy settlement. Satisfied and secretly gloating over his good fortune, Johann made his way to the nearest tavern for a much-needed beer.

Getting ready for the move back to the division, Major Frank had a strange feeling that something was amiss. Something about the last claim seemed wrong and the location did not match that of the maneuver area. On an impulse, he decided to check this one himself. Taking the representative of the forest warden with him, he went to the field. At first glance, the story seemed to be only too true. As far as the eye could see, earth was scattered and limp cabbages lay in piles. However, upon closer examination and comparison with previously measured distances, Major Frank soon saw that the tracks simply could not have been made by an American tank. At the same time, he gave the cabbages more careful scrutiny. It was quite obvious that they were well on their way to dying before the "phantom" tanks had struck. Notifying the local police of his findings, Major Frank made a full report of the false claim. It was decided to turn the matter over to local jurisdiction, and Johann paid a large fine as a consequence of his foolish acts. The files are closed on Exercise SIEGFRIED THRUST 71 and only the memories remain, both good and bad.

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New Sino-American Relations

by CPT Noel M. Fallon (FAOAC 4-71)

The Bamboo Curtain has recently been punctured by a ping-pong ball. An invitation to visit Red China was extended to the American delegation at the 31st world table tennis championships. This simple act caused ripples in diplomatic circles throughout the world. The invitation heralded an end to Red China's long period of isolationism and greatly eased Sino-American relations. America's quick response with similar friendly gestures indicates that there will be a further thawing of our attitude toward Red China. The ping-pong ball on its trip through Red China will quite likely "snowball" into open trade and cultural exchange between the two countries.

It would be wise at this time, at the dawn of new contact between these two long-separated civilizations, to look back at the history of East-West contact. What caused China to plunge into isolationism and communism? What causes the Chinese to look upon the West with suspicion and hatred? A long, cold look at lessons learned hopefully may deter us from making the same mistakes again.

Throughout the centuries, for diverse reasons and with dubious success, the West has attempted to westernize China. Since its first contact with the Orient, the West has been fascinated by her, much the same as a cat is fascinated by a canary. In exchange for China's exquisite porcelains, ivories, china, spices, and silks, we have contributed to them opium, the Bible, and communism. Around the turn of the century Mark Twain wrote a rather prophetic statement concerning the conversion of China to Western ideals:

"Leave them alone, they are plenty good enough just as they are; and besides, almost every convert runs the risk of catching our civilization. We ought to be careful. We ought to think twice before we encourage a risk like that; for, **once civilized, China can never be uncivilized again.** We have not been thinking of that. Very well, we ought to think of that now." (5:678)

Had the West heeded this sage advice, we might very well not have been involved in all the embroilments in the Far East over the past century. Also, the various areas of the Far East might still be functioning smoothly and placidly under their respective imperial governments; for it must be remembered that the East did not seek out the West for guidance and aid. Indeed, the West, in near-fanatical zest, thrust itself upon the Orient.

Marco Polo first focused the attention of the West on China in the 13th century. He returned from a long stay in China, where he had held high office in the Mongol Empire, and told exaggerated tales to Europe of the vast wealth to be gathered there. (8:283) From this time onward, China has been subjected to piracy, looting of her costal cities, territorial annexation, forced trade, and even forced Christianity. All this was done under the premise that it was "good for China" and that "it is the responsibility of the West to **save** the ignorant, heathen

Chinese from his primitive, godless way of life." But, just how ignorant, primitive, and godless are the Chinese? One thousand years before the time of Alexander the Great, China was creating excellent arms, art objects, and other implements with bronze and other alloys; growing wheat, millet, and rice; making sophisticated pottery on pottery wheels; fighting in war chariots; and using a 2,000-character written language. By 1,000 B. C., China was maiking fine armor and fighting with crossbows, which did not appear in Europe until the Middle Ages. By 240 B. C., they had noted the recurrence of Halley's comet and had a 365½-day calendar. By 100 A. D., they had noticed sun-spots, had invented paper, had invented the seismograph, and had very advanced theories about the structure of the world and its relation to the universe. (1:15) The Chinese printed books hundreds of years before Gutenberg, invented gunpowder, and evolved several of the most erudite philosophical systems the world has ever known. Most of the achievements cited above occurred at a time when most Europeans were herding reindeer and fighting with clubs and spears. (8:229) Yet these were the people that the West was going to save from themselves!

The Portuguese were the first westerners to open China for trade. When the first Portuguese arrived in China in the 16th century, they were accorded exactly the same welcome the Arabs and the Malays had long enjoyed. The Chinese were at this time very tolerant of foreigners and welcomed outside contact, trade, and cultural exchange. The Portuguese quickly and permanently put an end to this mood of tolerance. They left in Chinese mouths a very bad taste for all Europeans. It was a terrible blow to future East-West relations that Portugal was the first European nation to open the sea route to China. Some excellent examples of how Portugal handled Europe's first commerce with China are stated by C. P. Fitzgerald: "The Portuguese, bringing these Mediterranean traditions into the eastern oceans, applied them to the coasts of India and China—pagan lands—which to the navigators were to be treated in the manner familiar on the Barbary coast. When the enemy was weak or imperilled, the Portuguese plundered his ships and cities, massacred the "heathen" and seized the harbours and bases. When he was strong or ready for battle they traded—always ready to assume the more congenial role of marauders if opportunity presented itself." (4:476)

This was a very typical attitude of 16th century Portuguese toward all non-Christian countries. They considered trade only the weaker alternative to a plundering foray. All non-Christian peoples were thought of as **ipso facto** enemies, and their ships were considered legitimate prizes. Their doctrine was "conversion or the sword." They applied this doctrine strongly in Asia and America. (4:476) It was at this time that the westerners earned the nickname of **yang kuei tzu,** "ocean devils," which has continued in popular use to the present day. Foreigners who find the name offensive would do well to remember how it was earned. (4:479)

The Portuguese held the monopoly of trade until it was broken at the end of the 17th century by the Dutch

and English. Sadly, neither of these two nations did much to improve China's opinion of the West. The first contact the Dutch made with China consisted of plundering her coast. England sent John Weddel in 1637 with three ships to open trade with China. China, after having undergone so many traumatic experiences with the Dutch and Portuguese, was understandably slow in considering this new proposal from still another group of **yang kuei tzu.** Weddel grew tired of the Chinese caution, sailed his ships into Canton, and took over the fort. Whereupon he: "Tooke downe the China Flagge, hung it over the wall, and thereon advanced out King's collours." (4:483)

Thus, another blow was struck for the West against the "heathens;" and in striking it, England fell into the same category with the Portuguese, Spanish, and Dutch—a bunch of crude, untamed barbarians who could not safely be allowed within cannon shot of the Chinese coast. These were not merely isolated incidents; on the contrary, they were the general trend for East-West contact from the 16th through the 17th centuries:

"In 1619, the English and Dutch combined to plunder the Chinese merchant junks trading to the Philippines. At the same time it was reported that the Dutch had plundered and massacred all the junks and their crews going to Banton in the East Indies. . . Throughout the Eastern seas all nations had adopted the old Portuguese practice of treating every pagan ship as a legitimate prize. In the 18th century the Dutch perpetrated a large scale massacre of Chinese in Java, and the Spanish exterminated the much larger Chinese colony in the Philippines in cold blood. It seems that the Chinese would not accept Catholicism. . . In 1616, a fleet of Dutch ships arrived off P'u To Shan, the famous Buddhist shrine and sanctuary in the Chusan Islands off the Chekiang coast. They landed, pillaged the temples, burnt and sacked the shrines, and maltreated the monks in a barbarous fashion. Since P'u To Shan was a sacred island undefended by any garrison, and uninhibited except by monks, there can have been no possible excuse for these wanton aggressions." (4:484)

It was through the use of similar tactics that the Portuguese "obtained" the island of Macao; it is still in their possession today.

The story of England, the East India Company, and the Opium War is truly one deserving of shame. England had long been doing a lucrative amount of trade with China prior to the Opium War of 1839. However, the British decided that the trade was too one-sided. It seems that there was a poor market for English wares in China. The British paid gold and silver for China's silk, tea, spices, etc., and sold them for a handsome profit back in England. This arrangement displeased the British traders. They understandably felt that a two-way profit was far better than a one-way profit.

It was at this point that the English had a marvelously vile idea. They discovered that the Chinese were easily addicted to opium! Opium was not grown in China; the Chinese were not permitted to use it; the Chinese had difficulty obtaining opium. Therefore, it was

simple logic to the English that here was a great way to at least double their profit. The East India Company was quickly formed in order to take full advantage of the situation: They established a monopoly for the trading of opium to China—whether China wanted to trade for opium or not. The East India Company grew its own opium cheaply in India, traded it to China for a great profit in traditional Chinese goods, and sold these goods for another great profit in England. By 1833 the opium trade accounted for 50 percent of all British exports to China. During the peak years of opium trade England was exporting as many as 60,000 chests of opium to China annually. (3:149)

The Emperor of China became very concerned about the great plague of opium addiction that was sweeping his country. He appointed a special Imperial Commissioner, a very patriotic Confucian scholar named Lin Tse-Hsu, to tackle the problem. Lin started by rounding up 20,000 chests of opium and burning them at a public ceremony. He also wrote highly articulate letters to Queen Victoria of England, pleading for her government's assistance in halting the awful pollution of his country: (7:128) "The wealth of China is used to profit the barbarians. That is to say the great profit taken by the barbarians is all taken from the rightful share of China. By what right do they in return use the poisonous drug to injure the Chinese people? Even though the barbarians may not necessairly intend to do us harm, yet in coveting profit to an extreme, they have no regard to injuring others. Let us ask, where is your conscience: I have heard that the smoking of opium is very strictly forbidden in your country; that is because the harm caused by opium is clearly understood. Since it is not permitted to do harm in your country, then even less should you let it be passed on to the harm of other countries. . . Of all that China exports to other countries, there is not a single thing which is not beneficial to people." (2:7)

Naturally, a letter of this nature, written by a man who had just destroyed 20,000 chests of English opium, fell on deaf ears back in London. Being an honest man, Lin assumed the opium traffic was only the work of unscrupulous traders and barabrous pirates. He also assumed that Queen Victoria's government, being an honorable institution, would certainly not knowingly support such an odious activity. Lin's most fatal error was the assumption that the English Navy would not defend the unscrupulous traders and pirates from Chinese disciplinary measures. Thus were the events which led up to the Opium War (1839-42), which the English easily won.

Having won the Opium War, England forced several treaties on China. In doing so, England annexed Hong Kong and several other major cities. Still not satisfied, England engaged in a Mafia-style protection racket: "One curious aspect of the British treaty, which histories by European writers gloss over, was the exaction of ransoms for towns which had not been occupied. This was supposed to be compensation **for not plundering the city,** which the soldiers would have done had they occupied it. For the city of Yangchow alone a sum of 500,000

dollars was demanded and so for others also." (7:128)

After China was thus weakened by the British, the other Western countries jumped in with both feet to grab their respective shares. America, France, Germany, and Japan all pushed through their own treaties. As a result, China lost either full or partial control of Macao, Hong Kong, Shanghai, Ningpo, Foochow, Amoy, and Canton. The various nations also stationed warships near their respective points of interest to enforce their wishes. As an added touch, England looted and burnt the emperor's summer palace. (7:130)

There was one last element that had not yet been strongly stressed—except by the Spanish and the Portuguese—the conversion of China to the religion of the West. France was the first to add this to their treaty: "The French in their treaty added a clause, which led in time to the undoing of all efforts to build up friendly relations between China and the West—the championship of Christian religion. By this act, the European nations identified themselves with a religion which they and their missionaries desired to impose on the people of China." (7:132)

The Christian's early notions of exclusive righteousness and moral superiority were totally alien to the Chinese mind. The Chinese were certainly not intolerant of "new" religions. For centuries China had welcomed Jews, Arabs, and people of other faiths into their country. These alien people had always been completely free to practice any religion they wished. Chinese philosophy and religious thought had been divided into three major divisions (Confucianism, Buddhism, and Taoism) for many centuries. These three widely divergent concepts had peacefully co-existed in China despite their opposition on many points. The Chinese lacked the Western belief in "one true religion." To a Chinese, a "good" religion was **any** religion that taught man to live in harmony with his neighbors, contributed to the betterment of society, and improved or perfected the inner man, or the soul. Even though a particular religion was alien to China, if it followed those general tenents, its followers were welcomed into China. Therefore, China did not reject Christianity initially; it fit their definition of a "good" religion. What nettled the Chinese was the **way** in which Christianity was presented to them. The strong push for conversion to Christianity came on the heels of forced trade and forced territorial annexation. Now the Chinese were faced with forced Christianity. (4:476)

At the turn of the 20th century a prominent Chinese resident of London accurately summed up the Chinese resentment of Christian missionaryism: "You have told us that our children are born to be damned; that our ancestors who died in our faith and not yours are suffering the tortures of purgatory; you have frightened our women and children; you have sown doubt in the minds of our people; you have filled our souls with unrest; you have tried to destroy the faith to which we have clung for ages, and have offered nothing better in its place. Indeed you have not even agreed as to what you believe yourselves." (6:416)

Hatred of the West, based on the many reasons already discussed, came to a peak around the turn of the 20th century. It was expressed by such incidents as the Boxer Rebellion, the Tientsin Massacre, and many other anti-Christian and anti-Western movements. The goal was the total expulsion of all Western influences from China and the restoration of China to her pre-Western status. China totally failed to reach her goal; the last dynasty of China finally collapsed and has never been restored.

China as we see her today is not so much what she made of herself as she is what we, the West, made of her. China's present suspicion or hatred of anything Western seems completely justified; her lessons were long and painful. If the West had shown China the proper respect due another nation, had entered into fair trade with her, and had not forced the religious issue, the China of today would probably be a totally different place.

Modern Red China is certainly no utopia. Their ideas of a workers' paradise are vastly divergent from our own concepts. But China **is** China and the Chinese **are** Chinese. Red China, like a pregnancy, will not go away just because we ignore it; neither, as we have so painfully discovered, will it become another Texas or New York through our attempts at westernization. Therefore, it is hoped that our renewed contact with this rather large slice of the world's population will not collapse once again due to many of the same old problems and blunders.

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The Soviet Union in the Middle East: A Real or Imagined Threat?

by CPT Allen N. Grenadier (FAOAC 5-71)

No area of the world today presents such a great challenge to peace as does the Middle East. The United States and the Soviet Union in the late 1960's seemed to be moving on a collision course in the heart of the Middle East. The two superpowers were trapped on opposing sides in interlocking regional disputes. The Arab states and Israel were starting the third decade of their irrepressible quarrel; while the Arab states were tangled in their own uncontrollable quarrels, ostensibly over differing political systems. There was a danger that, in competing for favors, each superpower might become committed to upholding the security and integrity of opposing states and regimes.

Fortunately as we know, direct armed confrontation between the two Goliaths was avoided; but who is to say that the next time (and there surely will be a next time if current US and Soviet policies are not drastically altered) will not herald the beginning of World War III? Why were the two superpowers faced with this dilemma in the first place? Of what strategic importance is the Middle East that one power spends billions of dollars to provide a measure of stability to the area, while the other spends billions to insure instability? To answer these questions, let us go back in history and examine what is called the Eastern Question.

For a century or more the Eastern Question was in the forefront of European diplomacy, because the Middle East was of vital importance to a number of great European powers and because the Ottoman Empire, which controlled the area, was too weak to defend it against foreign ambitions and encroachments. In spite of the fact that it involved the vital interests of two great powers, England and Russia, it was only during the Crimean War in the 1850's that the Eastern Question resulted in armed conflict between the great European powers. This comparative stability was probably due to the fact that more than two great powers were involved in the Eastern Question. France, Austria-Hungary, and Germany also had substantial interests in the area and were able to bring their influence and might to bear in such a way that if any power were tempted to expand at the expense of the Ottoman Empire, it would find ranged against itself a combination of two or more powers ready to oppose and checkmate its expansion.

World War I fundamentally transformed the Eastern Question. Because England still ruled India, the Middle East remained of prime importance to her. At the end of the war it seemed as though her interests were infinitely more secure than they had been before 1914, mainly because Russia had suffered severe internal upheaval and was unlikely to intervene in the area for decades.

In 1918, then, only two—England and France—remained of the four or five great powers whose rivalries,

quarrels, and combinations constituted the classical Eastern Question. England adopted a highly adventurous policy, which consisted of using Arab nationalism and Zionism as weapons with which to combat French demands and to undo the French position in the Middle East. British policy did not prove entirely successful. France, while giving up her rights in Palestine, tenaciously asserted and finally made good her claim to Syria. For this partial victory, though, the British were to pay a high price. In encouraging Arab nationalism and Zionism, they were encouraging an ideological style of politics at variance with the interests of an imperial power. In simultaneously sponsoring Zionism and Arab nationalism, they were committing themselves to the support of large and incompatible claims, the clash between which proved very damaging to British interests.

With the increasing belligerency of Italy in the Mediterranean and of Germany in Europe, by the late 1930's the incompatible claims of the Zionists and the original inhabitants of Palestine began to seem to the British Government increasingly inconvenient and embarassing. Since the Palestinians and their fellow Arabs outside Palestine were the majority and were intransigent in their opposition to Zionism, it was easier and safer for England to disregard the Zionists or to coerce them if necessary.

This new policy encouraged a dangerously doctrinaire view of Middle East politics. The policy was based on the assumption that the dispute in Palestine was the central issue in Middle East politics. This was an erroneous assumption; since British relations with Egypt, Iraq, and Saudi Arabia, for instance, were governed by difficulties which had little to do with Palestine. Another erroneous assumption which underlay this policy was that the so-called Arab states were in earnest and unanimous concerning Arab unity. As events were to show, the call for Arab unity was a weapon which various states employed in prosecuting their local rivalries. But once the policy was adopted, certain consequences followed which could not easily be undone and which did great harm to Palestine and the Middle East as well as to British interests. The Palestine Round Table Conference of 1931 was the first fruit of this policy. By inviting Palestine's neighbors to this conference, Britain acknowledged—what it had so far strenuously resisted—that these neighbors had some kind of right to intervene in the affairs of a British-mandated territory. This set a precedent for further intervention in Palestine and elsewhere whether Britain liked it or not. In addition, by greatly increasing the number of parties in the Palestine dispute, this policy fearfully complicated the problem which finally became almost intractable. It ended by making the Palestinians the dupes and victims of their neighbors solicitude.

The end of World War II left Britain seemingly the only great power in the Middle East and the sole patron of the Arab states now organized in an Arab League, the formation of which Britain had suggested and encouraged. This dominance soon proved deceptive. Britain emerged from the war victorious but weak and with a government pledged to welfarism at home and

reconsideration of her foreign policy situation. With the giving up of India there simultaneously disappeared the main **raison d'etre** of British interest in the Middle East and the British ability ultimately to bring superior force to bear on the affairs of the region. (1:193) When the United Nations decided to partition Palestine, the British Government announced that it would not help to enforce a scheme unaccaptable to the Arabs and that it was giving up its mandatory responsibilities and withdrawing from the territory by a fixed and stated date.

The injury done to British interests in the Middle East by the Palestine war of 1948 was in a large measure a self-inflicted injury. The Palestine war resulted from a misunderstanding of the Middle East situation, from deliberate encouragement of an ideological style of politics, and from a faulty estimate of the power and capacities of the various contending parties.

The year 1955 marked the end of the classical Eastern Question. The British-American sponsored Baghdad Pact collapsed with the coup d'etat in Iraq. It is ironic that the consequence of these Western attempts to organize Middle Eastern defenses was precisely to provide an opening for the Soviet Union successfully to intervene in the area. By supporting Iraq, Britain had greatly affronted Egypt. The result was the 1955 Egyptian-Soviet arms deal, Russia's first significant step on a yet unfinished journey into Middle East politics. The Middle East is no longer important because it is the road to India or because a weak Ottoman Empire allows three or four European powers to jockey for position. It has become one more area in which the two superpowers confront each other suspiciously and belligerently.

Soviet objectives in the Middle East are easily catalogued. They are essentially political and strategic, not economic. Moscow seeks (1) the elimination of Western military and economic influence from the area, specifically the abandonment of Western bases in Turkey, Iran, and Pakistan; (2) the expansion of Communist influence in the Middle East through Moscow's alinement with, and exploitation of, Arab nationalism; (3) the denial of Middle Eastern oil to Western European industry; (4) the acquisition of warm-water ports on the Mediterranean Sea and the Persian Gulf, an objective dating from czarist times; and (5) the domination of the Middle East, which is the strategic land bridge between Europe and Asia. (2:390)

The Soviet Union has, to a degree, lessened tensions between herself and her southern border countries Turkey and Iran. She has also, through substantial military and economic aid, ingratiated herself with many Middle Eastern states, notably Egypt and Syria. Port facilities have been made available to her in Egypt, Libya, and Tunisia. The closing of the Suez Canal has hindered shipment of Middle Eastern oil to Western Europe; however, the new oil tankers have greatly alleviated the problem. As a matter of fact, the closing of the canal has actually prevented Soviet expansion into the Indian Ocean, left vacant by the British withdrawal from Aden.

These statements suggest a succession of Soviet advances and Western retreats equivalent to a decisive change in the balance of military and political power in the region. Such is not the case. What happened was that the Soviet Union became a Middle Eastern power whereas before she had been virtually excluded. It was inevitable that the Soviet Union, as one of the superpowers, would assert herself in a strategically important area bordering on her own frontiers. It was also highly unlikely that the United States could succeed in her design of organizing the Middle East into an alliance comparable to NATO. The demise of the Baghdad Pact proved that the political foundations for a security system did not extend beyond Turkey and Iran. The resistance of local nationalism to Western imperialism, the conflicts among local states, and the general instability of governments provided openings for the Russians which they did not fail to exploit. The hostility of Arab nationalist leaders toward the West and Israel made it natural for them to turn to Moscow as a provider and for Moscow to assume that role. The Soviet policy of peaceful coexistence inclined Middle Eastern governments to discount the possibilities of Soviet aggression, although they may have been taken aback at the invasion of Czechoslovakia in 1968.

It is all too apparent that the great power balance was not the making of the great powers alone but was dependent to a large degree on the attitudes and decisions of local governments and political forces. The disposition of outside military forces and the possession of bases continue to have some significance, but the crucial aspect in what is primarily a political competition (the Soviet Navy does not yet pose a serious threat to the US Sixth Fleet) lies in the standing of each of the competitors on the local scene. The present policies of the two superpowers are not without risks. For instance, the Arab-Israeli War of 1967 illustrates several points (1) that local states can push a crisis over the brink into war despite the urgings and efforts of outside powers to prevent it; (2) that such a local war may bring the United States and Russia, because of the depth of their involvement with respective parties to the conflict, to a point of grave danger of conflict with each other; and (3) that a shift in the local balance of power need not result in a comparable shift in the great power balance in the area (witness the entrenched Soviet position in the two defeated countries, Egypt and Syria).

One question that the leaders of the Soviet Union must be asking themselves is whether it would, in fact, be advantageous to the power of the Soviet Union, and to their own leadership, to extend Communism throughout the Middle East. First, Russia would take upon herself the moral obligation to modernize the economics and raise the standards of living of very large populations. Any prolonged delay in achieving these benefits might be politically dangerous, and to achieve fairly rapid and striking results would exact great sacrifices from the Soviet economy and the Soviet people. It is doubtful that the Soviet Union can undertake industrialization of a large number of underdeveloped areas of the world.

If the Soviet Union were to succeed in her quest for dominion over numerous underdeveloped countries, what then? Once a generation or two come to maturity under a Communist system, the new generation may no longer give automatic obedience to Soviet dictates. A consolidated regional leadership, for instance, might assert its independence of Soviet power that much more effectively.

The emergence of Soviet-certified Communist regimes in a number of historic nations of Moslem culture might even have some repercussions. A large confederation of basically Moslem tradition might come to exert a considerable influence among the thirty million people of Moslem background within some Soviet republics.

The Middle East is an area fraught with its internal, deep-seated problems and conflicts which are not more than marginally susceptible to management from the outside. This instability has naturally attracted the intervention of the two superpowers. The only hope for some semblance of stability in the area is a limited detente which would lead out of the present situation of turbulence, uncertainties, and perils into a period of genuine peace. This would involve, basically, consolidating and improving the status quo, lessening and removing the present dangers to peace, and finding cooperative solutions to the social strains of the area.

The major factor in a stable, long-term, and agreed policy of detente would be a large-scale cooperative program of assistance to the Middle East. The cost of such a program would be far less than the huge expenditures now laid out by the competing superpowers. Of course, the Soviet Union is not yet interested in preserving a status quo which would reduce the strides she is making in the area. She has consistently refused an arms limitation agreement for the area. Also, she is very sensitive to the Chinese criticism that she is openly consorting with the imperialists.

Soviet commitments in the Middle East, though growing, have remained limited. There has been no direct military participation by Soviet forces in struggles within the area.

In the light of these precedents, it is possible that some day the Soviet Union may adopt a more evenhanded policy in the Arab-Israeli conflict and may attach serious significance to the cooperative search for an agreed or even a guaranteed solution. Another factor that may make a policy of caution more attractive to the Kremlin is Russia's growing concern over the high cost of a number of her foreign policies. Castro's Cuba involves an annual cost of $350 million. Substantial investments in Indonesia and Ghana have gone down the drain. Soviet leaders show a great sensitivity about explaining to their own people that when they provide large credits to a developing country they are also laying the basis for a future increase of exports to the Soviet Union.

The basic problem in the Middle East is whether the current power vacuum is to be filled by forces injected from the outside or by the growth of indigenous forces working

to develop their own strengths. The United States has generally sought to promote peace and stability in the Middle East both because the preservation of the status quo has been more favorable to her interests than any conceivable alternative and because she has seen that an intensified conflict within the Arab-Israeli zone only serves to multiply the intraregional demand for intervention by outside powers, in particular by the Soviet Union.

The West has two great advantages it must continue to utilize in formulating and advancing its foreign policy. First, the cultural and educational facilities and traditions offered by the West are more attractive to people in the Middle East than are the Soviet models. Second, the West accepts the idea and the goal of full national self-determination in the Middle East.

One of the main tasks of policy thinkers of the United States must be to examine each of her policies to be sure it is helping the people of the Middle East to move, however uncertainly and erratically, toward achieving their goal of national self-fulfillment through peaceful and constructive methods.

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The primary reason for the existence of all the U. S. Armed Forces is to provide the military power to deter war. Should deterrence fail for reasons beyond our control, then these forces must be able to fight and win. There is no cheap way to do this. There also is no second prize in the business of war today, nor will there ever be.—General George H. Decker

Cannons and Computers

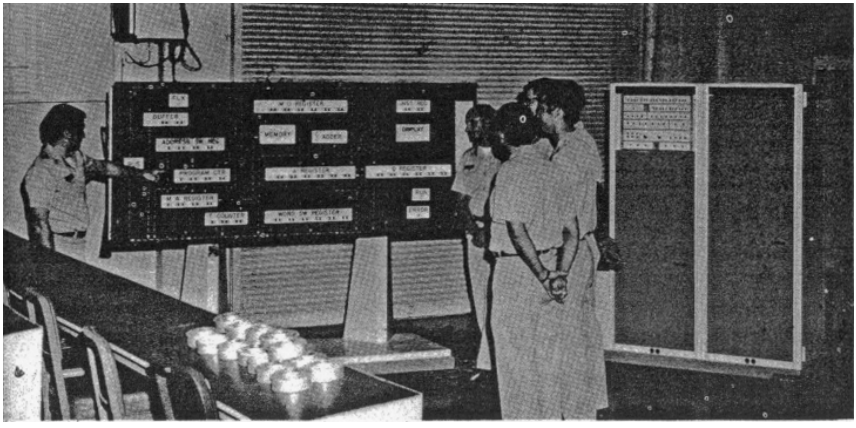
by CPT Darrel L. Gerke

Random access, technique flowchart, compiler language, TACPOL, peripheral device, and central processing unit. Do these terms mean anything to you? These are just a few of the many important terms that are discussed in the instruction on automatic data processing systems (ADPS) presented to the Field Artillery Officer Advanced Course (FAOAC) in the Field Artillery School.

The impact of automation and automation techniques is significantly affecting the Army today, and delivery of the Tactical Fire Direction System (TACFIRE) planned for the mid-1970's, will have a great effect on the field artillery.* The computer, gun direction, M18, (FADAC) represented a completely new and different idea to the field artilleryman when it arrived on the scene several years ago. Few artillerymen trusted the FADAC because they didn't understand how it worked. Usually, the first piece of incorrect data from the FADAC confirmed their suspicion that the FADAC could not be trusted, and a common result was to put it in the darkest corner of the operations storage room and forget it. Today we realize that humans make the mistakes, not the machines. TACFIRE capabilities should preclude this reaction, and ADP instruction given at the Field Artillery School today should do much to enhance the knowledge of officers who will be directly concerned with TACFIRE.

TACFIRE will perform many functions vital to the field artillery to include replacing FADAC at the battalion FDC. There are some seven different functions available to TACFIRE, each function providing a display, update, and hard copy for

*The Next Step in . . . ADP. MAJ James Warner, THE FIELD ARTILLERYMAN March 1971.



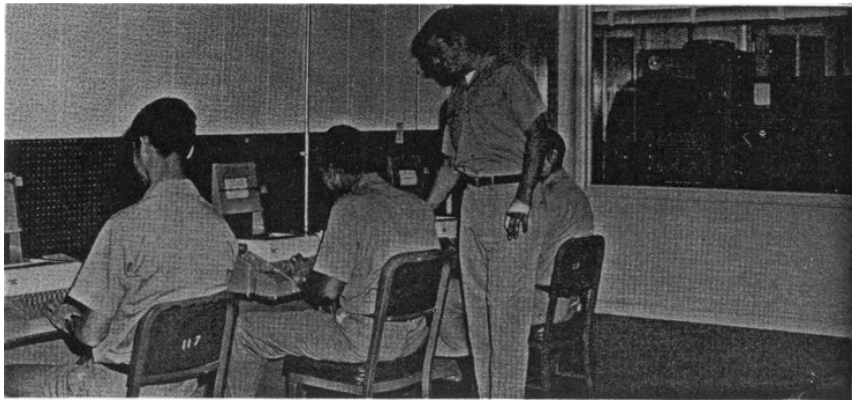
Students monitoring data flow within the Central Processor of Fort Sill's 6F4 Computer Trainer.

fast and reliable reaction by the FDC. TACFIRE will be only one of many computer systems in the field. Others now planned are the Tactical Operating System (TOS), the Combat Service Support System (CS^3), the Guided Missile Air Defense System (TSQ73), and the Tactical Army Security Combat Support Intelligence and Communications System (TACSINC). These systems and others under development will be employed in the Integrated Battlefield Control System (IBCS).

The Field Artillery School is preparing its graduates for the automated battlefield. The Automated Systems Division of the Communications/Electronics Department teaches 32 hours of automatic data processing to all members of the advanced classes and also offers a 96-hour elective to those who desire more knowledge of automatic data processing. Other officer classes as well as NCO and specialist courses, also receive ADP orientation.

The automatic data processing instruction emphasizes equipment, procedures, and people, the three necessary elements of every ADP system. The students are shown the more common pieces of computer equipment as well as three different ADP systems used at Fort Sill. The instruction also develops an understanding of basic terms, definitions, and concepts. All electronic computers work on the same principles, whether they are designed to process checking and savings accounts in a bank or to compute the correct fire commands to obtain a first-round hit. The instruction demonstrates how computers solve simplified problems and also explains the concepts on which the computer functions are based.

The students are next shown how procedures, consisting primarily of programs, are used to control the data processing. The various computer languages are explained and discussed. To assist in this instruction, the Field Artillery School has a modern medium-size computer with 11 teletypewriters used as input/output devices. The students have



Students using data terminals to input programs into Fort Sill's time shared X6F5A Computer Trainer.

several hours of hands-on time with this equipment, during which they actually program the computer. They also learn to appreciate the speed, flexibility, and reliability of a computer when it is programmed correctly. This hands-on time probably instills the students with more confidence and trust in computers than does any other part of the instruction.

Emphasis on people is stressed throughout the course. People are needed to operate equipment, write programs, and manage ADP systems. Systems analysis, an orderly study of a data processing activity, and the design of a new ADP system, is also covered. The systems analysis class ties together all elements of an ADP system.

The final class in the instruction deals with TACFIRE. At this stage, the student has an appreciation for the capabilities of computers and understands how computers work. After an introduction to TACFIRE, the students have the opportunity to question a panel of experts from various agencies which are working with TACFIRE during its development and testing.

The heart of the 96-hour elective program is the analyzing, evaluating, and programming of a practical supply problem. Using actual information from sources available to a FA battalion, the prescribed load list (PLL) is automated for use on a medium-size general purpose computer (X6F5 trainer). The techniques learned in the instruction are further elaborated to include team presentation in the solution to, the PLL problem, developing the program, and working a typical PLL problem to prove, or debug, the program. Student interest in this phase is exceptionally high, and the students clearly demonstrate their innovative capability to overcome a common practical problem through systems analysis techniques.

The Field Artillery School leads all other combat arms service schools in offering this type of "post graduate" training to officers. The ADP instruction is more than a course in "appreciation;" it focuses on today's problems that can be solved by ADP application and looks to the future when field artillerymen will find themselves at home in an ADP environment. Confidence in the computers of tomorrow is gained by developing the basic techniques today.

Captain Darrel L. Gerke is a graduate of Purdue University and the Field Artillery Officer Candiqate School. Prior to his recent assignment to Korea, CPT Gerke was an instructor with the Automated System Division of the Communications/Electronics Department.

USE OF MACHINEGUNS

M60 machineguns are organic to all cannon batteries and should be the basis for close-in defense of firing positions. Properly employed, the machineguns should be located to provide flanking fires into the avenues of approach leading into the battery position. Each machinegun should also be positioned so that the center of the cone of fire is no more than one meter above the ground and interlocks with the fire from an adjacent machinegun. Flanking, grazing, and interlocking machinegun fires constitute a formidable barrier to attacking ground troops and should be high on the priority list when establishing the battery defense.

Realism in TPI's

**by MG W. A. Enemark*
The Inspector General

The stated primary objectives of Technical Proficiency Inspections (TPI's) are to improve readiness and to assist in the prevention of nuclear accidents and incidents. The readiness of units to perform their wartime mission cannot be measured, much less improved, until the technical operations are conducted in a realistic and timely manner.

How to assure realism during TPI's has been the subject of considerable soul-searching by my office for the last several years. We are all inspectors. Therefore, it is incumbent on each of us in the TPI program to insist on realistic solutions to situations.

Paragraph 1-4, AR 190-60 states in part, "Commanders of units moving or storing nuclear weapons in the field will establish physical security measures **commensurate to the tactical situation."** In establishing security during the occupation or tactical sites, unit commanders must be guided by: the threat, the personnel required and available, and common sense. It is not realistic to expect units in a simulated tactical situation to occupy positions that have obviously been previously prepared and continually improved.

Paragraph 2-7 of AR 20-1 directs that the policies and procedures prescribed by TB IG 5 will be used in making TPI's. Paragraph 1-8 of TB IG 5 requires that a unit or activity be prepared to demonstrate **realistically** each technical operation required to accomplish its nuclear weapons mission. It is not realistic to expect teams in a simulated tactical situation to perform in a manner reminiscent of a demonstration in a classroom.

Inspectors must, by means of simulations, put units in logical and realistic situations for the tactical portions of the TPI and the unit commander must react in a logical and realistic manner. Only by adopting and vigorously pursuing this concept, can a true determination be made concerning the ability of a unit to prepare and deliver a nuclear weapon in a tactical situation.

Some specific examples of unrealistic situations encountered on recent TPI's were:

—two crew members and two supervisors of an Honest John unit spending about 15 minutes to examine the H-416 sling prior to its use. The rejection criteria, as outlined in Table III of TM 9-1100-200-12, may be detected by a simple inspection for specific defects. Two trained personnel should be able to complete a realistic inspection of the H-416 sling in two or three minutes.

—a crew was given an ASAP emergency destruct mission while in convoy and, although a wrecker was standing by and available, preparations were made to blow up the weapon **and the truck in which it was being transported.** The situation given at this time did not include a simulation that capture was

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**This article is a reprint of a letter published by the Office of the Inspector General dated 22 November 1971.*

imminent. Inspectors must use simulations that create realistic situations, and commanders must react in a realistic manner.

—a firing unit, after being given a fire mission, occupied a tactical firing site that had previously been surrounded by triple concertina, had fox holes and pits for demolitions prepared, and tables and chairs set up for exclusion area guards.

An analysis of TPI reports which was made in the fall of 1968 revealed that the times required to perform the technical operations during TPI's were, in some instances, so gross that confidence in the unit's ability to employ nuclear weapons tactically in a timely manner was, at least, questionable. As a result of this analysis DA, CONARC, USAREUR, and USARPAC initiated the timing of nuclear technical operations for delivery units in July 1969. The purpose of timing technical operations in TPI's was to instill and emphasize a sense of urgency.

An analysis of TPI reports for FY 1971, indicates that technical operations are being conducted in a more timely manner. On a world-wide basis, the times being achieved by delivery units follow a normal distribution pattern around the DA standard times, except the 8-inch system which is still slow. Having achieved the goal of the initial DA standard times, consideration should be given to revising these times downward to approximate more closely the tactical employment times. However, any increase in the speed with which technical operations are conducted must be consistent with accuracy, safety, and reliability.

The goal of realistic and timely technical operations is obvious when tactical employment times are considered. The tremendous tactical importance of a nuclear capability does not permit two standards of training—training for a TPI and training for a tactical situation. Despite encouragement by inspectors, one unit commander did not permit his personnel to perform concurrent operations because he was afraid the inspector might miss something and fail him or cause him to perform the operations again. His approach to training was to train to pass TPI's rather than to perform his mission in a timely manner. It is the responsibility of the inspector to station himself where he can see concurrent operations when they are performed and, if need be, more than one inspector can be employed. Some of the problems of slow, deliberate, and unrealistic performance during TPI's stem from rumor, fancy, and imagination based on old TPI's and pre-TPI's designed to "leave no stone unturned." If Pre TPI's are conducted within a command, they must be realistic and in accordance with the concepts and procedures of TB IG 5. The commander cannot be expected to train his personnel to meet the whims and fancies of each inspector.

The principal mission of all inspectors general is to inquire into and report to their commanders upon matters which pertain to the accomplishment of the mission and the state of discipline, economy, efficiency, and morale. The evaluation of a unit's ability to accomplish its nuclear mission reliably in a timely manner can only be done in a realistic environment. In the future the

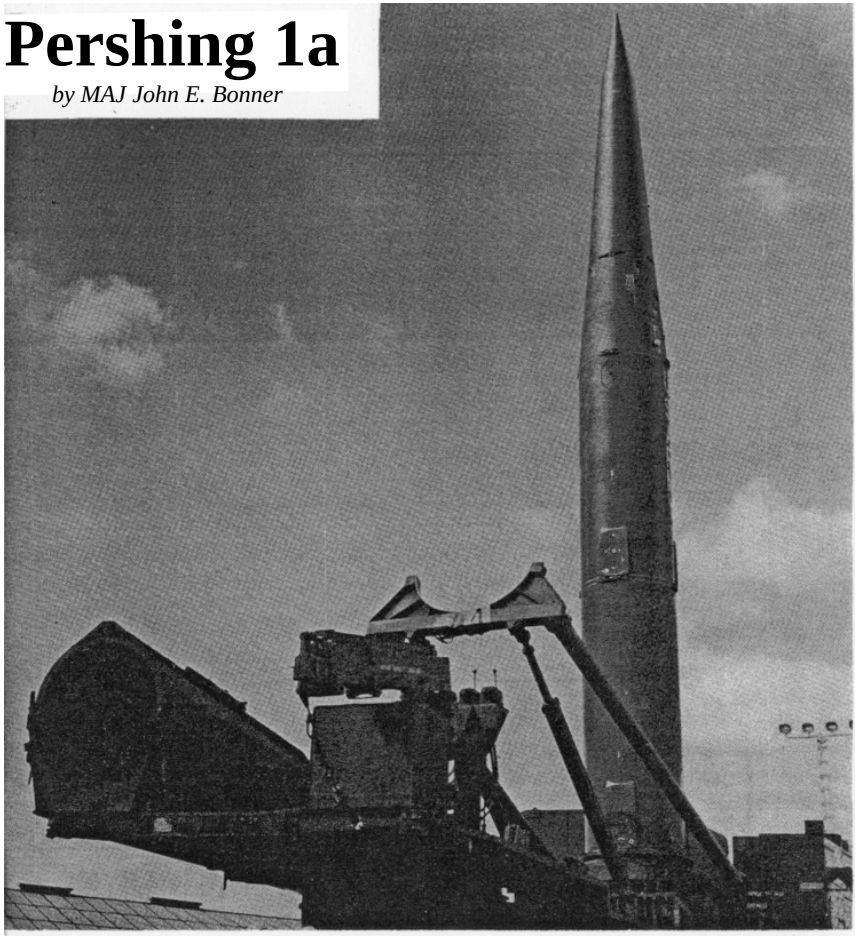
reports of TPI's conducted by my people will include comments on any unrealism observed. I urge you to adopt a similar procedure and to insist that nuclear weapons training at all levels within your respective commands be conducted in consonance with the spirit of this letter.

The credibility of the nuclear deterrent, of commanders, and of the TPI system is dependent upon realism in our procedures, in our training, and in our inspections. In accordance with guidance from the Vice Chief of Staff, DCSPER, DCSLOG, USAMC, and my office are seeking ways to simplify procedures and requirements involving technical operations, safety, security, and inspections consistent with reliability. If you have suggestions we would like to have them.

The Army exists for one purpose—to serve the American people. It belongs to the people, and it is made up of the people. It draws its officers and soldiers from every walk of life—from every part of America. The Army is a cross section of our free society. Every citizen is a stockholder in the U.S. Army.—General W. C. Westmoreland

Pershing 1a

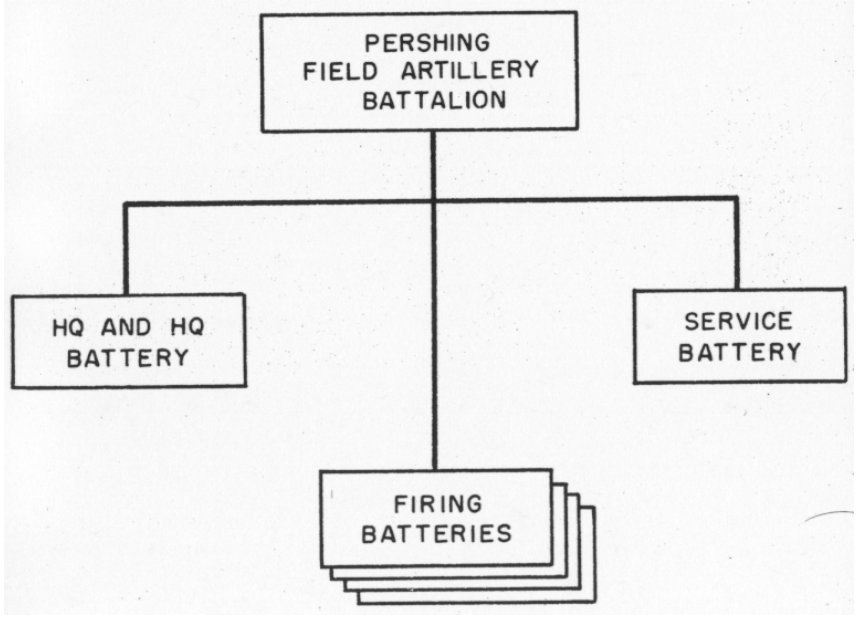
by MAJ John E. Bonner

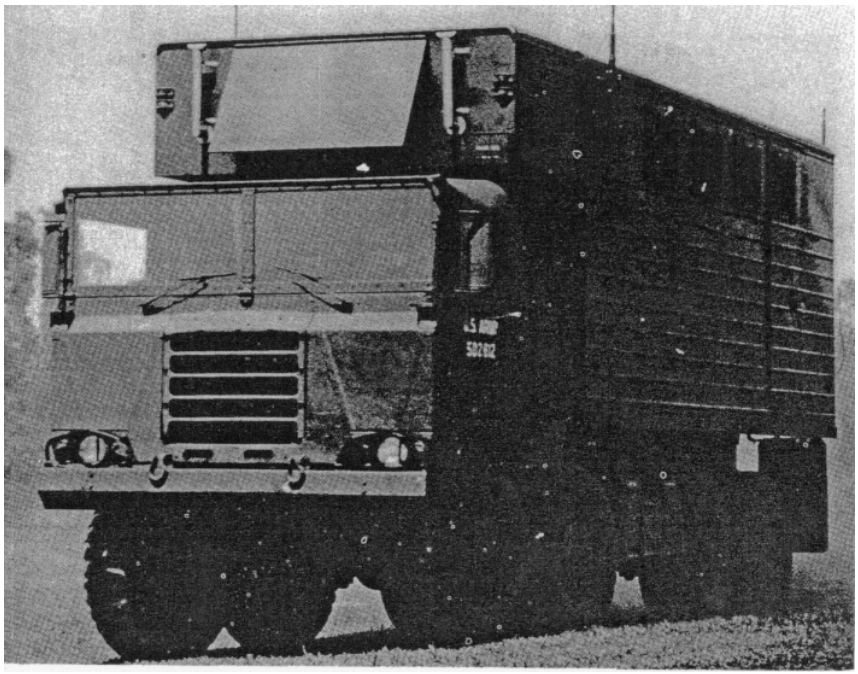


The Pershing 1a (P1a) is the US Army's longest range field artillery guided missile. In 1958, the Army determined that sufficient advancements had been made in missile technology to warrant the development of an entirely new missile system to replace the Redstone missile. This new system, named the "Pershing" in honor of General John J. Pershing, was developed with the Martin Marietta Corporation as the prime contractor. Since 1946, Pershing has been playing a vital role as a nuclear deterrent in Europe, shielding the free world. To further improve the Pershing system capabilities, the Pershing 1a was developed and was deployed in 1969. The Pla system fulfills the requirements for increased reliability, added flexibility, ease of maintenance, and improved reaction time. The Pershing missile used in the P1a

system is the same as that used in the Pershing system; improved ground support equipment, at the firing position and in the maintenance areas, provides greater flexibility for deployment as well as a faster reaction time. All units of the system are transported by improved wheeled vehicles that provide for rapid movement over roads and unimproved terrain. The P1a system includes a specially designed communications set which is unique within the field artillery and which provides reliable communication over long distances (100 miles). The Pershing 1a system is normally employed in the quick reaction alert (QRA) role in support of SACEUR'S scheduled program of fires. However, the system will retain its follow-on mission of general support of the field army.

The Pershing 1a battalion consists of a headquarters and headquarters battery, a service battery, and four firing batteries. The Pershing 1a battalion is a self-contained organization that includes the elements required for operational control, communications, administration, and logistical support. There are four Pershing 1a battalions within the US Army. One battalion is located at Fort Sill, Oklahoma, and the other three battalions constitute the 56th Artillery Brigade in Germany. Peculiar to the 56th Artillery Brigade is





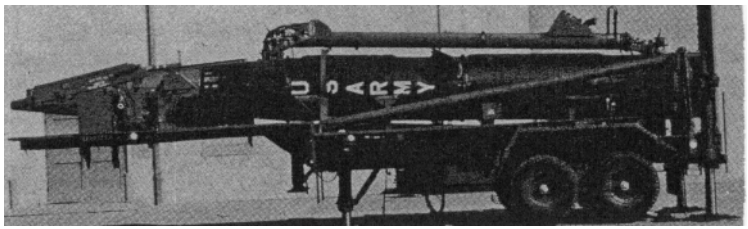
Battery Control Center

the assignment of one infantry battalion. Elements from this infantry unit provide physical security for each of the P1a battalions while the battalions are employed in the QRA role.

The Pershing 1a firing battery consists of three firing platoons, each capable of processing firing data and testing, assembling, erecting, and firing the missile. The firing battery also has the necessary equipment and personnel to support the firing platoons in communications, mess, survey, and maintenance requirements.

The Pershing ground support equipment within the firing battery includes one battery control central (BCC), nine erector-launchers (EL), three programmer-test stations (PTS)/power stations, and one radio terminal set AN/TRC-80. The ground support equipment is transported by two types of 5-ton vehicles—the M656 cargo truck and the M757 tractor-truck. These vehicles are powered by 210-horsepower, 6-cylinder, multifueled engines. They can be operated over all types of roads and highways at speeds up to 50 miles per hour and have a cruising range of 300 miles. Three M656 cargo trucks are used to transport the battery control central, a programmer-test station/power station, and the radio terminal set AN/TRC-80.

The battery control central is a modified expandible M4 van mounted on an M656 cargo truck. The BCC provides a centralized facility



Erector-launcher

for consolidation of all release communications and for battery command and control functions. The interior of the van is divided down the middle into two functional areas: the command and control area on the right side and the recording area on the left side. The command and control area contains the equipment required for conducting command and control functions. Equipment in the recording area is used for administrative and recording functions in support of command and control operations. Electrical power for operating the BCC is provided by a trailer-mounted 15-kilowatt generator, which is towed behind the M656 vehicle.

The erector-launcher is an equipment-mounted semitrailer towed by a prime mover tractor M757. The erector-launcher provides a platform for missile assembly, transports and erects the missile, and provides a level, stable platform for launching the missile.

The fast reaction time of the Pershing guided missile system is mainly the result of the automatic features incorporated into the programmer-test station. The PTS contains completely transistorized, self-verifying equipment. During system operations, the PTS functions as a mobile fire control center. It accepts targeting information, solves the gunnery problem, verifies the flight readiness of the missile, and presets guidance and warhead sections for flight. It can detect its own malfunctions, as well as those of the missile and ground support equipment. The PTS has the capability of testing individual missile sections,

Erector-launcher with M757

AN/TRC 80

less warhead, in their shipping containers, either individually or cabled together.

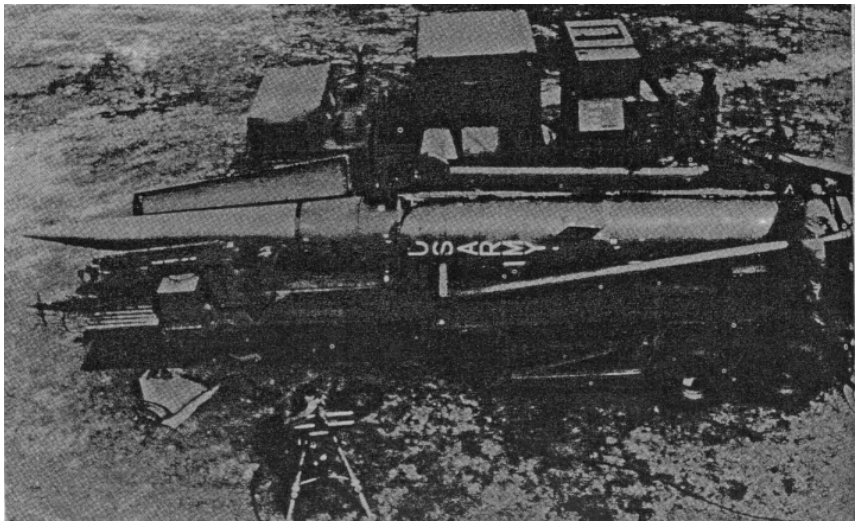
The power station provides all of the electrical and pneumatic power required by the Pershing missile and ground support equipment. The electrical outputs are 120-volt, 400-hertz AC power and 28-volt DC power. The pneumatic outputs are high-pressure air and conditioned air. The power for the outputs is provided by a high-speed, multifueled, gas turbine engine which operates at 42,000 revolutions per minute.

The radio terminal set AN/TRC-80 uses the tropospheric scatter principle of radio transmission. Tropospheric scatter transmission is a technique whereby very-high-frequency radio waves are directed to and reflected off particular points of the troposphere by the transmitting radio. These reflected radio waves are picked up by the receiving radio by means of a directional antenna, which is pointed at the same point in the troposphere. Since the tropospheric scatter process is very directional, it provides a high degree of immunity to jamming and interception. The AN/TRC-80 has the capability for simultaneous use of one duplex voice channel and one half-duplex teletype channel for point-to-point communications over a range of 100 miles. The radio can

be remoted at a distance of 5 miles. The radio is completely self-contained and includes a 10-kilowatt, 400-hertz generator located in a compartment in the rear of the shelter. Knowing the azimuth upon which to align the antenna and having the radio pretuned to the required frequency, a crew of three men can put the set into operation within 10 minutes after arriving at a position. The AN/TRC-80 provides secure reliable voice and teletype circuits necessary for the completion of Pershing's assigned mission.

In its quick reaction alert role, Pershing takes its place alongside the Navy's Polaris and the Air Force's Minuteman and Titan systems as a deterrent against aggression. In this capacity the Pershing units in Europe are assigned strategic targets upon which to maintain continuous coverage. This coverage is kept continuous through a systematic rotation schedule of the various firing batteries. These batteries locate themselves at preselected firing sites away from their home kasernes. The firing platoons within these batteries accomplish this 24-hour-a-day mission while performing normal training, operational exercises, and daily maintenance. Each of the battalion's four firing batteries spends approximately 3 moiths of the year in a field alert status at these preselected sites. Two of the remaining three firing batteries also have a strategic mission while on a garrison alert status within their home kasernes. The fourth firing battery is in a released configuration and performs maintenance on its equipment for the rotational period.

The battalion direct support maintenance platoon, within the service battery, consists of highly trained specialists in the ordnance, engineering, and signal maintenance fields. These technical specialists operate in contact teams.



BCC with EL

Transition to the new Pershing 1a system has brought about many changes in the Pershing system, such as the move from tracked vehicles to wheeled vehicles as prime movers; development in the state of the art which eliminated bulky electrical chassis and replaced them with solid-state, transistorized cards and modules; and installation of a new computer and adapter complex which allows self-testing, verification of the missile's flightworthiness, and malfunction diagnostic testing.

The development of improvements for the Pershing system is not complete; several programs are currently in the planning or development stage. One of these programs, the Pershing Missile and Power Station Development Program, involves changes in the missile, the power station, and the guidance and control (G&C) section. Many of the bulky, troublesome components of the current G&C section will be replaced. The new components will allow for a more reliable, trouble-free guidance section for the Pershing missile. In addition, components within the Power Station will be relocated to provide for a better maintenance capability.

The trajectory accuracy prediction system (TAPS) will allow a coded signal to be transmitted from the missile in flight to the battery control central vehicle. This signal will give the indication that the missile functioned properly and that warhead separation occurred as programed.

An automatic azimuth-laying device would eliminate the need for manual insertion of the firing azimuth through azimuth-laying procedures. It is envisioned that a north-seeking gyro system which would allow the proper firing azimuth to be entered into the missile's guidance control computer directly from the PTS can be developed.

The results of Pershing firings and firing exercises have proved to be so successful that consideration is being given to extending the life cycle of the system by further modifications to the present P1a missile system. The materiel needs document for these modifications is in the early stages of development.

Pershing has been, is, and will continue to be a major part of the nuclear deterrent shielding Western Europe in support of NATO.

Major John E. Bonner received an ROTC commission at Boston College in June 1959. He has served in a variety of field artillery assignments in CONUS, Europe, Korea, and Vietnam. Only recently he finished a tour of duty as chief of the R&A Branch, Artillery Weapons Department (formerly, Guided Missile Department), U. S. Army Field Artillery School. Presently, he is assigned to the 56th Artillery Brigade, USAREUR.

Systematic Troubleshooting

**by Byron L. Bowman*

Wouldn't it be great if someone came up with a new system for troubleshooting communications equipment? Actually, troubleshooting is the only maintenance task that is not fairly routine. Preventive maintenance follows routine instructions. Systems modifications and updating follow instructions in written and/or schematic form. Replacement of parts requires a certain degree of manual dexterity but is nevertheless a fairly routine procedure.

But troubleshooting is different; it calls for clear thinking, ingenuity, common sense and a logical working procedure. This is true regardless of how old or new an electronic device is or how complex or simple it may appear. Logically, the equipment's performance checklist should give indications or symptoms of trouble and a combination of these should denote exactly where the trouble lies.

A vital rule then is to observe and analyze. Using the systems analysis approach, a logical and systematic method of troubleshooting has been developed that helps meet the needs of a repairman working on any piece of equipment that is standard today or may come into the inventory tomorrow.

Step 1. Determine the symptoms of trouble in the defective device (symptom identification). Before attempting repairs, the maintenance man must learn as much as possible about the nature of the complaint and the symptoms of trouble displayed by the defective device. He can do this through interviews with the operator, preliminary inspections, and operational checks. The more information the repairman can gather, the more accurate his diagnosis will be and the sooner repairs can be made.

Step 2. Determine the defective section (sectionalization). Once the symptoms of trouble in the defective device have been identified, the repairman must interpret the symptom information to determine the section of the device in which the defect is located. To do this he must select key test points from which reliable information can be obtained regarding the operating capabilities and characteristics of the various subchassis or assemblies. From this he can determine which sections are operating correctly and which are not. Therefore, sectionalization means the tracing of the trouble to a major chassis or assembly within the defective device.

Step 3. Determine the defective stage, module, or circuit (localization.) Once the defective section has been identified, the repairman must interpret the symptoms in terms of the stage, module, or circuits in which the trouble is located. Here again, he must select key test points within the defective section. In addition the repairman must select the best procedure for locating the defective stage, module, or circuit using these test points, i. e.,

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signal substitution, signal disturbance, or signal tracing. Therefore, localization means tracing the trouble to a stage, module, or circuit within the defective section.

Step 4. Determine the trouble (isolation). After the defective stage, module, or circuit is localized, the repairman must isolate the defective part, i. e., tube, transistor, capacitor, resistor, etc. This skill is the most difficult for the repairman to acquire. For example, some of the things which a repairman must do while isolating the defective part are:

a. Interpret symptoms in terms of the part that could be defective.

b. Select check points and the test equipment to be used to check the condition of the part in question.

c. Determine what parts are being checked at a particular check point.

d. Determine what the correct reading should be at a particular check point.

e. Interpret the reading obtained at a particular check point.

Of course when the troubleshooting is completed the repairman must determine the corrective action to be taken. Initiating the proper corrective action may be considered a step in troubleshooting or a part of equipment restoration; in either case it is critical. The corrective action may include the replacement of a defective part or an evacuation of equipment to a higher category of maintenance. If the maintenance man performs the actual repair he should add one additional critical step—final testing. Once he solves one problem he must insure that others do not exist. Troubles may have existed but not been apparent until the other problem was eliminated. Only after thorough final testing is the troubleshooting procedure completed.

The beauty of this system of troubleshooting is in the simplicity and logic of progression. The system should provide the repairman with the plan he needs to effectively utilize his technical knowledge while troubleshooting his equipment.

The following key points should be committed to memory and can then be applied to each different situation as it arises.

SUMMARY OF TROUBLESHOOTING PROCEDURE

Determine the symptoms of the malfunctioning equipment (symptom identification)

a. Preliminary inspection (cables, control settings, etc.).

b. Operational check (equipment performance check list).

Determine the defective section (sectionalization of assemblies/chassis etc.)

a. Symptom analysis.

b. Measurements at key test points.

Determine the defective stage/module or circuit (localization)

a. Symptom analysis.

b. Signal substitution, signal disturbance, signal tracing, etc.

Determine the trouble (isolation)

a. Symptom analysis.

b. Tube checks.

c. Voltage measurements.

d. Resistance measurements.

After troubleshooting, choose the corrective action, repair it (if applicable) and final test the equipment to determine if any other troubles exist.

a. Within category of maintenance.

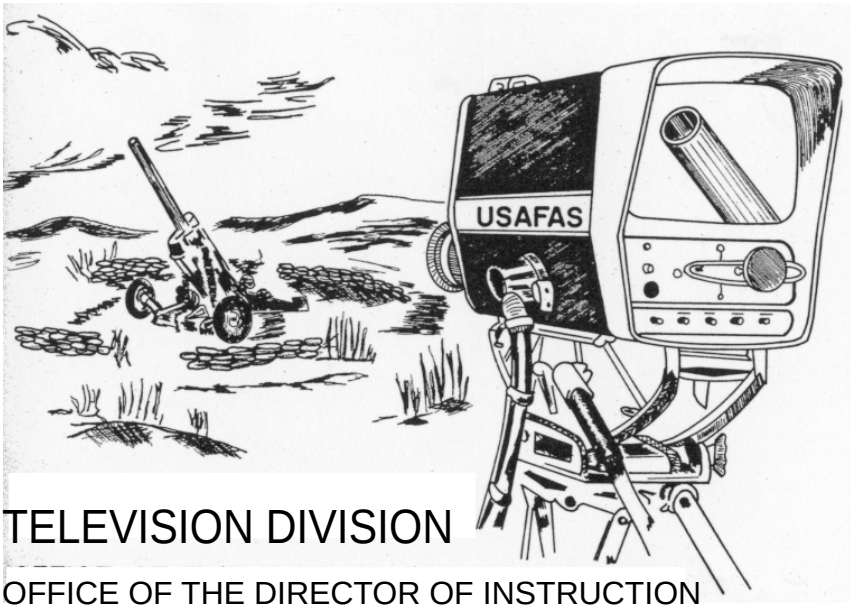
b. Outside category of maintenance.

c. Repair.

d. Final test.

Mr. Bowman is a Training Specialist in the Electronics Division, Communications/Electronics Department, US Army Field Artillery School (USAFAS), Fort Sill, Oklahoma.

If you will not fight for the right when you can easily win without bloodshed; if you will not fight when your victory will be sure and not too costly; you may come to the moment when you will have to fight with all the odds against you and only a small chance of survival. There may even be a worse case. You may have to fight when there is no hope of victory, because it is better to perish than live as slaves.—Sir Winston Churchill



TELEVISION DIVISION

OFFICE OF THE DIRECTOR OF INSTRUCTION

by 1LT Paul Bahan and 1LT Michael Seymour

Over the years, closed-circuit educational television (CCETV) has become an integral part of US Army training programs. As of this date, some installations in CONARC are equipped to conduct training through the video medium. Two of these installations are the U.S. Army Field Artillery School (USAFAS) and U.S. Army Training Center, Field Artillery (USATC FA), at Fort Sill, Oklahoma.

The Television Division, Office of the Director of Instruction, USAFAS, was created in 1965 and produced its first program in March of 1966. Since that time, the division has recorded more than 270 original productions. Currently, the USAFAS tape library consists of 462 programs with a total production value of $3,000,000. The difference between the number of original programs produced and the number of programs available in the library is due to the presence of many recordings which were dubbed, or copied, from tapes made at other installations.

The Department of the Army, through FM 21-6, **Techniques of Military Instruction,** recognizes two general methods of applying television to programs of instruction.

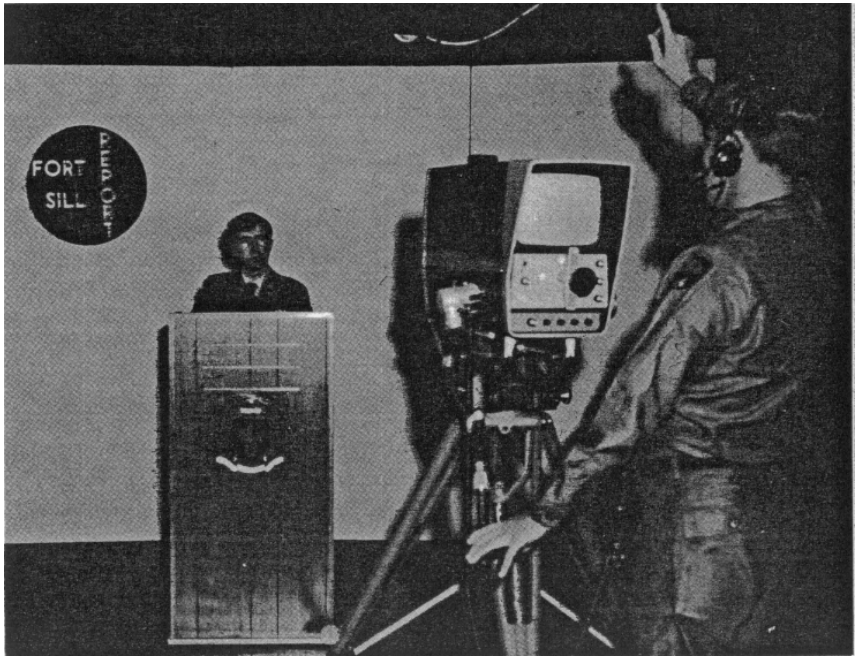
First, television can be used to carry the entire instructional load. In this application, all of the information delivered to the student comes to him by means of television. This method is referred to

as "total television." Statistically, it has been proved to be at least as effective as conventional, live instruction.

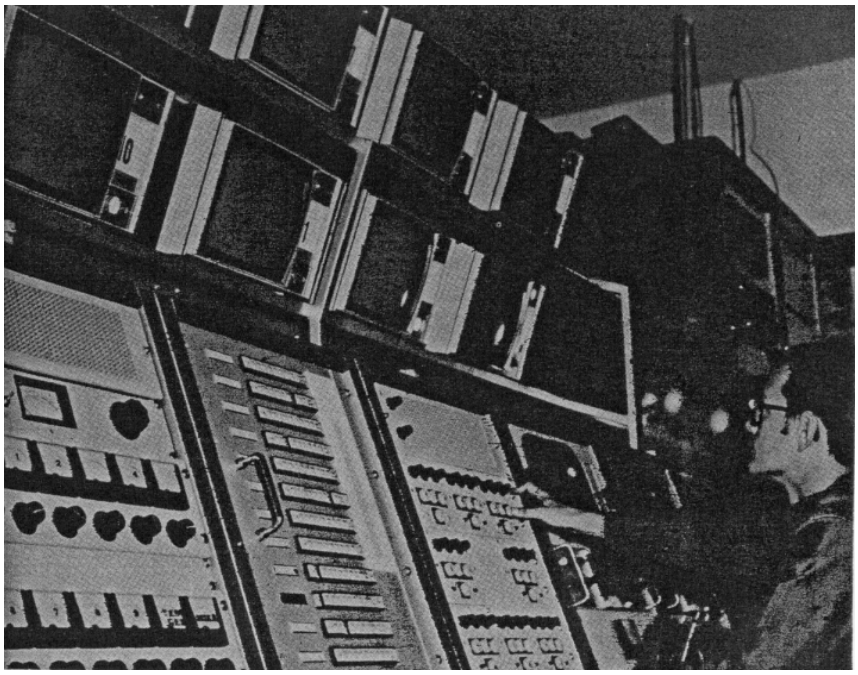
Second, television can be used as a supplement to live instruction. This method incorporates significant amounts of prerecorded training material into a standard classroom presentation. This method is employed in the great majority of USAFAS/USATC FA training situations. In about 90 percent of those cases where CCETV is used to any signifcant degree, it is applied to a course of instruction as a supplement to conventional instruction.

The CONARC educational television network is based on the area support concept. There are 13 regional production centers, each of which produces new programs for itself and for other training installations within its region. This method of support is facilitated by mobile production vans, which are equipped with all of the equipment necessary to photograph, edit, and reproduce complete television programs in the field.

The number of programs produced has greatly increased over the past 4 years because of the ability, through use of the mobile vans, to complete programs with relative speed and to the exacting specifications of the proponent at the production site. To date, there are over 3,000 titles in the CONARC ETV master catalog.



Vidicon Monochrome Camera In Use



Switcher and Director's Console

This fact points up an important aspect of the operational character of the CONARC ETV network: the capability to freely exchange instructional material on tape. All of the tape machines in the system are electromechanically compatible. This capability has resulted in a growing exchange of ideas on instructional techniques between service schools. When the DOI Television Division was organized in December 1965, the initial personnel strength was 14 military and 1 civilian. Presently the division consists of 3 officers, 32 enlisted men, and 11 civilians and it is equipped with one mobile van and one fixed plant studio.

The studio, located in Knox Hall at Fort Sill, is equipped with three vidicon monochrome cameras which possess fixed focal length and zoom-type lenses. The heart of the studio operation is a device called the switcher, which is located on the director's console. While recording a production, the director can sit at his console and view shots from each camera on a bank of monitors located above him. Then, by using the switcher, he may select the different camera shots he desires or film the segments he requires and insert them into the recording.

Also at his command is an expanded special effects generator through which the director may combine pictures from two or more cameras. The studio also possesses

Mobile Television Production Unit

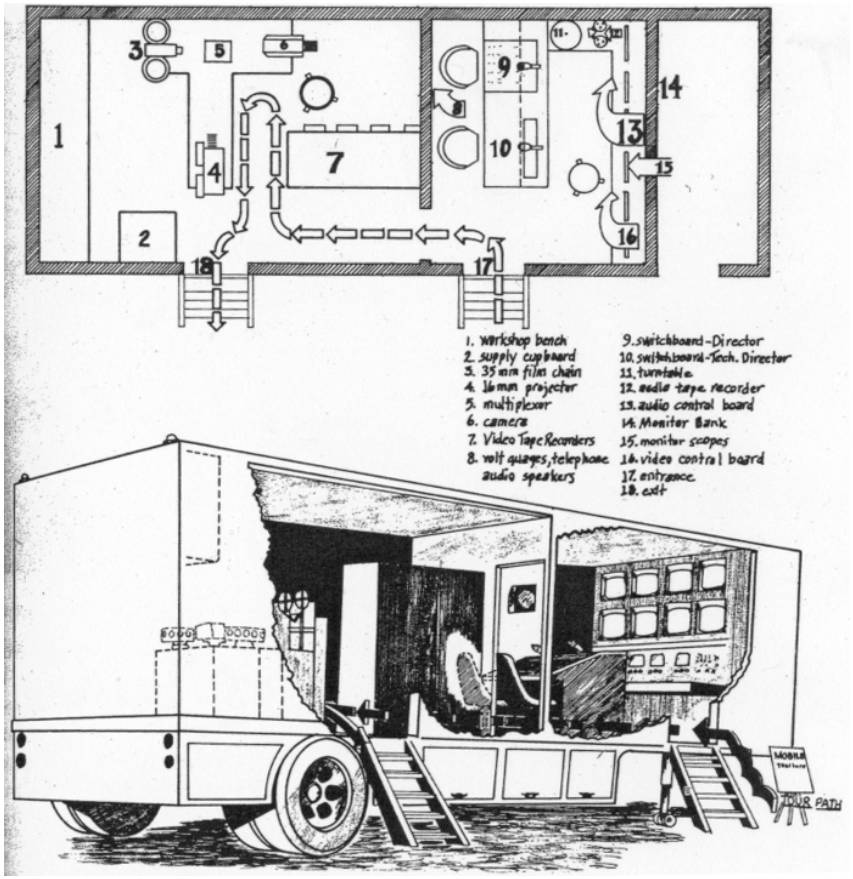
complete audio facilities, which provide controls for a large combination of microphones, turntables, audio tape decks, and remote audio signals.

The mobile production van, CONARC mobile television production unit number 7, has all the capabilities of the fixed studio plus the added advantage of mobility.

The interior of the television van is divided into two parts. The forward portion is the production compartment. This compartment houses the switcher, a series of monitor banks, a complete audio system (including microphone inputs), a turntable, an audio tape deck, and three vidicon monochrome camera control units through which video signals are adjusted.

The recording compartment is loacted at the rear of the van, where the video tape recorder and the video tape playback machines are operated. The playback machine allows the director to insert, at any point in his production, video material which has been previously recorded. The van, like the studio, carries a complete film chain, possessing 16-mm motion pictures and 35-mm slide capabilities.

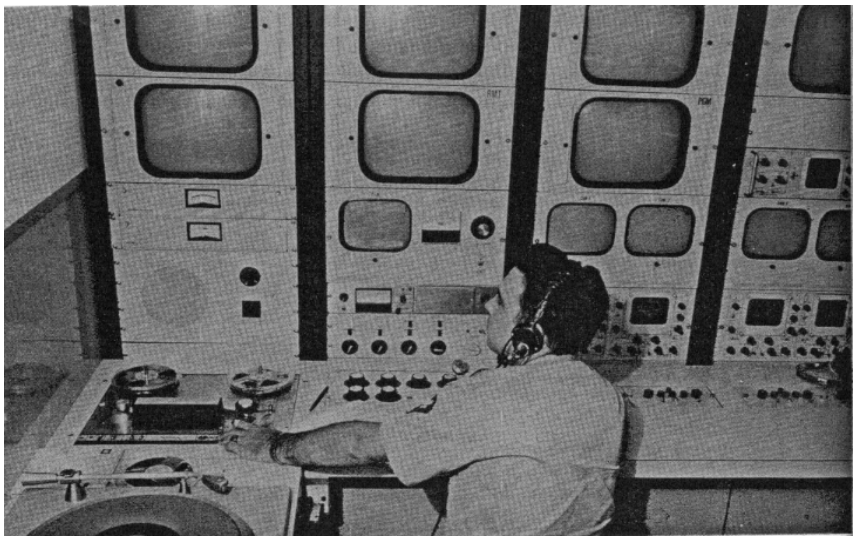
The power to operate all of this equipment is supplied by a 75-kilowatt generator. The van is air conditioned and centrally heated to provide an optimum temperature and humidity environment for the production of television tapes. The cost of the mobile production van is $285,000.



Inside Mobile Unit

A playback operations center, also located in Knox Hall, provides program material to the classroom and is equipped with eight video tape playback machines and one motion picture projection system. Instructional programs are transmitted over an eight-channel closed-circuit cable distribution system to 595 receivers in 104 classrooms in the USAFAS and 89 classrooms in the USATC FA. In addition, programs can be transmitted to 146 dayrooms and conference rooms which are wired for TV. Aside from this, Fort Sill is one of the few military installations which possess the capability to transmit to all on-post housing. Through the post community antenna system, seven commercial channels can be retransmitted to housing areas throughout the installation.

The mission of the DOI Television Division is to support both the USAFAS and the USATC FA with closed-circuit television production and video tape playback facilities. USAFAS is also designated the CONARC regional production center servicing the U. S. Army Primary



Mobile Director's Console

Helicopter School; U. S. Army Training Center, Infantry (Fort Polk); U. S. Army Command and General Staff College; and U. S. Army Medical Training Center. Additionally, this center provides mobile television support to other organizations west of the Mississippi River when directed by CONARC.

The Production of Television Tapes

The proponent academic department or organization is responsible for initiating requests for the production of educational television programs. Individuals within the department, recognizing an application for educational television in a period or program of instruction, will develop the concept and submit it for consideration to the department director or to the commander of the requesting organization.

After a requirement has been established, informal coordination is conducted with the DOI Television Division to determine whether production of the proposed television program is feasible. This is the point at which the television writer enters the picture. The writer observes the existing instruction, interviews the instructors regarding the subject matter, examines all pertinent training literature available on the subject, and establishes an instructional objective in coordination with the proponent.

The writer then prepares a treatment or an outline of the TV program. From this outline, the writer prepares the script, which is coordinated with the Educational Services Division of DOI, the proponent department, and the DOI Television Division. Upon approval by the department director or requesting agency, a final copy of the program script is prepared and forwarded

through the Educational Services Division to the Television Division, with a request for production of the program. When the request is received by the Television Division, a TV director is assigned and a tentative production date is scheduled.

The director then studies the script and makes the necessary production preparations. When the program is completed, a critique of the product, attended by members of the proponent department, is held.

Following the critique, final approval of the program is obtained and a request is made for a copy, or dub. The dub is placed in the tape library and the program is ready for tarnsmission at the request of the organization. This completes the process, though it represents just one of the several operations of the Television Division.

As of July 1970, this division along with the other CONARC ETV centers, was assigned the additional mission of producing category I training films. Most of the training films will be photographed on video tape for speed and economy of production and later will be transferred to 16-mm film, via the kinescope or electron beam recording process, for Army-wide distribution.

Another segment of the USAFAS CCETV operation involves the use of 1-inch helical scan portable video tape playback machines. USAFAS will soon have 18 of these machines in operation. The system is used in the classroom in much the same manner as a conventional tape recorder. One playback unit is capable of operating up to 10 TV receivers or monitors. Because the unit has a minimum number of controls, it is very easy to operate. The instructor may start or stop a program when he desires. The instructor is able to instantly still frame the tape, in stop action, to make an explanation or answer a question. If the students fail to grasp any of the subject matter, the tape can be rewound to repeat, or provide instant replay of, any segment in question.

Another type of equipment currently in use at Fort Sill is the video trainer system. Used for on-the-spot critique of instructor performance, the video trainer is a highly mobile, completely self-contained system with a console capable of recording and playing back audio and video. It is equipped with a camera, a microphone, a 9-inch television receiver/monitor, and a complete audio system. Like the instructor-controlled playback machines, the video trainers are operated with a minimum number of controls and are therefore easy to operate, even for inexperienced personnel.

This has been a brief over-view of the various facets of television at USAFAS. There is a common tendency to regard the use of television as a new development in Army training, but the fact of the matter is that field artillery units first appeared before video cameras at Fort Myer, Virginia, in 1938 and the Signal Corps first used television in training technicians at Fort Monmouth in 1948. From those early

experiments at Fort Monmouth to the multichannel sophisticated training support system at Fort Sill today is a long journey which spans 23 years and the maturation of a concept. The future holds the promise of the integration of CCETV with computer-assisted instruction, portable video cassete playback units no larger than a shoebox, and conversion of all equipment to full color capabilities. Television is a malleable medium and the field artillery is devising unique ways in which to use it to meet the training support requirements of today and tomorrow.

First Lieutenant Paul E. Bahan received a B. S. degree in radio and TV and an M. S. degree in acting from Southern Illinoiis University. He attended Officer Candidate School at Fort Sill and was commissioned in June, 1970. He is presently assigned to the TV Division, Office of Director of Instruction, U. S. Army Field Artillery School, as a production specialist/writer. First Lieutenant Michael M. Seymour obtained a B. A. degree in American history and broadcasting from Florida State University. He also is a graduate of Field Artillery OCS and is assigned to DOI as a production specialist/writer.

ESTABLISHING THE NO-FIRE LINE

The current FM 6-20-2, **Field Artillery Techniques,** states that the location of the no-fire line is established by the direct support field artillery battalion commander in coordination with the supported unit commander. This statement implies that the direct support field artillery battalion commander is responsible for the establishment of the no-fire line. That is not correct. Responsibility for the establishment of the no-fire line and other fire support coordination and limiting measures rests with the supported unit commander. The reasoning behind this statement is based on the fact that the field artillery commander wears two hats. He is a commander and a special staff officer for the supported headquarters. In the latter capacity, he advises the force commander on all fire support matters. Part of this advice includes the **recommended** establishment of fire support coordinating and limiting measures which will expedite the attack of targets and insure the safety of friendly troops and installations. The point to be made here is that as a staff officer, the field artillery commander **recommends,** the force commander **makes the decision.** Current Field Artillery School publications and the soon-to-be published FM 6-20 (which combines FM 6-20-1 and FM 6-20-2) will reflect that the establishment of the no-fire line is the responsibility of the maneuver commander.

Demon of Death

by LTC Jack B. Farris, Jr.

Shortly before daylight on the morning of 29 August 1970, an NVA battalion entered a valley in northern II Corps, Republic of Vietnam. They entered from the south and marched confidently along the road toward a rich rice-producing area, where they were to occupy mountainous base camps while conducting operations against district forces and replenishing their supply of rice. As the battalion moved up the road, the rear of the column was suddenly hit by a barrage of 4.2-inch and 81-mm mortar fire. Not realizing that their movement was being observed, the enemy battalion moved on until, minutes later, the head of the column was shattered by barrages of 105-mm howitzer, 4.2-inch mortar, and 81-mm mortar fire. Since it was now obvious to the enemy battalion that their movements were being observed, they fled in groups of two and three to the obvious safety of the mountains to the west of the valley floor. However, as they fled, artillery, mortar, and quad 50 machinegun fire pursued them and blocked their routes of withdrawal.

At first light, a reaction force of cavalrymen began a sweep of the valley floor. Blood trails leading west into the high ground, and the dead and wounded that the enemy were unable to remove, proved the accuracy of the barrage. The cavalry troop found six enemy KIA and captured one wounded enemy, one AK-50, one 60-mm mortar, one courier pouch, 14 rucksacks, and numerous items of individual equipment that had been discarded by the fleeing enemy soldiers. The helicopters of the air cavalry troop attempted to regain contact with

the disorganized force but were unable to locate it. They confirmed that trails led into the mountains and that individual equipment and sacks of rice were scattered along these trails and in the mountains.

On 3 September a wounded enemy soldier, captured in the mountains near the valley, confessed that the toll in enemy dead and wounded had been great. On 2 October a wounded rallier said that his company executive officer had just recently died from wounds sustained during the march up the valley, and on 13 October still another rallier admitted that he, too, had been wounded during the same action.

How badly was the battalion hurt in this engagement? The fact that not a single significant action was conducted by this battalion after 29 August indicates that it was hurt severely. This blow against the enemy was dealt by only a small group of highly motivated airborne soldiers operating from a Fire Support Surveillance Base (FSSB).

Every commander has wished at one time or another that he had more troops with which to accomplish his mission. Today's modern arsenal of weapons and target acquisition systems provide unlimited opportunities for the commander to employ the economy of force principle, thereby freeing his ground troops for other missions. The FSSB is an economy of force measure employing a target asquisition system and immediate fire support in an interdiction role. Many factors influenced the establishment of this FSSB, from which operations based on a new concept of interdiction severely hurt and bewildered the enemy.

Intelligence plays a vital role in the decision of where to locate the base. Evaluation of the enemy situation in and around the valley in July and August indicated its importance to the enemy as a close-in base area and principal route of travel, seldom interdicted by allied forces. The valley was a natural, easily traveled corridor. It provided easy access to the north from a traditional resupply base. It was the only highspeed north-south route in the area that was not under GVN control. There were also east-west routes leading through the valley from other well-used resupply bases. Between June and August, combat support elements of the parent NVA unit and local VC force units were reported to be in this valley. Many of these units were in base camps around the valley floor and on the mountain slopes surrounding the valley.

Reconnaissance teams were inserted into the valley to confirm reports of enemy movements and to locate trails on the ground. After 45 days of patrolling, positive identification of these trails was made, enemy traffic was recorded and analyzed, and construction of the FSSB was begun. The FSSB was conceived as a total interdiction base that would integrate sensors, radar, and other target acquision means with a famliy of direct and indirect fire support systems.

The basic target acquisition device of the FSSB is the unattended ground sensor. The sensors are planted in strings, which has important advantages: The operator is able to determine the direction of movement, size of the force, and

length of the column. However, before sensors are permanently emplaced, a temporary sensor field is implanted to confirm information on enemy movements. Wherever confirmation is obtained, sensors are permanently installed, which can then provide accurate information on enemy movement. Once the direction of enemy movement has been determined, mortar and artillery fires can be planned on a predetermined sensor further along the string. When that sensor is activated, fires can immediately be brought onto it.

A mix of sensor types is used to eliminate erroneous readings and to verify readings for more accurate intelligence data. The basic sensor is seismic, and, if used alone, would be of questionable value. Therefore, acoustic and magnetic sensors are mixed in the sensor string to produce more valid data. NVA soldiers talk while they move, and their conversations can be monitored by the acoustic sensors. Voices around the sensor indicate a positive target and are a boost to the operator's moral. The magnetic sensor will detect weapons and other metal equipment carried by troops. The three tyes of sensors complement one another and, collectively, decrease the likelihood of error in confirming an enemy presence in the sensor field.

The sensors are planted by air and by hand. (Hand-planted sensors are preferred, since their exact location is known and they can be positively concealed.) Precise location provides for accurately placed fires and the capability to relocate and recharge the sensor.

An essential component of the FSSB is the PPS-5 Radar. The PPS-5 is able to cover that part of the kill zone not monitored by sensors. In addition, it confirms readings provided by the sensors and, by maintaining contact with the target after it leaves the sensor field, it provides polar coordinates of the target, the number of personnel, and their direction and rate of movement. Also, mortar and artillery fires can be accurately adjusted by radar during hours of reduced visibility. Since most targets are engaged at night and because sensors may provide erroneous readings, the PPS-5 is an integral, complementary part of the system.

The TVS-4 night observation device and a set of 20-power naval binoculars provide another means of confirming and maintaining contact with targets. Since all sensors require line of sight to the FSSB, visual contact with the area around the sensors is possible. Use of each target acquisition means—sensors, radar, and optic devices—provides positive identification and contact with the target until it exits the kill zone.

Once a target has been detected and confirmed, it must be engaged immediately. The primary weapons of the FSSB are the organic mortars of the infantry battalion. The 4.2's and 81's are responsive, can maintain a high rate of fire, and can be quickly shifted as the target moves about the kill zone. These same characteristics apply to the 105-mm howitzer, an excellent direct support weapon, whose Improved Conventional Munitions are particularly effective. Registration of mortars and artillery on all sensor fields is required to insure effective engagement of the target. Since time is

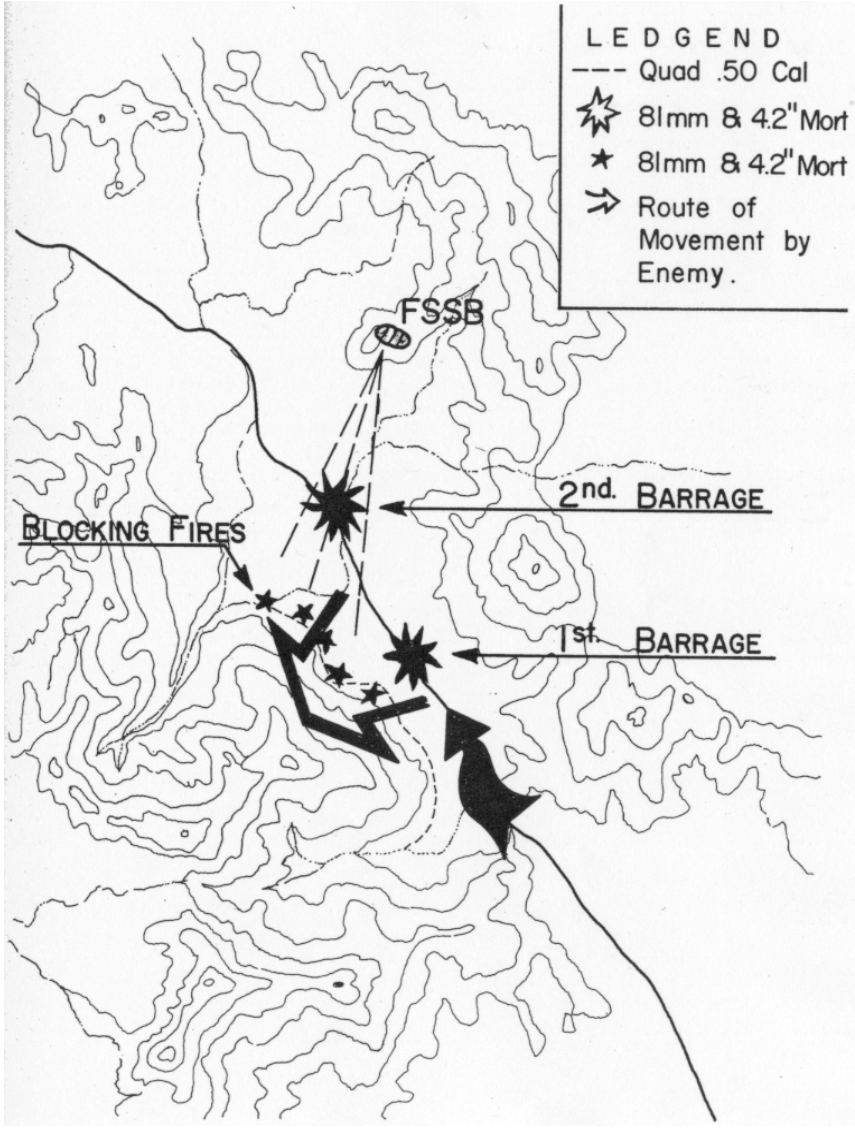
of the essence, data must be preplanned, updated regularly, and made available to each gun. All sensors are numbered to provide easy reference to gun data already plotted. A quad 50 machinegun provides a direct fire capability to engage targets near close-in sensors, to canalize enemy movements, and to engage him as he flees the kill zone. The psychological effect of the quad 50 is an added bonus.

The organization of the FSSB allows for rapid reaction to confirmed targets and for adequate base defense. Located in the tactical operations center (TOC), the nerve center of the base, are the sensor monitoring devices, radar scope, and optic devices. Collocation of these target acquisition devices insures rapid comparison of readouts and confirmation of targets. Additionally, the mortar FDC's are also located in the TOC to facilitate instant dissemination of data to the guns. Information is quickly and freely exchanged between all elements to speed the process of detection, confirmation, and engagement of targets.

The action in August occurred shortly after the construction of the FSSB and proved the validity of the concept. As the enemy column entered the valley, the southernmost sensor was activated and transmitted data for about 20 minutes. A sweep by the PPS-5 confirmed what was suspected— an enemy column was moving north in the valley. The decision was made to engage the rear of the column in the hope of getting a second try at the head of the column. The rear was hit with mortar fire, and, as expected, the remainder of the column moved on. The radar continued to track the enemy, and additional sensors began activating. By this time the night observation device had picked up the activity. As the head of the column activated a predetermined sensor, the column was halted in its movement by 105-mm howitzer, 4.2-inch mortar, and 81-mm mortar fire. After this barrage, the PPS-5 and night observation device confirmed that the enemy was fleeing to the west. Quad 50 fire pursued the fleeing enemy, and mortar fires blocked his escape to the west. Contact was maintained until the enemy left the kill zone for the safety of the mountains.

This is a vivid example of the FSSB in action, using all of its resources to bring fires to bear on the enemy. Sensors, radar, and optic devices identified and confirmed the target; mortars, artillery, and quad 50's engaged it; and radar and the night observation device maintained contact until the enemy left the kill zone.

After the FSSB was established, its capabilities were used to complement the battalion's saturation ambush operations in the valley. Successful saturation ambush operations require that the ambushing element infiltrate into the area undetected (during the hours of darkness) and establish a position along a known enemy trail. Ambush positions in the valley were set up along sensor fields capable of detecting enemy moving toward the ambush. The FSSB could then provide the ambush commander information concerning the number, direction and rate of march of the enemy, and possibly the disposition of enemy elements in the column. This early warning and information about the approaching enemy gave the ambush commander



Sketch of battle area

time to alert the entire force and to determine how best to ambush the column. The number of the enemy and their disposition in the column were of particular importance. With this knowledge, the ambush commander was able to initiate his ambush when the maximum number of enemy were in the kill zone. After initiation, the FSSB was able to determine the direction of flight of any surviving enemy personnel, and to pursue them by fire or alert other ambush elements to maneuver in and cut off the enemy retreat.

Operation of the FSSB also included increased psychological operations (PSYOP). The theme has been "Chieu Hoi or be killed by the Demon of Death." A leaflet was designed to depict a traditional Vietnamese demon living in the valley. The narrative states that the demon sees all movement in the valley and will kill all intruders. Thousands of these leaflets have been dropped in and around the valley. As added impact to the leaflets, broadcasts were made from the FSSB, addressing groups of enemy soldiers detected in the valley. They were told that the demon was watching, and then their movements were described in detail. As mortar rounds slid down the tubes, they were told the demon was going to strike. After the initial impact, they were told there was no hope of escape. As they attempted to flee, the mortars fired. Maximum efforts was made to capitalize on traditional Vietnamese fears and superstitions. The PSYOP campaign produced two ralliers who stated that the enemy was uncertain of what was taking place in the "Valley of Death."

What accounts for the success of the FSSB? First, a detailed study was made of the valley to determine the enemy's habits and routes of movement. This was followed up by insertion of recon teams and emplacement of temporary sensors to confirm routes of enemy movement and the feasibility of monitoring these routes from the FSSB. Only after routes of enemy movement were definitely confirmed were sensors permanently planted in mixed strings along the valley floor. This detailed analysis avoided haphazard scattering of sensors along the valley. Secondly, the PPS-5 radar and optic devices were used to confirm sensor readouts and to permit continuous contact with the target until it left the kill zone. These devices also provided for the adjustment of mortar and artillery fire during hours of reduced visibility. Finally, fire support was available to engage targets immediately. All these assets were brought together in a TOC, under one commander, and fully integrated into the entire system. This is the concept of the Fire Support Surveillance Base—proved and tested in battle.

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Modern Volunteer Army

by 1LT Jonathan H. Fussner

The Modern Volunteer Army (MVA) is becoming a reality. But what is the MVA? Opinion is divided. The Army Chief of Staff, General William C. Westmoreland, explains it this way (in an Army-wide Guidance to Officers, 7 April 1971): "Our goal is to attract and retain enough good men to enable reducing draft calls to zero. Moreover, we must produce a better Army—one with greater pride, enhanced professionalism, and increased capability—an organization that men of quality will want to join and serve in for a career."

But some view this program as a mistake of mild, serious, or even catastrophic dimensions. A few critics fear the creation of an independent corps of Prussian-type militarists, isolated from civilian life and loyal only to their profession. Many critics within the military, however, fear precisely the opposite. They feel the MVA program is weakening discipline within the Army and introducing debilitating comforts, a "questioning attitude," and far too many rights and privileges for soldiers. They see the MVA eroding the Army's traditional strengths: obedience to superiors, aggressive spirit, physical toughness, and willingness to put up with the unpleasant and inequitable aspects of military life. Many of these critics think that cutting back on the size of the Army and ending the draft are being pushed, not because they are in the best interests of the country or of its defense, but because of political and social pressures—the antimilitary backlash from the Vietnam war, the inevitable military budget-cutting which seems to follow the conclusion of every conflict, and the widespread feeling that a strong defense is not necessary in what President Nixon calls "an era of negotiation, not confrontation." These kinds of criticisms are all motivated by one underlying concern—that the MVA policy may weaken the nation's military strength. To quote Major General Walter G. Johnson, Adjutant General of Mississippi (in a letter to **Army** magazine, June 1971): "The military system of America is being subjected to experimental change. These changes are being instituted in the name of making the military more acceptable to the young, rather than for the good of the country. Many are both unwise and fraught with danger. I cannot correlate how this era of permissiveness and lack of discipline can make the Army, the Navy or the Air Force more effective as fighting forces . . . "

There are aspects of the Modern Volunteer Army program which lend support to both of these attitudes. The MVA concept suffers from the inevitable confusion and inconsistency inherent in any new undertaking, with the result that many misunderstand its goals or support it without enthusiasm. Some of the difficulty lies in the fact that many of the new

improvements in Army life and customs, which would have occurred anyway because they are sensible and overdue, are being accomplished concurrently with (and are being confused with) entirely different changes designed primarily to attract volunteers. An example is the Army's "Madison Avenue" advertising campaign, which promotes the image of the "now" soldier—freed from KP, wearing long hair, choosing his own assignment in Europe, and sipping beer in his psychedelically resplendent barracks. This is clearly a public relations undertaking only, having no beneficial effect upon actual Army operations. (Although the evaluation of the program is not yet complete, it is entirely possible that it has had a detrimental effect, by encouraging the enlistment of personnel who expect an easy life in the military.) This type of effort stigmatizes the entire MVA idea in the eyes of many, although the program also includes some very substantial improvements to the Army system—such as increased pay, the attempt to more effectively match civilian skills and Army MOS's, and heightened emphasis on professionalism.

The MVA, then, is a goal which has two distinct parts: one, to encourage a disciplined, skilled, ably managed, and highly motivated Army; and two, to reduce reliance on the draft to zero. While these two goals may not be entirely compatible, they have been given to the Army. It is not the first time it has been given a difficult mission—nor the first time that the American people have reduced the Army's resources and freedom of maneuver while pressing for successful results. The Army, with the traditional military spirit, has accepted the mission and is striving energetically to accomplish it.

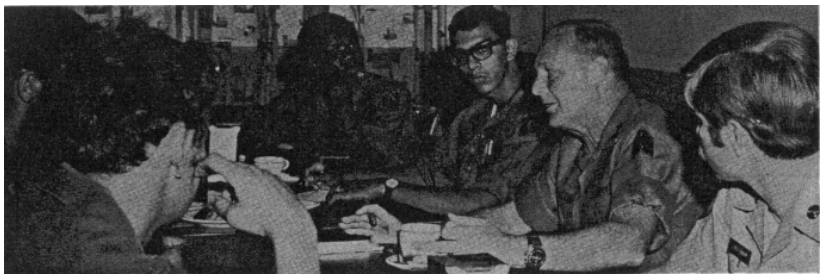
How is the MVA concept being implemented? The first stage began in November 1970, when Lieutenant General George I. Forsythe, Special Assistant to the Chief of Staff for the Modern Volunteer Army, began plans to designate three forts—Carson, Ord, and Benning—as test posts in Project VOLAR. Under the VOLAR program, each post received five million dollars to assist it in planning, undertaking, and evaluating innovations which will contribute toward the goal of an MVA. Out of Project VOLAR have arisen many new ideas and approaches to improving the Army and inducing soldiers to re-enlist. Actions which the posts instituted or studied range from relatively minor changes (such as referring to enlisted men as "soldiers" rather than "EM," eliminating the required wear of military headgear in privately owned vehicles, and dispensing with company level sign-out requirements) to major programs requiring expenditure of substantial funds and planning effort (such as establishing night club facilities for soldiers on post, hiring civilians for KP and garbage collection jobs, and constructing partitions in barracks). The second stage of Project VOLAR began in March 1971, when 12 other pilot posts (including Fort Sill) were added for fiscal year '72.

It is important to bear in mind the distinction between VOLAR and MVA. The MVA—a modern, volunteer Army—is an ultimate goal or concept. The President and Congress have made this goal clear: the draft

will be eliminated and the Army will obtain its manpower entirely by attracting volunteers. The target date for attaining the goal is 1973. Implied in the MVA concept is the modernization of Army methods and policies, both in order to better attract volunteers, and to insure that the Army maintains its effectiveness at the highest possible level. This updating will affect two areas. The first is equipment and technology. The improvement of weapon systems and other materiel is a familiar and continual process which needs little elaboration here. Second, but no less vital, is leadership. Leadership concepts within the Army do not change as frequently as hardware items, but they are now in a period of change because of the MVA. Leadership is going to employ more extensively the techniques of psychology and social science, and to become more "people oriented." Both leadership and technology must be improved if the Army is to accomplish its mission of becoming an MVA. How it accomplishes this mission depends on the particular programs and actions undertaken by the chain of command. Project VOLAR is simply the biggest and most visible program helping to bring about the MVA. Project VOLAR is a series of experiments being made at each of the VOLAR posts mentioned above. The results of each VOLAR change are closely monitored and analyzed. Many changes result in improvements which are adopted by other units and posts. Of course, Project VOLAR is not the extent of MVA activity. Every unit and installation in the Army is expected to implement its own improvements within the limits of its resources. Army-wide policy changes, recruiting efforts, and other developments also play a part. However, the VOLAR posts provide an excellent opportunity to observe the MVA as it is brought into being.

Throughout all the MVA-oriented activities run a few central themes. One such theme is "individuality." The MVA effort marks a shift of Army emphasis to the individual. In many VOLAR improvements there can be seen the attempt to deal with the soldier as a unique person rather than as a cog in "the green machine." Partitions in barracks, for example, make for greater privacy and a sense of individuality. Greater latitude in decoration of living areas and wear of civilian clothes off duty allows the soldier to express his own personality. Perhaps more productive in the long run will be the attempts to consider individual preferences and skills when assigning duties and MOS's.

Another idea to which the MVA is closely tied is "communication." Commanding generals holding rap sessions with troops is its most obvious manifestation, but the importance of communication extends beyond the highly publicized examples. Communication of many kinds is being encouraged—from low-ranking soldiers up to their company commanders, between white and minority-group soldiers in human relations seminars, between junior and senior officers, and between young soldiers and older NCO's. The idea behind all this is to insure that superiors are aware of the feelings of their men, and that subordinates are aware of the reasons why certain things are required of them.



MG Roderick Wetherill raps with Junior EM Council

Communication is the key to implementing other MVA goals. For example, the Office of Personnel Operations is now making a greater effort to contact personnel in order to learn their assignment preferences and special interests. This may contribute not only to more effective allocation of manpower but also to increased retention of personnel who are pleased with the way the Army has considered their individual needs.

A third hallmark of the MVA could be called "elimination of irritants." The purpose is to improve morale (and increase voluntary reenlistments) by removing some of the things about which soldiers complain: cumbersome sign-out procedures for passes, requirements to salute officers' auto tags, poor entertainment facilities on base, needless bedchecks, and menial work details. The VOLAR posts and many others have eliminated some or all of these, and Army-wide policies are changing in the same spirit. The old haircut regulations, which some soldiers considered a source of irritation, were recently liberalized as part of this trend. Removal of irritants is the kind of action almost any Army unit or installation can take—often at little or no cost—to participate in the drive for an MVA.

Another concept emphasized in the move toward the MVA is "responsibility." Without this element, the MVA would indeed be vulnerable to critics' charges that it is a "giveaway" program, for it would consist primarily of more privileges and freedoms for soldiers. MVA supporters insist that these will be balanced by a greater demand for maturity, judgment, and integrity on the part of each individual. Rather than provide excuses to loaf or avoid discipline, the new freedoms will afford opportunities to display responsibility, and thus will build a more confident, self-reliant, and professional Army. The removal of distance restrictions and signing out for passes, for example, puts the burden upon the individual to use common sense in distance travelled, and to be punctual in returning. Those implementing the MVA are trusting, in effect, that soldiers will react like reliable adults when given new freedoms. Their expectation is based on more than simple faith, largely as a result of Project VOLAR. One byproduct of VOLAR will be an understanding of how much responsibility, and of what kind, the Army can reasonably expect from its soldiers. If beer in the barracks leads to a rise in drunkenness and fighting, the policy can be rescinded. The

experimental nature of many Project VOLAR changes should be a guarantee that laxity and license will not follow in the MVA's wake; if personnel cannot accept certain responsibilities, the programs in question can be ended. Training and counseling—with emphasis on the individual and on improved methods of communication—will be employed to equip soldiers to handle increased responsibilities. "Counseling" was undoubtedly given to the soldiers who surprised their Fort Benning commander recently. Having given free rein to the men to decorate their quarters (provided they observed good taste), "he was appalled during an inspection tour to discover that some of the occupants felt that splashy wall displays of hard-core pornography did not violate the guideline the commander had laid down."

Changes are clearly taking place in the Army as it responds to the challenge of MVA. What, specifically, will the impact be on the field artillery and field artillerymen? The most obvious effects will come from Army-wide policies, such as pay increases, which apply to everyone—from Div Arty commanders to number four cannoneers. Next to these changes, field artillerymen will be most affected by innovations within their units. Individual commanders down to battery level will be given greater leeway to set policy, supervise their troops, and conduct training. The MVA will come to each unit at a different pace and in a different way, depending on the unit's mission, its commander, whether it is stationed at a VOLAR post, and other variables. Finally, the field artillery will be affected by developments at Fort Sill, Oklahoma, the "Home of the Field Artillery." Virtually all redlegs pass through Fort Sill sooner or later, many for extended tours. Changes which take place in the Field Artillery School, III Corps Artillery, and the other field artillery organizations on post, will have a continuing effect on the field artillery branch as personnel circulate through Fort Sill and out to other units.

Fort Sill is now one of the VOLAR posts. In addition, it is the home of one of the three combat arms, which are special targets of Project VOLAR. Consequently, Fort Sill has initiated an extensive program of improvements and changes in pursuit of the MVA goal. In the words of Major General Roderick Wetherill, post commander: "As pertains to our efforts at Fort Sill, we will, of course, give wholehearted support to both the letter and more importantly the spirit of the Modern Volunteer Army program. Lest recent more glamorous and superficially stimulating measures warp perspectives, the following general priorities will govern our efforts during my tenure. Within the established chain of command we will:

- Develop pride, esprit, and a sense of individual importance to mission in every individual and unit.
- Improve conversational communication between and among all ranks and grades.
- Improve physical surroundings and those things known as creature comforts. This includes the elimination of unnecessary irritants, as well as improving service rendered by applicable post agencies."

Many VOLAR measures are already in effect at Fort Sill. Those which will be felt most widely throughout the field artillery include:

- Review of training requirements to attain desired levels of excellence with less repetition and greater use of concurrent training. Reduction of mandatory training to the absolute minimum required.
- Institution of a 5-day work/training week to the extent that operational considerations permit.
- Elimination of requirements for issue of the armed forces liberty pass, signing in and out, bed checks, and locally imposed distance restrictions.
- In-processing orientation to acquaint new soldiers with post facilities.
- Expansion of Officer/NCO Candidate Seminars with Senior Officers/NCOs.
- Elimination of all forms of make-work in preparation for inspections.

Other improvements will take longer to bring about—either because of their cost or because they involve extensive reorganization. The highest priority actions over the long term will be:

- Replacement of military personnel with civilian employees for grass cutting and area police duties.
- Custodial services in all public areas of barracks, latrines and day rooms.
- Installation of televisions and telephones in barracks.
- Rehabilitation of mess halls.
- Establishment of a combined processing center in a converted building.
- Improved Army Community Service center, Finance service, and Special Service activities, supplies, and equipment.

Each of these long-range goals will require a considerable monetary investment: the total program at Fort Sill will cost $4.7 million and involve the hiring of 260 civilians. Some of this money and effort will simply go to make life easier at Fort Sill. Some will strongly affect the training which field artillerymen receive there. And some of it will establish programs which will be copied at other posts, or throughout the Army.

The field artillery, and the entire Army, will benefit from MVA measures which promote professionalism, help retain highly qualified personnel on duty, and stimulate morale. Those aspects of the MVA which seem frivolous or counterproductive will probably be quietly dropped, or absorbed by the Army without causing much lasting harm. The net result will be the adoption by the Army of a number of beneficial changes. Whether draftee or volunteer, the soldier of today and of the future will find the Army a more modern, more effective organization. This is what the MVA is all about, despite the controversies and the temporarily diverting novelties which have accompanied Project VOLAR and the other "first steps." The move toward the MVA, after all, is merely the most recent of the successive changes which have occurred in the Army since its inception.

These periods of change have touched on every facet of the Army at some time—new weapon systems, different missions, reorganizations, various methods of personnel procurement, and new concepts of leadership. These changes have kept the Army flexible and better able to accomplish its mission of defending the nation. The MVA will, in the long run, do the same.

First Lieutenant Jonathan H. Fussner is a graduate of Harvard University where he was commissioned through Army ROTC. After completion of the Field Artillery Officer Basic Course in November of 1970, he was assigned to the Office of Doctrine Development, Literature and Plans, U.S. Army Field Artillery School, where he is presently serving as an information officer.

USE OF FIELD ARTILLERY POWDER CANISTERS

In areas where supply procedures will allow the use of used powder canisters for 155-mm, 175-mm, or 8-inch ammunition, consideration should be given to the following field expedients:

Canisters can be filled with dirt and used to construct bunkers in semi-permanent and permanent field artillery positions. The canisters, when filled with dirt, eliminate the need to constantly replace rotting sandbags. They also provide greater protection against incoming rounds and a neater appearance for the bunker or parapet.

They may also be used to construct a simple, inexpensive hot water shower system. Most base camps and fire support bases in Vietnam use a water tank of some configuration. This tank has a shower head system fixed to the bottom and a hole in the top of the tank for replenishing the water supply. By placing an empty powder canister down into the water tank and fixing it to the top to prevent its falling inside, diesel fuel or gasoline can be poured into the canister and ignited. The resulting fire heats the water rapidly. When the water is at the desired temperature, the top to the canister can be screwed in place to extinguish the fire.

STATIC GROUND ROD FOR HELICOPTER SLING LOAD HOOK UP

A simple easy-to-use grounding rod to discharge static electricity from helicopter sling load hooks can be easily made by unit personnel. Materiel required: two metal rods from 105-mm ammunition boxes, approximately 20 feet of field telephone wire and three feet of friction or electrical tape. Solder the ends of the field wire to one end of each metal rod. Wrap approximately an eight-inch length of one of the rods with the friction or electrical tape. To use, insert the uninsulated rod approximately six inches into the ground near the load to be sling loaded. As the helicopter approaches the load, grasp the insulated rod by the taped end and hold firmly against the hook until the hook-up is completed. Static electricity generated by the helicopter will be discharged through the rod, the wire and the grounded rod harmlessly into the ground. Heavy leather gloves should be worn by all hook-up personnel as an added safety measure.

Photogrammetry

by CDR Wesley V. Hull

Photogrammetry is the art, science, and technology of obtaining reliable information about physical objects and environment through processes of recording, measuring, and interpreting photographic images. In mapping, measurements on photographs replace field surveys in whole or in part; consequently, the use of photographs and photogrammetry in mapping is often referred to as "aerial survey," "photogrammetric survey," and similar terms.

The first known practical photographs were the daguerreotypes which were produced in 1839. Probably the first reference to the application of photography in making topographic maps was made about 1840. In 1888, Captain Deville of Canada instituted the use of ground photogrammetry in Canadian mapping and developed procedures which from the beginning were marked with great success.

The earliest known application of photogrammetry in the United States was made by the Union Army in 1862, as reported and published in 1888 by LT Henry A. Reed, a West Point professor, in his book **Photography Applied to Surveying.** Union troops used balloons with cameras attached for reconnaissance photography and to determine positions of enemy troops.

The development of photogrammetry in America proceeded slowly from its small beginning until World War I focused attention on the value of aerial photography for both military and civilian usage. In the period between World War I and World War II, aerial survey techniques were developed to the point that they could be applied on a mass production basis. During World War II, all available photogrammetric mapping facilities, civil and military, were assigned the task of producing a vast quantity of maps and charts to meet the requirements of war.

The aerial photograph differs essentially from a map in that the negative, at the time of exposure, is seldom parallel to the ground it represents, and relief of the terrain causes images of points on the ground surface to be displaced from their orthographic, or map, position. Stereophotogrammetry means that overlapping pairs of photographs are observed and measured, or interpreted, in a stereoscopic viewing or stereoplotting device, which gives a three-dimensional view and creates the illusion that the observer is viewing a relief model of the terrain. The stereoplotting instrument provides an instrumental method of physically reconstructing an accurate model-to-model representation of the terrain without extensive mathematical computation. The analytical method uses only mathematical computations, based on plane photo coordinate measurement and calibration data, to form mathematical stereomodels.

There is a myriad of stereo-plotters available today; but, to some degree all stereoplotters incorporate optical-mechanical-analytical mechanisms in their design. Through the use of stereoplotting equipment, positions and elevations of individual points

on the ground, as well as the delineation of the cultural and drainage features, can be determined. The coordinates of ground points can be read directly on the instrument and fed directly into an automated system that may be interfaced with other systems.

Although the principal use of photogrammetry is still map making, particularly topographic mapping, other applications are steadily increasing in importance. Photogrammetry is being used in structural studies; water resources; pollution and geological investigations; tidal current surveys; soil conservation; crop damage assessment; crop acreage determinations; and design and construction of dams, highways, and cities.

Versatile as the applications of photogrammetry are, however, some field surveys are still required to supply the basic control, both horizontal and vertical, needed to determine the scale, azimuth, and attachment to datums of the photogrammetric plot.

Although considerable use is being made of photogrammetry, including in the field of military reconnaissance, it is not being fully exploited in support of tactical operations such as those of the field ratillery. It is believed that photogrammetric applications can be utilized beneficially by field army elements in direct support of fire control operations by providing general survey and terrain analysis as well as weapon and target positions in near real time.

The following is a representative list of potential photogrammetric applications to field artillery problems:

1. Forward observer (FO) and observation post positioning— these positions could be predetermined by photogrammetric techniques or determined after the forward observers are deployed. The FO could be furnished with photos, with point designation grid, of his general area, and he could ultimately visually identify his position on the photograph and relay this information to a field photogrammetric unit. The photogrammetric unit could relate this photograph position to the stereomodel, and coordinates could be read directly from the stereomodel and furnished to the fire direction center. Another approach is to send with the FO a photographic emulsion-sensitive marker, and by photographic overflights the position could be determined. With defferent types of markers or emitters, nighttime photographic overflights would be possible.

2. Unattended ground sensors—positioning data could be obtained by methods similar to those described for FO location.

3. Control densification—photogrammetry can be utilized to increase the density of survey control within the area of operations. The density of supplemental control which could be established would depend primarily on the number of well-defined, photoidentifiable ground points (points which are identifiable both on the photo and on the ground) appearing within the stereomodel. To obtain basic control and to properly orient the stereomodels to the regional control, systems similar to the Navy Navigational Satellite System could be employed (where ground locations can be determined from the known location of the satellite).

4. Weapon positioning—the first approach could be using the stereomodel directly. Once the stereomodel is oriented to the regional control, the weapon position could be identified on the model, and coordinates could be photogrammetrically determined. If the weapon position was not identifiable on the photographs, an alternate solution would be to determine coordinates of well-defined points within reasonable proximity of the weapon location. These points could then be used as initial control to extend control to the weapon, using conventional survey methods.

5. Terrain analysis—stereomodels can provide commanders with a three-dimensional view of the area of interest so that they may better analyze the relief and drainage systems, vegetation, surface materials, man-made features, concealment and cover, obstacles, key terrain features, avenues of approach, and air corridors.

6. Target positioning—when a target has been imaged on photography during a reconnaissance mission, the target could be identified on the stereomodel by appropriate photo interpretation-intelligence teams, and target coordinates could be determined photogrammetrically. The advent of near real-time photographic data acquisition systems providing imagery directly to the photogrammetric equipment places importance on the target positioning aspect.

Photogrammetric techniques and equipment offer almost an unlimited number of possibilities for providing solutions to many artillery survey and target acquisition problems. Major components for a photogrammetric unit are presently available. A photogrammetric facility, which could be utilized by the field artillery, has been developed by the Engineer Topographic Laboratories, Fort Belvoir, Virginia, and is presently undergoing tests at MASSTERS III. Further testing of this facility, based on field artillery requirements, is scheduled.

The U.S. Army Combat Developments Command is presently coordinating with interested agencies the requirements for a photogrammetric facility.

Commander Wesley V. Hull is a graduate of Oklahoma State University, where he received a BS degree in civil engineering in 1958. Upon graduation, he joined the U.S. Coast and Geodetic Survey, now the National Oceanic and Atmospheric Administration (NOAA). He received an MS degree in photogrammetric and geodetic engineering from Cornell University in 1966. His field assignments have included photogrammetry and hydrography, and he has served aboard NOAA ships Pioneer, Bowie, Lester Jones, and Oceanographer. He is a member of the American Society of Photogrammetry and the American Society of Civil Engineers. He is presently assigned to the U.S. Army Field Artillery School.

Firepower Battlefield

**by LTC William L. Hauser*

It used to be said that armies always prepare to fight the previous war. France and Germany entered World War I with large horse cavalry formations, harkening back to the Franco-Prussian War but ignoring the impact of machine guns in the Russo-Japanese War of 1904-05. The tank was the answer to the machine gun, but for years military bureaucracies ignored the prophets of mobile warfare—Patton, Liddell Hart, and de Gaulle. Only the German Army, desperate to compensate technologically for the restrictions of the Treaty of Versailles, had the open-mindedness to listen to their own forward thinkers, Guderian and Rommel.

World War II convinced American military leaders that neglecting weapons development was a recipe for disaster. When national policy dictated the deployment of combat forces to South Vietnam, the US Army was remarkably ready, not only with modern helicopters but also with the tactics and techniques for their employment on a large scale. Further effort was required to adapt to the peculiarities of counterinsurgency, but we did not, for once, begin "behind the goal line" technologically.

The words and actions of current military leaders reveal our intention never to be caught short again in the development of modern weapons. The Army is moving ahead as rapidly as resources permit to acquire improved helicopters, command and control systems, tracked vehicles, and target acquisition means. The pace of modernization, although thought slow by some compared with apparent Soviet advances, is faster than ever before in American military history. At the same time, there is a continuing effort, particularly by the US Army Combat Developments Command, to develop tactical doctrine to match advances in weaponry.

Unfortunately, there does not appear to be an Army-wide appreciation of the extent of current technological and doctrinal change. The anomaly of recent technological advances, and the reason their doctrinal impact may not be understood, is that they took place against the backdrop of counterinsurgency against a relatively primitive foe. It is easy to take helicopter mobility for granted in the absence of effective enemy air defense and easy to become

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accustomed to firepower supremacy when there is no comparable capability on the other side.

As a result of this widespread lack of understanding, a great disunity of tactical doctrine has grown out of the Vietnam war. Speculation over the lessons learned from the war, and over their application to future conflict, covers an entire spectrum of schools of thought. Two of the strongest of these schools lie at opposite ends of the doctrinal spectrum.

The first, the counterinsurgency school of thought, begins with the strategic premise that conventional warfare has been deterred by mutual fear of nuclear escalation. Thus future wars will be essentially reproductions of Vietnam except that, under the Nixon doctrine, the United States will supply advice and material aid but not combat units. The major difference between Vietnam in 1954-71 and future conflicts will be a greater degree of political sophistication, which will enable the friendly side to recognize and suppress an insurgency in its early stages. Modern materiel can be supplied by the United States and employed under American supervision. US Army units in the CONUS will serve two major purposes—training bases for advisers in the use of modern equipment and deterrents against conventional war. This pattern of thought is currently most evident in the special warfare and psychological operations communities of the Army.

The other school of thought, directly opposed to the first, may be called the linear war school. The United States will not soon again involve itself in a counterinsurgency, runs this argument, because both the public and the Army have become disillusioned with the role of international policeman. Instead, we will provide friendly countries with only that equipment they can use without extensive advisory detachments. If this alone is not enough to defeat an insurgency, the friendly government couldn't be saved in any case—by more equipment, more advisors, or even American combat troops. Hence, the US Army should concentrate on preparing to fight a linear war against Warsaw Pact Forces in Europe or to meet overt aggression elsewhere. Wherever the fight, and whether nuclear or nonnuclear, the battle will follow a pattern similar to that of World War II. Technological advances will be only quantitative in their effect upon tactics—faster, larger, longer, and higher—but will not fundamentally change the conduct of linear warfare. This conservative viewpoint is today evident in the combat arms centers and, most particularly, in the Command and General Staff College.

Neither school of thought is correct. Adherents of the counterinsurgency school fail to comprehend the depth and breadth of public antipathy for involvement in insurgencies. Members of the linear war school betray their nostalgia for the simplicities and glories of World War II. Neither school has grasped the tactical impact of the vast technological advances of the Vietnam war. That impact is threefold:

- **Ground combat has become truly three-dimensional,** a contribution by the helicopter far greater than the sum of its many uses. The introduction of maneuver into the dimension formerly reserved for projectiles has made airspace coordination a critical factor of tactical command.

The helicopter's vulnerability in mid- or high-intensity warfare will hinder its freedom of employment, but this is a limiting rather than a prohibitive factor.

● **The relative predominance of maneuver and fire support has shifted.** The mission of the maneuver arm is now to find and fix the enemy, but not necessarily to fight him. Whenever possible, aerial or indirect firepower will actually destroy the enemy. This is only partially an outgrowth of advances in firepower and target acquisition; it is also a product of the value placed on human life by a rich, democratic, and machine-oriented society.

● **The battlefield is no longer linear.** The repeating rifle made warfare linear, and the machine gun forced the troops into the trenches; the tank and the nuclear warhead demanded a restoration of mobility. But only now have simultaneous advances in firepower, target acquisition, air-mobility, and communications enabled the commander to disperse his forces widely without an unacceptable loss of control and responsiveness. What may have been premature in the pentomic concepts of the 1950's is today both necessary and feasible.

However deployed on the battlefield of the future, the mission of ground forces will still be to destroy enemy forces in zone; but the zone will be measured in area rather than frontage, and the tactically self-sufficient formation will probably be the brigade. The brigade's composition and zone of responsibility will vary according to the configuration of the terrain; enemy forces; and the target acquisition, firepower, and mobility means available.

In a nuclear or potentially nuclear situation, the brigade will be deployed in battalion or smaller formations, with the distance between them depending largely on their ability to dominate that space by firepower. Numerous short-lived sensors will be sown by helicopter or artillery in. the manner of a naval ship dropping sonobuoys to locate submarines. Sensor surveillance will be augmented by aerial and ground radar and infrared devices, aerial visual reconnaissance, and ground and airmobile patrolling.

When an engagement occurs, the battle will somewhat resemble naval warfare. Opposing units will strike at one another from a distance, and only rarely will their maneuver units come into direct contact. Critical terrain will lose much of its present significance. The conflict will be essentially a "firepower battlefield."

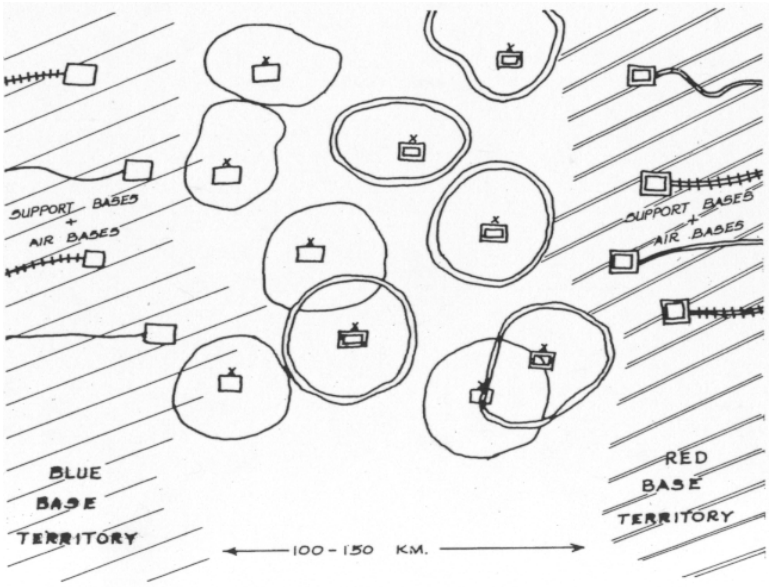
Before exploring this firepower battlefield in more detail, let us see why the technological revolution demands such a dispersed tactical pattern. The first reason is three-dimensional warfare. Large formations of helicopters have created an infinite number of flanks around even the most carefully prepared defenses. What James Gavin predicted 15 years ago is now fact. The attacker who neglects vertical envelopment is outmoded; the defender who digs in on a line is outflanked.

Second, while democratic ideology has made human llife infinitely precious, technology has made it less apparently effective than projectiles. The commander of the future will be able to "fight at arm's

length;" indeed, will be compelled to do so. Neither Fredericksburg nor Verdun would be justifiable on the battlefield of the future. This does not mean that raw courage will become an historical curiosity but only that eyeball-to-eyeball contact will be the exception in conventional warfare. Soldiers will still be needed to man and accompany the machines that produce firepower, and to occupy territory; but George Patton's observation that "firepower is the queen of battles" will become truer than ever.

Finally, advances in nuclear and nonnuclear firepower and improvements in target acquisition dictate greater dispersion for all forces. Advances in air and ground mobility, communications, and real-time data will make such dispersion feasible.

The firepower battlefield is shown schematically. Each side has its own base territory, relatively secure from ground attack by virtue of distance. In between, lies a disputed zone 100-150 kilometers deep, within which brigades maneuver. There is no FEBA. Each brigade is able to influence an "envelope," the size of which depends on available firepower and surveillance means. Space between envelopes is the responsibility of higher echelons. When a brigade envelope overlaps enemy unit locations, there are exchanges of firepower—armor or aviation duels, artillery and counterbattery fires, or shoot-outs between reconnaissance units. Each side maneuvers for a chance at quick penetration of the other's envelopes or seizure of key terrain in the other's base territory with airmobile or armored thrusts, but both hesitate to mass large formations for fear of nuclear fires. Decisive engagements are rare, and then are usually at a level no higher than battalion. When (and if) both sides have refrained from using nuclear weapons



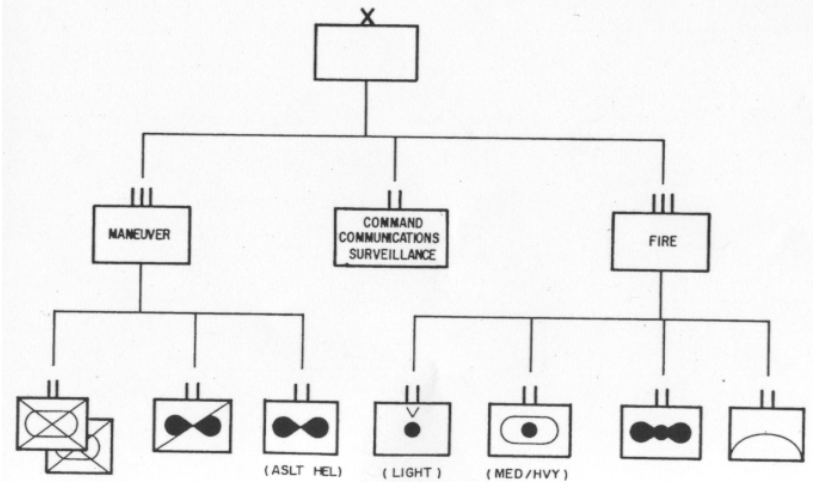
for some time, contacts will probably increase in both frequency and size.

As mentioned previously, coordination of airspace over the battlefield will become a critical factor of tactical command. The list of aerial assets available to the commander staggers the imagination: infantry assault helicopters, command and control ships, aerial artillery and other gunships, resupply and medical evacuation aircraft, Air Force close support aircraft, airborne radar and infrared, air defense shells and missiles, and field artillery projectiles (including such exotic types as shells for implanting mines or sensors, shells with miniature television cameras, and infrared/radio source-seeking or laser-guided missiles and shells). Enemy aircraft and projectiles will add to the complexity and potential confusion.

How and by whom airspace will be coordinated promises to be the most rancorous doctrinal fight in modern Army history. The principal contenders are air defense artillery, field artillery, and aviation, the major agencies of fire support. Whichever of them is given the job, it will probably require the assistance of very sophisticated automatic data processing in the brigade tactical operations center. Vietnam experience and the expected versatility of the TACFIRE system appear to give field artillery the edge, but the issue is by no means decided.

The firepower battlefield concept will also trigger new disputes over decentralization of artillery and aviation. A logical concomitant to decentralizing maneuver is to give each brigade its own organic artillery and aviation. The chart shown is an example of how such a brigade might be organized. Self-sufficient in combat power, the brigade is almost completely dependent on higher echelon logistical support.

The next higher echelon, which may be called "division" for tradition's sake and want of a better name, will allocate general support firepower and coordinate airspace between brigade envelopes. The relationship between higher artillery/aviation



commanders (whose positions might well be combined into one—firepower and airspace coordinator) and the corresponding post in the brigade will be one of professional supervision, as in the current relationship between corps and division artilleries. In sum, visualization of the firepower battlefield will require radical rethinking of current aviation and fire support doctrine.

No one can really predict what World War III will be like, nor future limited or mid-intensity wars. Yet, we must try; for not to do so would be a decision by omission to enter the next conflict with the tactics of the last. The Army's leadership has learned this lesson. The US Army Combat Developments Command is trying to peer into the future, but what it learns can only slowly trickle down through the ranks of the Army. The Army school system, however, would be the ideal vehicle for giving the entire officer corps an appreciation of the technological revolution and its potential application to the conventional battlefield.

It is unfortunate, then, that Army service schools are still largely emphasizing the linear tactics of World War II. Not that they should adopt the highly speculative firepower battlefield as doctrine, but they should at least be exploring the tactical implications of the technological developments associated with Vietnam. Perhaps these schools are controlled by members of the generation which came of age professionally in World War II. Or perhaps the schools merely reflect the tendency of many senior Army officers to regard Vietnam as an aberration, a violation of the principles of war best corrected by a return to traditional doctrine. The existence of this attitude is not at all surprising in light of the schools' past failures to develop doctrine for higher echelon operations in counterinsurgency and for fire support coordination in airmobile warfare.

A major effort is needed on the part of the Army school system. Under the integrating guidance of the US Army Combat Developments Command, through its agencies at Fort Leavenworth and the combat arms centers, the schools should deal not only with the doctrine of the past but also explore the doctrine of the future. The Command and General Staff College should take the lead, with the Infantry, Armor, Air Defense, and Field Artillery Schools closely paralleling Leavenworth's efforts.

A new age has dawned technologically. Failure to develop and teach the tactics appropriate to the new technology is courting defeat on the firepower battlefield.

Lieutenant Colonel William L. Hauser is an Army Research Associate in the U. S. Army War College class of 1972, engaged in independent research at the Johns Hopkins Center of Foreign Policy Research. He holds an M.A. in history from the University of Southern California, a Fulbright-Hays Fellowship in Southeast Asian Studies from the University of Singapore, and is a 1965 graduate of the U. S. Army Command and General Staff College.

The Field Artillery Center Team

by LTC (Ret) Charles W. Montgomery

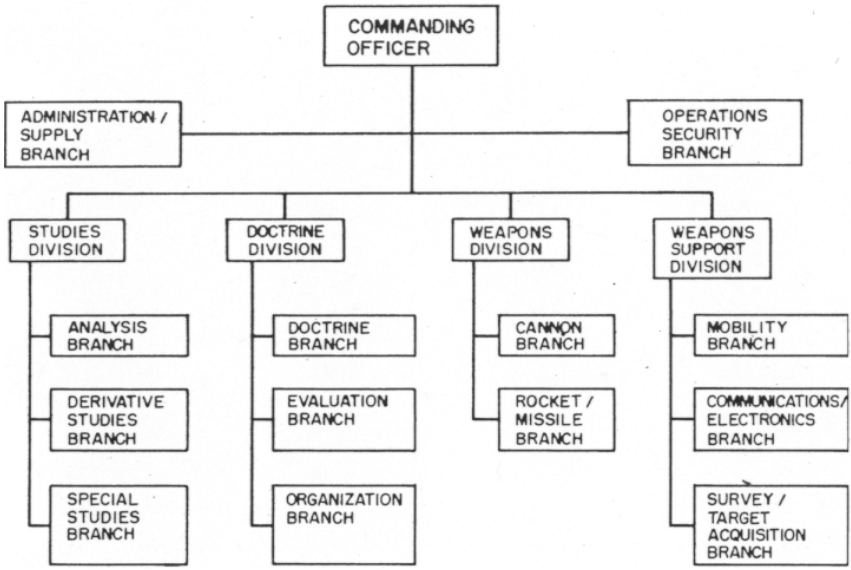
Visualize an all-star baseball game being played by teams made up of players chosen by the fans from each team of the two major leagues. It is the ninth inning of what has been a pitcher's duel and so far there is a scoreless tie. The home team is at bat and has a runner on third base. The batter drags a bunt down along the first base line and beats the throw to first as the runner from third base crosses the plate with the game-winning run. This maneuver didn't just happen; it was planned and required the full coordination of three team members—the coach at third base, the runner on third base, and the batter. This same need for coordination prevails in the daily opera-of the Field Artillery Center Team.

The Field Artillery Center Team, like an all-star baseball team, is made up of "members," or elements, representing several "teams," or commands. These team members are the Field Artillery Agency (USACDCFAA), a subordinate element of the U.S. Army Combat Developments Command (USACDC); the Field Artillery School (USAFAS), which represents the U.S. Continental Army Command (CONARC); and the Field Artillery Board (USAFABD), an element of the U.S. Army Materiel Command (USAMC). All are located at Fort Sill and have daily tasks which relate to the other members of the team. Although each element represents a different Army command, responsibility for the effectiveness of the Field Artillery Center Team rests with the Commanding General, U.S. Army Field Artillery Center and Fort Sill. He must insure that the operations of all elements of the team interface with the areas of interest of other team members. He is like the manager of a baseball team in that he must see that each team member "gets the word" to insure the success of the team effort. Members of his team come from several commands, but their efforts must represent the best interests of all team members. He must maintain an awareness of the capabilities and limitations of each team member (element) and use each team member commensurately. This must be accomplished within constraints directed by the parent headquarters of each team element.

The mission of the Field Artillery Agency is to determine how the field artillery should fight (doctrine), be organized (organization), and be equipped (materiel). The more important functions derived from this mission are—

- The conduct of studies to develop future artillery concepts and doctrine.
- The preparation of formal doctrinal publications such as field manuals and tables of organization and equipment.
- The determination and preparation of development objectives and materiel needs.
- The participation in Quadripartite and NATO standardization programs.
- The function of "user representative" as a link between the artilleryman in the field and the engineer in the arsenal or industrial plant.

Agency

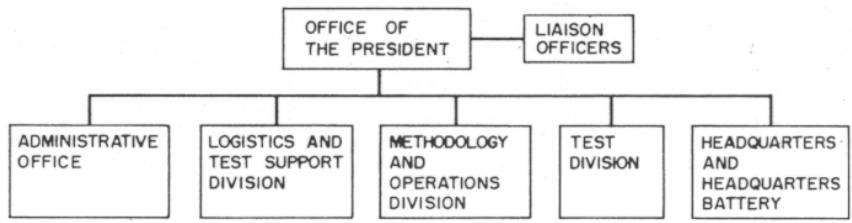


The Field Artillery School is responsible for the training of field artillerymen and for the development of training programs, training tests, and training literature and documents, in addition to administering resident and nonresident instruction. In this regard, the School is required to state the duties, skills, knowledge and physical requirements for all military occupational specialties (MOS) used for field artillery only duty positions.

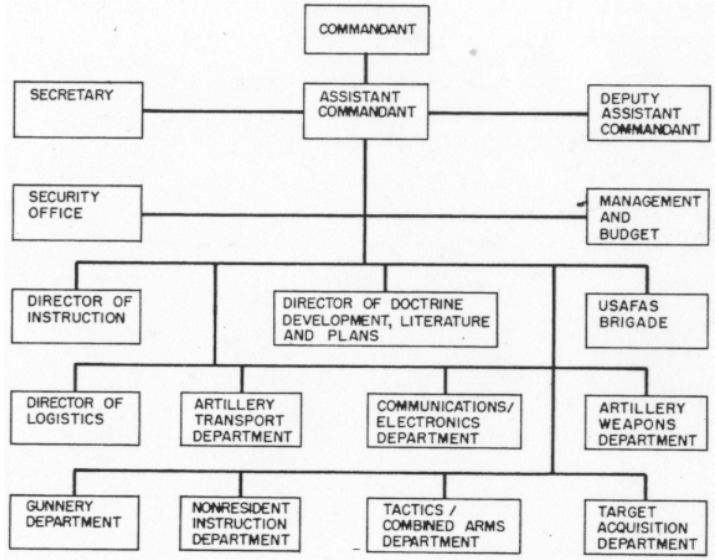
The Field Artillery Board is a Service Test Board subordinate to the U.S. Army Test and Evaluation Command (USATECOM). Its mission is to—

- Plan, conduct, and report on expanded service tests (EST), and check tests (CK) of field artillery materiel.
- Participate in engineering tests (ET), initial production tests (IPTO), and appropriate preproduction tests (PPT) as directed.

Board



School



- Provide advice to proponent agencies and materiel developers during the development of field artillery materiel. Data and information derived directly from test experience will provide the basis for such advice.
- Conduct other tests and evaluations as directed by the Commanding General, USATECOM.

Based on the results of the above tests, the Board reports its conclusions to USATECOM and, in the case of an EST or CK, the suitability of the test item for use by the Army.

The effectiveness of the Field Artillery Center Team is maintained through close and continuous liaison between individual elements of the team. Policy group meetings and briefings allow team members to stay abreast of items of current field artillery interest. Documents prepared by one element are exchanged with other team members to insure that these documents represent the collective thinking of the entire Fort Sill community rather than the views of one element alone. Needs for improvement in field artillery observed by one team member are made known to other members to insure a collective effort to effect such improvements. The overall success of field artillery operations is directly proportional to the overall effort put forth by the Field Artillery Center Team.

Lieutenant Colonel (Ret) Charles W. Montgomery retired from the U.S. Army in 1966 following 24 years of active duty, including many years spent in field artillery command and staff duty positions at the division and corps artillery echelons. Since his retirement, he has been employed as an Operations/Research Analyst with the Tactics/Combined Arms Department, U.S. Army Field Artillery School.

Professional Development Through Self-Education

by COL Vincent G. Oberg

"At least 5 million people were continuing their education by correspondence study in 1970." This was reported in the 30 August 1971 issue of *U.S. News and World Report*. The article goes on to say, "They included 2.2 million in courses offered by the armed forces and federal agencies, 1.8 million in courses conducted by private home-study schools, and 313,000 in college correspondence study. The remainder were in courses of religious organizations, business and industry."

Think of it! Five million people studying by correspondence! Why? Who are these people? What do they expect to gain from their effort and their sacrifice of leisure time and, yes, even of their own money?

The "why" encompasses nearly as many replies as there are people concerned; however, when the varnish is removed, the answer is "because learning by correspondence is a worthwhile, self-satisfyiing endeavor." This is "self-education." The motivation to study by correspondence comes from within the individual rather than from external pressures.

These 5 million correspondence course students represent every facet of our society: the deprived young adult who feels an urgent need to complete his education but whose work prohibits formal schooling, the bookkeeper who feels stymied and therefore studies to become a CPA, the enlisted man or officer who wants to advance his professional knowledge faster than quotas to resident courses will allow, the professional man who wants to broaden his base of knowledge at his own pace, and countless others.

For the field artilleryman, for whom this article is written, correspondence courses provide a virtually unlimited means for developing and improving his military professionalism.

In his address to the Field Artillery Officers Advanced Class 3-71 on 25 August 1971, Major General Davidson, the Assistant Chief of Staff for Intelligence, Department of the Army, emphasized the incalculable contribution to military professionalism made by self-education when he said, "The best educated professionals are self-educated."

The term "self-education" implies more than study by correspondence, to be sure. Self-education involves serious reading and practicing new techniques, debating new concepts, and living one's own profession. But study by correspondence provides time-saving guidance and direction in the achievement of educational goals.

What is to be gained by the sacrifice of leisure time and the concentrated effort required in successfully completing courses by correspondence study? First, of course, is the additional knowledge derived from the course itself. But a byproduct—a very important byproduct—is the satisfaction that comes from undertaking a difficult project and seeing that project to its successful completion, all because of self-motivation.

What a test of perseverance! What a prize in personal satisfaction, self-esteem, and self-reliance!

Opportunities for self-education are available to all. The range of subjects presently taught by correspondence is practically unlimited; new subjects are adapted to self-study as new techniques for self-teaching are developed. The Army school system provides a highly effective self-study program covering the full spectrum of military subject areas—from single MOS-oriented subcourses through branch courses (e.g., field artillery officer basic and advanced courses) and top level Command and General Staff College and Army War College courses. Even the Department of Defense, through the Industrial College of the Armed Forces, provides a continuing opportunity for self-education by correspondence courses. These self-study educational systems permit each student to proceed at his own pace, governed only by the time and effort he is willing to devote to his education.

The Army of the near future is destined to be smaller, better trained, more professionally competent, and far more competitive and selective in all ranks and grades. The objective, therefore, is clear. The means are readily available. The motivation to move ahead is at your option. It may help you to bear in mind that each small achievement is a stepping-stone to greater success. Those of you who have never tried this correspondence means for self-development may find it to your advantage to enroll in a short subcourse to prove the value of this form of instruction and to assure yourselves of your ability to achieve in this way.

For you field artillery professionals, United States Army Field Artillery School (like all service schools) publishes an annual catalog of correspondence courses available. These are distributed, worldwide, to battery level. If you can't lay your hands on one in your unit, write to:

Commandant
US Army Field Artillery School
ATTN: ATSFA-NIE
Fort Sill, OK 73503

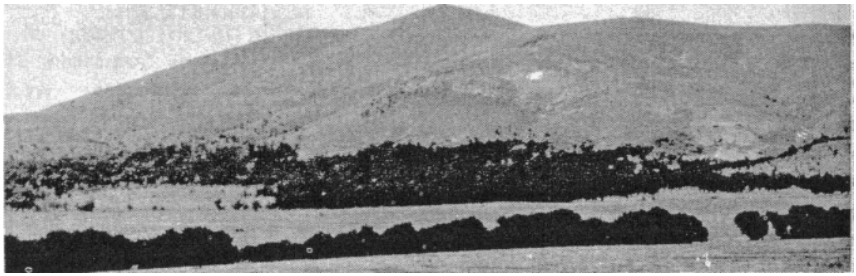
If you prefer, call one of our counselors for personal assistance at:

Area Code 405
351-2704
351-2972
AUTOVON
639-2704
639-2972

The important thing is to GAIN THE ADVANTAGE. Make use of the LEVERAGE afforded by study by correspondence. Get SELF-MOTIVATED NOW.

Colonel Vincent G. Oberg enlisted in the Corps of Engineers in May, 1942. He was commissioned in the Coast Artillery in November, 1942. During World War II he participated in five campaigns in the European Theater serving in various command and staff assignments with the 1st, 2d and 9th Armies. He is a graduate of the Field Artillery Officer Advanced Course, the U.S. Army Command and General Staff College, and the Armed Forces Staff College. He served in Vietnam in 1966-67 as Deputy Senior Advisor to the 21st ARVN Infantry Division and Chief of Staff, IV Corps Advistory Group. He is currently the Director of the Department of Nonresident Instruction, U.S. Army Field Artillery School.

INSTRUCTIONAL DEPARTMENT NOTES



DOCTRINE DEVELOPMENT, LITERATURE AND PLANS

TACFIRE Update

On 10 August 1971, Litton Industries began the Formal Qualification Test (FQT) for the TACFIRE system. The FQT reviewed all the software programs of the TACFIRE system for program applications of artillery techniques, mechanics, and procedures. In addition to representatives from TECOM and other major commands, personnel from USAFAS, USACDCFAA, and USAFABD have provided the project manager, ARTADS, with valuable assistance in conducting the FQT.

On 4 January 1972, the seventh TACFIRE Operator's Course began at Litton to train USAFABD personnel who will participate in the TACFIRE Engineering Test/Expanded Service Test (ET/EST).

The Systems Interface Test (P901) began on 17 January 1972. This test and demonstration is covering the interface of all TACFIRE software and hardware to include the peripheral equipment and remote devices. Thereafter, Litton will conduct a final system update. Assuming no significant problem areas result from the Systems Interface Test or the final systems update, the next stage will be the TACFIRE ET/EST. This Expanded Service Test (EST) which will last approximately ten months, will be conducted at Fort Sill, Oklahoma. The current target date for ET/EST delivery of equipment is April 1972.

NONRESIDENT INSTRUCTION DEPARTMENT

Knowledge is Power

Today's Army is an ever-changing and ever-progressing organization. To remain most responsive to the needs of the ground-gaining forces, we in the field artillery must stay abreast of all situations that affect our day-to-day progress. To apply Newton's law of motion to the field artillery, we would rewrite it to state: "For every change or action taken in the ground-gaining forces, there is an equal change or action taken in the field artillery." To mention a few changes: with the advent of mechanized infantry, came new self-propelled howitzers; with the advent of air mobility, came new field artillery tactics and weapons to keep up with the fast pace of the battlefield.

These changes in the field artillery were required to enable us to give the type of support which is demanded by, and never refused to, the ground gaining arms.

All field artillerymen are responsible to those they support. We must have the knowledge with which to develop skills in, and to teach our profession to, those selected to serve with us.

Many times we find ourselves lacking in basic knowledge of something that is sorely needed in our units. To provide this knowledge, the Nonresident Instruction Department of the Field Artillery School has developed and keeps updating a complete file of all subjects pertaining to all facets of the field artillery for use by you, your section, your unit, or your staff officers. We have instructor packets which enable any able-bodied man to conduct a comprehensive class. We have packets covering all subjects taught by the Field Artillery School, including radar, meteorology, artillery transport, materiel readiness, and, of course, all subjects related to field artillery weapons and how and when to fire them.

If your unit needs iniformation on current field artillery doctrine, tactics, or materiel, refer to our catalog of instructional material. If you need a catalog, write to—

Commandant
US Army Field Artillery School
ATTN: ATSFA-NIRC
Fort Sill, Oklahoma 73503

New Gunnery Series Offered

The Nonresident Instruction Department has developed and placed into administration a new series of field artillery gunnery subcourses. The series of subcourses was developed for the officer basic course and takes into consideration the latest changes in field artillery gunnery. Beginning with Subcourse FA 306, Firing Battery I, and continuing through Subcourse FA 311, Fire Direction IV, the subcourses introduce the student to field artillery gunnery step by step until the student has enough confidence to proceed to the more difficult aspects of gunnery. The entire series consists of six subcourses, with 15 lessons, and provides 44 credit hours upon successful completion of all lessons and examinations.

In addition to the new gunnery series, the following new subcourses have been placed into administration:

FA 404, Shell Report and Crater Analysis	3 Hours
FA 417, Counterbattery Activities	6 Hours

Officers and enlisted men desiring more information on these free subcourses, or information on more than 150 other free subcourses available, may write to the United States Army Field Artillery School, ATTN: Extension Courses Division, Fort Sill, Oklahoma 73503.

DIRECTOR OF INSTRUCTION

USAFAS Academic Department Reorganization

During the past several months, the Field Artillery School has made several significant changes in order to be more responsive to the needs of the Field Artillery community.

On 4 October 1971, the Artillery Weapons Department (AWD) was formed as a result of the realignment of the Guided Missile Department and the Gunnery Department along more functional lines. AWD is primarily responsible for instruction on materiel, maintenance, and ammunition, to include special weapons hardware for all Field Artillery weapon systems, while the Gunnery Department is primarily responsible for instruction on fire direction procedures and firing battery operations for all Field Artillery weapon systems. Academic proponency for two USAFAS courses of instruction was changed as a result of this realignment. The Pershing Laying Specialist Course, which provides enlisted personnel training as azimuth laying specialists for the Pershing missile, is now a Gunnery Department course. The Artillery Weapons Department is now responsible for the Field Artillery Mechanic Course, which provides enlisted personnel a working knowledge in organizational maintenance of light, medium, and heavy field artillery weapons. All instructors and equipment necessary to teach these courses have been exchanged between the proponent departments. Realignment of these departments will provide the Field Artillery community a single point of contact for information involving artillery materiel, ammunition, and maintenance procedures of all field artillery weapon systems.

The Command and Leadership Brigade (Prov), organized in September 1970 for the purpose of providing all leadership instruction and evaluation for Field Artillery officer candidates and the noncommissioned officer candidates in the Skill Development Base (SDB) program, was discontinued effective 1 November 1971. The Provisional Brigade was phased out because of the reduced input into the Field Artillery Officer Candidate Course and the impending termination of the SDB program. The Officer Candidate Battalion, formerly part of the Command and Leadership Brigade, is now a battalion within the USAFAS Brigade. The battalion was significantly enlarged through the attachment of two Artillery Combat Leader batteries. These two batteries will continue to provide controlling elements for the remaining SDB classes until the program is completely phased out in mid-spring 1972.

During the past year, USAFAS has prepared programs of instruction in Field Artillery career fields to support the Noncommissioned Officer Education System (NCOES) program. These courses have been approved and, in some cases, classes scheduled, and as the student input for these NCOES courses increases, additional classes will be scheduled during this calendar year.

The Tactics/Combined Arms Department is presenting the leadership instruction previously given by the Provisional Brigade. This department, which now presents all leadership/management instruction, has greatly expanded its capabilities in these areas to better provide the necessary expertise for all of the resident classes within USAFAS.

USAFAS will continue to review its organization and make necessary changes in order to best meet the needs of the field artilleryman.

Corner

ENLISTED PERSONNEL

Emphasis On Quality

The fact that the Army is currently directing much effort toward achieving its goal of being a truly volunteer organization by no means implies that anything short of a highly professional, quality Army will be acceptable. There may currently be some confusion among enlisted personnel as new policies are arriving in the field. It may appear at first glance that some of the new policies are inconsistent. Why, for example, is the Army seeking higher enlistment rates while, at the same time, it is involuntarily releasing other personnel? The answer, of course, lies in the need to place decreased reliance on the draft as the primary source for younger soldiers while concurrently attempting to phase the overall Army strength down to lower authorized levels.

The Qualitative Management Program which was announced in Change 41, AR 600-200, is a major feature of the new program. The first phase of this program extended to 30 June 1971 with phase two commencing on 1 July 1971. The total impact of this program will have a far reaching effect on the enlisted force. With career tenure governed by a combination of time-in-grade and time-in-service while qualitative screening of the enlisted force continues, personnel with a history of mediocre performance will no longer be retained in the Army. Complement this with the recent announcements raising promotion and reenlistment criteria and one soon gets the message that professionalism and discipline will not be compromised. All of these new policies point to the fact that the "automatic reenlistment environment" is a thing of the past.

Since under the new programs an individual must establish and maintain his military and technical performance and qualifications at a level which will insure his tenure as a career soldier, the logical question uppermost in the minds of most career soldiers is "How am I rated among my contemporaries and how can I stay on top?"

The answer to the first part of the question lies partly with the Enlisted Evaluation System set forth in Chapter 5, AR 600-200, and the Enlisted Efficiency Report and Rating System set forth in Chapter 8, AR 600-200. The former provides an objective measure of the technical knowledge of an individual in his Military Occupational Specialty Code while the latter is a subjective evaluation by the individual's supervisor of his job performance and potential. They are both given appropriate weight and together serve to determine if minimum qualifications have been met. They also rank the individual among his contemporaries by grade and MOS. Placing consistently low can deny an individual the opportunity to compete for promotion, reenlistment and other career opportunities.

This, then, brings us to the final point of which commanders, personnel managers and enlisted personnel should be continuously aware. In order for an individual to be in the best possible position to compete in this highly competitive environment he must be placed, within Army requirements, in a career field and MOS best suited to his prior experience, aptitudes and potential. He must then be allowed to devolp this potential to the maximum. Only then do both the Army and the individual benefit. The commander's responsibility to accomplish his mission is well understood and fully appreciated. However, now more than ever before, commanders and personnel managers must assess the potential impact on the careers of their personnel prior to any reclassification action between career fields or MOS. Additionally, misutilization of personnel, whether through malassignment or mismanagement may seriously jeopardize an enlisted man's career in that personnel not actively engaged in the application of their primary skills tend to lose these skills. This places them at a disadvantage with their contemporaries during annual MOS testing. They may even fail to achieve the minimum score necessary to verify in their PMOS. Failing to verify twice consecutively results in mandatory reclassification action while three consecutive failures to verify in an MOS can result in elimination from the service as set forth in Chapter 2, AR 600-200.

In addition, a low score will have a tremendous impact on the individual soldier in many other areas. For example:

1. A score below 70 in the preceding 12 months bars reenlistment. (To reenlist a soldier must have been tested in the preceding 12 months unless specifically exempted by HQ, DA.)
2. A score below 100 is a bar to promotion qualification.
3. A score below 70 is a bar to the award of Specialty Pay.
4. A score below 130 (Combat Support MOS) or 120 (Combat MOS) is a bar to the award of Superior Performance Pay.

Since MOS evaluation has such an important impact on the individual, commanders and personnel managers must insure, as well as the individual, that prior study and timely testing, as announced by DA, is completed. This, of course, includes the accurate and timely submission of the Enlisted Efficiency Report. Absence of current evaluation data can also have an adverse impact on many personnel actions and will result in loss of Proficiency Pay unless testing has expressly been excused by Department of the Army.

In summary, today's Army is moving rapidly toward a highly qualified, competitive profession where commanders and personnel managers must apply sound personnel management principles and individual soldiers must work hard to maintain their skills and a high level of performance.

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Being Assigned To A Hostile Fire Zone?

Then you should check your status in regard to the following additional requirements for the area. If you:

a. Have not had a dental check, insure that dental examinations are accomplished and appropriate dental care completed in accordance with Chapter XIII, AR 40-3.

b. Will be under 18 years of age at the time you are scheduled to report to the oversea replacement station, you are ineligible for assignment in accordance with Paragraph 8-1, AR 614-30.

c. Are assigned to a country in which you were previously in a prisoner of war status, you are ineligible and should be deleted from the alert orders in accordance with Paragraph 8-1, AR 614-30.

d. Are credited with a tour in RVN, you will not be involuntarily assigned to RVN unless expressly affirmed by Chief of Personnel Operations in accordance with AR 614-30 and AR 614-200.

e. Are a sole surviving son, you must sign a waiver indicating that no objection is interposed for the assignment in accordance with AR 614-75.

f. Have another family member in a Hostile Fire Zone, you may be eligible for a deferment. There are also other conditions involving immediate family members that may qualify you for deferment or exemption for assignment to a Hostile Fire Zone, in accordance with AR 614-30.

g. Are in an aviation career field and are to be assigned in a flying status in Southeast Asia, you must personally handcarry during shipment, one full-length face-on photograph in fatigue clothing and one each front and side view of head and shoulders in fatigue clothing. All photographs are to be taken without a helmet in accordance with Paragraph 3-11, AR 612-2.

h. Are otherwise fully qualified for shipment, you must have in your possession only those clothing items prescribed in Chapter 7, AR 700-84, at the time you arrive at the Oversea Replacement Station. The provisions of DA Circular 700-17 apply to Officer and Warrant Officer personnel.

By insuring ahead of time that you meet these additional requirements for assignment to a Hostile Fire Zone, you will save possible unnecessary delays and expense. If you have any questions as to your eligibility for assignment to a Hostile Fire Zone, clear them up before you depart your home station. Your unit Commanding Officer will provide you with the necessary guidance to determine your eligibility for assignment to a Hostile Fire Zone.

Special MOS Evaluation Testing For Reenlistment, Promotion

The Enlisted MOS Evaluation System has been expanded and is now more important than ever. In fact, many soldiers will not be eligible for promotion or reenlistment without taking one of the new Special Qualification Tests. The tests are in the same form as the regular MOS Evaluation Tests, and if you meet the following requirements, you'll have to take one of them.

a. To be promoted in an MOS other than your PMOS, you must take the Promotion Qualification Test. To take the test you will need your Commanding Officer's recommendation and a score of 100 or higher on your most recent PMOS test. Procedures for Promotion Qualification Testing are contained in DA (COPO-EPPME) msg 221314Z Jun 71.

b. If you want to reenlist and you do not have a PMOS evaluation score of 70 or higher in the last twelve months, you must take a Reenlistment Qualification Test. Procedures for this testing are contained in DA (COPO-EPPME) msg 141335Z Jul 71.

These two special testing programs are aimed at further improving the quality of the enlisted career force. They also emphasize that MOS qualification is the responsibility of every soldier as well as his CO and personnel office.

CAP III Begins

CAP III is a computer system which compares available personnel assets them in making assignments of enlisted personnel. Called Centralized Assignment Procedures (CAP) III, it now affects only senior grade, Intelligence and Special Category Personnel, but eventually all enlisted personnel will be included in this comprehensive assignment system.

CAP III is a computer system which compares available personnel assets with known field requirements and then "nominates" one through nine candidates for each assignment. The system also provides for complete manual assignment selection, by-passing the nomination process, for such categories of personnel as Command Sergeants Major, and WACs. After a personnel manager chooses the best man for the job, regardless of whether he was nominated by the system or manually selected, the assignment instructions are automatically sent to the field via AUTODIN. The utilization of electrical communications equipment is eventually expected to provide individuals with earlier notification of assignments.

CAP III is expected to improve every phase of the assignment process, i. e., the validation of requisitions, the systematic application of established priorities, and the desired world-wide distribution of all enlisted personnel.

OPO Military Personnel Management File

Army enlisted personnel in grades E7 through E9, special category, and military intelligence career fields receive intensive management and should know the importance of the OPO Military Personnel Management File.

This record is the copy of the 201 Files kept at the Enlisted Personnel Directorate, Office of Personnel Operations (OPO), in the Pentagon. This document is the key used in making assignments, promotions and other personnel actions. Complete and up-to-date records are crucial to enlisted career personnel and individuals can help insure that their DA files are accurate. Here are some positive actions for enlisted personnel in the above categories.

First, make sure that his or her 201 File at unit level is complete and up-to-date. Insure that changes in status are dispatched to DA for posting to the OPO Military Personnel Management File.

Second, visit the Enlisted Personnel Directorate in the Pentagon to review files personally, when in the Washington area. In lieu of a personal visit, an officer or senior grade enlisted person may be authorized in writing by an individual to check his or her records. Because access to personnel records is strictly controlled, the authorization must be signed by the service member whose file is to be audited.

Third, make sure that name, grade, social security account number and primary military occupation specialty are on every piece of correspondence sent, including photographs, to DA.

AR 600-200, Chapter 3, Section IV should be consulted for the correct ATTN line for mailing information to OPO. Correct routing depends on the MOS of the individual concerned.

The following documents form the nucleus of the OPO Military Personnel Management File:

— Current Enlisted Qualification Record (DA Form 20).

— Photograph (See AR 640-30).

— Copy of letters of recommendation, commendation, appreciation.

— Copy of MOS Evaluation Data Reports (EPPECO Form 10).

— School transcripts or certificates.

— Any other doucment which may have a bearing on promotion, assignment, education, evaluation, etc.

Of particular importance are the preference statement and the evaluation data reports. Individuals have a personal responsibility to submit their preference statements, and to make sure that MOS tests are taken on schedule. These two items are among those most often missing or outdated.

Although promotions are administered by The Adjutant General, the data which centralized promotion boards consider, comes primarily from the OPO Military Personnel Management File. This fact highlights the importance of keeping this record current.

In summary, enlisted personnel in fields which receive intensive personnel management should remember that every action by the Department of the Army affecting them—assignment, promotion, reclassification, qualitative screening, education, and evaluation—starts with a review of the OPO Military Personnel Management File.

OFFICER PERSONNEL

Professionalism

It is the absolute policy of this Branch to be open and candid with all Field Artillerymen in the United States Army. The Field Artillery Branch has a strong desire to keep you well informed at all times. I consider this a necessity during the reduction in the size of the Officer Corps. All Field Artillerymen are encouraged to call, write, or visit us so we can best serve you.

I encourage all of you to exert an all out effort to become a truly professional, practicing Field Artilleryman. One who is tactically and technically proficient to deliver fires in support of the ground gaining arms. In practicing our art of fire power we cannot afford to lose sight of the fact that a professional Field Artilleryman is first a professional soldier who maintains a high state of skill, discipline and appearance. We owe this to our country and the fellow combat arms soldiers we serve. (COL James T. Wortham, Chief, Field Artillery Branch)

A Note On The Advanced Course

The term "programmed for the Advanced Course" is an internal management tool of the Field Artillery Branch. A complete record is kept at the Branch of all officers eligible for attendance at advanced course level schooling. This record reflects the projected time frame of attendance as well as notations regarding changes in the program. For any of several reasons an officer's initial programed date for advanced course attendance can (and usually does) change. Officers should, however, be assured that attendance at the advanced course is a major consideration in all assignment actions involving eligible officers. Recent principal causes of deferral from attendance include:

a. Officer has an unacceptable manner of performance.

b. Officer is not available, (e. g., he is assigned in battery command or other stabilized positions).

c. Number of officers eligible exceeds class size.

Officers are presently attending the advanced course between their fourth and fifth year of commissioned service. (MAJ Walter J. Bryde, Jr., 693-0717)

Warrant Officer Classification

The directed reduction of the Army's strength has caused a large overstrength in Field Artillery Warrant Officers (MOS 201 & 211). The Field Artillery Branch has been forced to submit a number of our better warrant officers to the Department of the Army Active Duty Board (DAADB) for consideration for possible release from active duty because they are excess to the authorized strength of the Field Artillery. In order to prevent some of our warrant officers from having to either revert to enlisted status or be forced out of the Army, the Field Artillery Branch has actively pursued a program to place Field Artillery warrant officers in other branches with certain MOS shortages. This reclassification program has been very successful. To date, 33 warrant officers have been offered reclassification under this program. The Field Artillery Banch will continue this program as long as it is necessary. Warrant officers who desire reclassification may submit their requests to the Field Artillery Branch for consideration. (LTC Ronald S. Savard, 693-0745)

Regular Army Appointments

Many officers and warrant officers who have been notified recently by The Adjutant General that they were not selected for appointment in the Regular Army have asked FA Branch for the reasons they were not selected. The Regular Army Selection Board does not furnish the applicant or his branch with a record of its deliberations but the FA Branch does review the records of individuals who are not selected in order to provide as much information to our officers as possible. This review reveals the following as **possible** reasons for nonselection in many of these cases:

a. Manner of performance of duty across the officer's total efficiency record was lower than his Regular Army contemporaries.

b. Applicant had too few efficiency reports, and therefore, had not yet established a record of Regular Army quality.

c. Lack of troop experience.

In accordance with AR-310-1, distribution of **THE FIELD ARTILLERYMAN** will not be made outside the command jurisdiction of the School except for distribution on a gratuitous basis to Army National Guard and USAR schools, Reserve Component staff training and ROTC programs, and as requested by other service schools, ZI armies, U. S. Army Air Defense Command, active army units, major overseas commands, and military assistance advisory groups and missions. Paid subscriptions to **THE FIELD ARTILLERYMAN** on a personal basis may be obtained by qualified individuals by writing to The Book Store, US Army Field Artillery School, Fort Sill, Oklahoma 73503.

d. Applicant had taken no action in recent years to complete the educational goals specified by the Army.

In summary—the key to a Regular Army appointment is a high record of demonstrated manner of performance over a sufficiently long period of time for the officer to prove that he can compete with his contemporaries for promotion, schooling, and assignments. (MAJ Walter J. Bryde, Jr., 693-0717)

Review Your DA Form 66

The need to periodically review your DA Form 66 was emphasized recently when the Secretary of the 0-6 Promotion Board called the Field Artillery Branch to determine if an officer in the zone of consideration had been awarded the Purple Heart for wounds received in Vietnam. Although an efficiency report reflected the officer being wounded, the copy of the officer's DA Form 66 which the board had, did not. A search of his file in the Field Artillery Banrch failed to reveal orders awarding him the Purple Heart, although the wounds were received in 1968. Had the officer concerned reviewed his records after his Vietnam tour, the lack of orders and a proper entry could have been discovered. The value of the Purple Heart, or any other award, to a promotion or selection board is not known; however, the award must be known in order to be considered. (LTC Mac D. Sanders, 693-1105)

Officers Qualitative Improvement Actions

Improvement of officer quality involves the continual review and evaluation of officers and the release of those who fail to measure up to desired standards. With the reductions in strength required in the Officer Corps in FY 72, qualitative improvement actions take on an even greater importance. Summarized below are the significant qualitative reviews conducted by the Officer Personnel Directorate.

a. All other than Regular Army officers are screened at the beginning of each fiscal year as required by Paragraph 3-58a, AR 635-100. The decision on OPD recommendations for release is determined by the Department of the Army Active Duty Board (DAADB).

b. All Obligated Volunteer (OBV) officers who sign a Voluntary Indefinite (VI) service agreement prior to their 18th month active Federal commissioned service (AFCS) are screened by their career branch at their 18th month of AFCS. Those whose manner of performance and potential do not measure up to the high standards desired of career officers will have their VI agreement withdrawn by DA and will be released at the end of their OBV tour.

c. The records of all Regular Army second lieutenants, are reviewed prior to eligibility for promotion to RA first lieutenant. OPD initiates elimination action against any who fail to measure up to the high standards of performance expected of an RA officer.

d. Regular Army officers with over three years service can be separated only through board action ("show cause" boards) with final approval vested by law in the Secretary of the Army. OPD initiates elimination cases whenever the performance of an RA officer fails to measure up to the high standards expected. Failure to maintain pace with contemporaries in temporary promotion is cause to consider elimination of RA officers.

Army Aviation Program Entry

Effective immediately, officers applying for entry into the Army Aviation Program who were commissioned prior to FY 72 and did not participate in the Reserve Officer Air ROTC Flight Training Program, must be in a career status. Field Artillery Branch does not have VI service agreement quotas available for OBV-2 officers applying for flight school. (MAJ Roy H. Herron, 693-0859)

Review Of Records

Possibly some of you are not aware of the fact that two separate 201 files are maintained in the Washington area on each officer/warrant officer on extended active duty. The official 201 file is maintained by The Adjutant General (TAG) and an unofficial file is maintained by your career branch. Most of the information in the TAG file is duplicated in the Branch file; however, the possibility always exists that some pertinent data contained in the Branch file is not in your official file. Since the official file is the one reviewed by boards for promotion, school selection, and various personnel actions, it is to your advantage to review it occasionally. If you plan a visit to your career branch, make it a point to review your official TAG file at the same time. The Field Artillery Branch requires no appointment; however, TAG does require at least two days advance notice. To make an appointment, call AUTOVON 222-1924, local 692-1924 or write The Adjutant General, TAGO Building, 3511 South Carlyn Springs Road, Falls Church, Virginia 22041. (MAJ Robert D. Banning, 693-0745)

Our Reservists have long been a bulwark in our country's defense, and whenever freedom has been challenged, they have served—in partnership with our active forces—with great distinction.—John F. Kennedy

L1136 Army–Ft. Sill, Okla.

We no longer differentiate in an ultimate sense between Army, National Guard, and Reserve forces. Every energy . . . is bent to the development of the Army of the United States. Our purpose is to think only of the American citizen who is to be a soldier in that Army and to prepare him in time of peace for duties in war.

General John J. Pershing