Evolving Army Armor Structure In the Late 1920s

by Brigadier General Raymond E. Bell Jr.

Above, Mark VIII tanks and a command variant of the FT-17 light tank are seen at maneuvers in 1919. Dwight D. Eisenhower is the officer second from left.

- Patton Museum Photo

As we ponder the future of the "Armor/Mechanized Legacy Force" and experiment with the new "middleweight" integrated brigades, let us look back at the Army's thinking about mobile warfare at a time when there was no Armor branch, and indeed, only the Infantry branch had "tanks."

Much has been written about the development of armor in the United States Army between the two world wars. The emphasis, however, has been on armored fighting vehicles, branch advocacy, employment concepts, effect of foreign influence, unit training, and optimum large formation organizations. Little attention, however, has been given to the "nuts and bolts," the force structure, the organization of the Army's tank and motorized cavalry formations at a time when, "... European countries were conceptualizing armies that could trigger a war of greater velocity and intensity than anything previously known."[1]

In 1930, the Command and General Staff School Press published *Tables of Organization* which detailed, "... those war strength tables that are most frequently needed in the study of situations in which infantry and cavalry divisions are concerned."[2] Although many of the tables were only tentatively approved, such as the armored car squadron of the cavalry division (as of May 10, 1928),[3] the force structure published was that officially recognized as of the date of the *Tables* publication. In general, they described in exacting detail how the Army was organized to fight in future conflicts. As in similar documents today, the *Tables* were designed as reference documents for the instruction of students at the then-Command and General Staff School, so they reflect the thinking of the Army's leadership at the time about how to conduct combat operations at the division and corps level. This approved force structure also had an important impact on how units at the platoon, company, battalion, and regimental level were expected to do battle in the 1930s.

The United States Army was still in the era of the two infantry brigade "square" division patterned after the divisions of World War I.[4] There was also a tentatively approved cavalry division.[5] In addition, it was the epoch of the light and heavy tank regiments, the armored car squadron, and the infantry division tank company. A closer look at these last four organizations reveals the U.S. Army's thinking about mechanized warfare, as limited as it was, and on the integration of armored fighting vehicles into the established and proposed combat formations.

The Light Tank Company

In World War I, there were no infantry or cavalry divisions. There were only "divisions" and these consisted solely of infantrymen and their supporting arms and services.[6] (There were cavalry regiments, but none fought as regiments even though some deployed to France.) By 1929, however, there were two types of divisions — infantry and cavalry. As late as early 1940, there was only one active Regular cavalry division in the U.S. Army, the First.[7] In 1930, there were, nevertheless,

National Guard and Army Reserve cavalry formations which were, on paper, combined into cavalry divisions, as well as the Regular horse cavalry regiments. The 7th Cavalry Brigade, composed of the 1st and 13th Cavalry (Mechanized) had not yet been formed.[8]

The square infantry division, with its four infantry, three artillery, one engineer, medical, and quartermaster regiments, was still the standard combat formation. It was to be almost ten years before the "triangular" or three-regiment infantry division was adopted.

Nevertheless, while the infantry division continued to look like its World War I predecessor, there were some innovations. One of these was the division tank company, although its tables of organization still reflected World War I thinking. In a division authorized more than 24,000 men and 6,992 animals, the tank company comprised only 160 officers and men with a total of 24 tanks.[9]

The number of tanks, vis-à-vis their employment, however, is misleading. The company included one headquarters and three tank platoons. Each platoon had five two-man tanks. A corporal was the tank commander while a private drove the tank. The tanks themselves were World War I-era, two-man M1917 light tanks, a close copy of the Renault FT model. (The French were still employing this tank as late as November 1942 against the Anglo-American landings in North Africa.)[10]

The platoon was commanded by a second lieutenant assisted by a platoon sergeant and two additional privates in addition to the 10 tank crewmen. How the officer and his three other men were to be transported was not revealed in the platoon's organization table, but they were not considered part of a tank crew. Instead, in a footnote for the "Truck, tank carrier," it was specified that of the 33 such trucks in the company, four were, "...for personnel not otherwise provided for."[11] So, it is presumed that the platoon's leadership was to remain in the company trains during combat, and that the lieutenant had no command function when his tanks were deployed.

The armament of the tanks further reveals their intended purpose, to accompany the infantry. Two of the tanks were equipped with 37mm cannon, the other three vehicles only had machine guns.[12] Given their light armament and lack of an overall commander, it is easy to conclude that the tanks were to be attached, most probably individually, to any infantry unit that required support, and the infantry unit commander had free rein to employ the tank as he saw fit. He had to rely on a junior noncommissioned officer for tactical advice, if he indeed wanted it. The best that could really be expected from the tank commander was that he kept his machine running. The tank platoon structure thus reveals how restrictive the then-current tank employment doctrine was.

There were four sections in the headquarters platoon. These were the headquarters, maintenance, replacement, and a combined maintenance and replacement section. Of these, the combined section had neither personnel nor equipment assigned to it. One explanation for this curious structure was that it was intended that the headquarters platoon, at some later time, would have only two sections — the headquarters and maintenance/replacement section. The organization table was apparently written to be able to accommodate a proposed later change.

As it was, of the three manned sections, the maintenance unit was perhaps the most conventional. It consisted of 23 enlisted men, all of whom were transported in either the one repair truck or the vehicle carrying repair parts and tools. The tanks were well served. A staff sergeant was the chief mechanic. He commanded five sergeants and 17 privates. One of these privates had the occupational specialty of "chauffeur."

In addition, there was a machinist, four automobile mechanics, three gas engine mechanics, seven tank and tractor mechanics, and an oxyacetylene welder. This strong supporting unit allowed good coverage of each tank platoon when the platoon was deployed with an infantry unit.

The variety of specialists also provided broad-based support. This was important because in the division's medium maintenance ordnance company there were no mechanics specifically dedicated to work on tanks.[13] Thus the tank company was expected to perform up to and including third echelon maintenance.

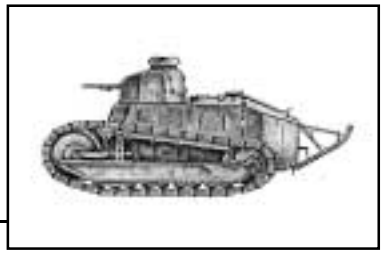
Of the three sections, the replacement section is the most intriguing. If you were wondering about the other nine tanks in the company, this is where you would find them. This section included almost two entire platoons of tanks, with their crews. The section leader was a first lieutenant, who was also the company's second in command, assisted by a section sergeant. Neither had an assigned vehicle. Four of the tanks had 37mm guns and the other five had machine guns. Corporals were tank commanders and privates were drivers.

The replacement section reflects curious evidence of WWI thinking. The tanks in the line platoons were considered expendable, and evidently expected to break down frequently or be easily and quickly destroyed. Thus the need for rapid replacement. Since tanks operated frequently as individual entities, tank team cooperation was not considered imperative. And because speed of movement was tied to that of the foot soldier, the accompanying tank needed to move neither quickly nor far.

The replacement section also alleviated stress on the maintenance section. Having a complete replacement readily at hand meant the unit mechanics were not so pressed to accomplish repairs quickly. Repair parts, too, were, not in as much demand because there were good possibilities for cannibalization of tanks destroyed in action or by accident.

Finally, there was the headquarters section. Almost half (75 of 160) the company's personnel were in this section. It also had the most vehicles. These included one light five-passenger car, two motorcycles with side cars, one ¾-ton cargo truck, a 750-gallon gasoline tanker, and 33 tank transporter trucks. The transporters were employed to carry the 24 tanks into the combat zone. If there were not enough of these specialized trucks available, then 3- or 5-ton cargo trucks could be substituted. In addition to the motor vehicles were a "rolling kitchen" and a 300-gallon water trailer.

There is nothing unusual about these vehicles except the number of tank transporters, all of which had assigned chauffeurs. Their presence again shows how self-contained the company was intended to be. In addition to transporting the tanks, these heavy trucks transported the ammunition for the guns as well as rations and other supplies.



There were sufficient transporters organic to the company to be roughly the equivalent of a present day tank transporter company.

As to personnel in the headquarters section, excluding the 36 drivers and the truckmaster, there was a wide variety of occupation specialties, some of them particularly unique. Even though there were no animals in the unit (except for possibly the company dog), the company had an assigned blacksmith. Possibly he was intended to help repairing shoes, work done by the cobbler authorized in the unit. To complement the cobbler, there was also the company tailor. In addition, two buglers were authorized, part of a surfeit of soldiers which would surely not have lasted long in combat. To complete this unique assemblage was a topographic draftsman. How he fit into the operational scheme is difficult to discern from the organization table.

More conventionally there was the mess section, but a rather small one. A mess sergeant and three cooks hardly seems a large enough group to feed a company whose elements were spread out among many different units in the division. It can be assumed, therefore, that the units to which the individual tanks or platoons were attached would provide the necessary mess facilities.

The science of inter-vehicular communication was still in the experimental stage, and an adequate field radio was yet to be had. There was only one radio operator in the signal section headed by a staff sergeant. But there was also a telephone operator and a signalman who employed wig-wag flags. The largest element was the five messengers and two motorcyclists who drove the two cycles with sidecars.

Finally, in the command/administration element there was the company commander and another first lieutenant who commanded the company's rear echelon or company trains. They were assisted by a first sergeant, a reconnaissance sergeant, and a corporal company clerk.

In sum, the division's light tank company had little combat power forward with its 15 tanks only equipped with six 37mm guns and nine machine guns. Little was to be expected of the organization except closely confined support of foot infantry. There was no new doctrine governing this company's employment. On the other hand, the company was very self-sufficient. It had its own long-distance wheeled transport to carry the tanks, a significant capability for maintenance, and a large degree of service support. It was, however, very inadequately equipped with radio communication, reflecting the World War I dependence on motor messenger support. Its self-sufficiency can be attributed to the fact that the division had no other tank transporter or high level maintenance capability to accommodate the company's requirements.

Mechanized/Motorized Cav Units

The *Tables of Organization* displayed Table 401W showing that the cavalry division's organization was tentatively approved as of 10 May 1928.[14] Only a few of the other components of this division, however, had been granted that status by that date, among them the armored car squadron.[15] Also approved was the organization of the division's light tank company, the other mechanized/motorized combat unit in the cavalry division, which was the same as the light tank company in the infantry division.

The inclusion of a light tank company, organized exactly like the one in the infantry division, is interesting. It was equipped with the same, slow, infantry support tanks as the infantry division's, so it was hardly suited for fast-paced horse cavalry operations. While the horse required little maintenance beyond good feeding and proper handling, the tank was ever prone to mechanical failures, as attested by the size of the maintenance section and the number of replacement tanks. It is difficult to imagine how the tank company could be employed in the Army's most mobile command. It should be remembered, however, that tanks "belonged" to the Infantry Branch, and doctrine for such vehicles was the responsibility of the Infantry School.[16] Just because the tanks were in a cavalry formation did not mean that the Infantry School relinquished its influence over the employment of tanks. Clearly, there was a mismatch here, most probably because it involved internal Army politics.

On the other hand, the armored car squadron's presence in the division is more plausible, and armored cars "belonged" to the cavalry. One would think the cavalry division now had, with its division aviation, a new, long-range reconnaissance capability. While in the past horse cavalry was intended to perform that function, it is apparent that times were changing.

The fact that the basic cavalry troop had been tentatively approved as a "rifle troop" in 1928 led credence to the concept that horse cavalry was to fulfill the role of mobile infantry mounted on horseback.[17] Although the sabre was an issue weapon, the horse soldier also carried a pistol and rifle. Each cavalry troop also had eight "machine" rifles. The mounted trooper could still perform reconnaissance missions and charge with the saber, but it was clearly intended that he also fight on foot.

The armored car squadron consisted of a headquarters and three troops. It was mounted in 36 armored cars, 14 "cross-country" cars, and 13 trucks. The headquarters of 11 officers and men had two cross-country cars and the only maintenance vehicle, a light repair truck. Each troop of 89 officers and men had 12 armored cars, four cross country cars, three cargo trucks, and a refueling vehicle.

The small squadron headquarters had very limited capabilities. The commander was a major, the usual rank for a squadron or battalion commander of a combat formation. He had a two-officer staff, a captain serving as adjutant, who also developed plans and training, and served as intelligence officer. Also, there was a first lieutenant as the supply officer.

The number and occupational specialties of the enlisted personnel in the headquarters provide a good picture of how it was to function. The highest ranking noncommissioned officer was a sergeant, the mess sergeant, but there were no cooks allocated to the headquarters. The headquarters, therefore, had to be assigned to one of the armored car troops for subsistence. The other noncommissioned officer was the

corporal clerk, who had a private as an assistant. The maintenance section had two mechanics and a driver for the light repair (cargo) truck. Finally, there were two chauffeurs for the cross-country cars and a messenger. With this meager complement, it was clear that there was to be no command and control function for the squadron headquarters. The commander could be the division commander's armored car advisor, but there was no communications capability in either the squadron headquarters or the troops, except for the one motor messenger. The headquarters, it appears, was intended only to be an administrative element with a limited maintenance capability.

From the squadron's organization it is evident that the squadron was not to operate independently. With no radio capability, the squadron headquarters would have been unable to control a fast-moving battle or widely dispersed reconnaissance formation. There was no way for the headquarters to act as an intermediary between troop and division headquarters for the transmission of information and intelligence. The only officer charged with operations and intelligence also had an administrative function. Unlike in the light tank company, there was no reconnaissance sergeant.

The capability of the squadron, then, devolved on the armored car troop. It was unclear from the tables, however, just what the function of the troop was to be. It could operate independently. It had its own mess, transportation, supply, and maintenance section. It did not have, however, a communications section and no specially trained intelligence personnel. Any transmission of messages would have had to be via motor messenger. In the armored car platoons, one gets some sense of the squadron's intended purpose. Each platoon (there were three in the troop) consisted of a second lieutenant, his platoon sergeant, two section sergeants, two corporals, and 12 armored car crewmen. An additional four "assistant mechanics/gunners," although assigned to the troop headquarters, were meant to be employed in the platoon. For vehicles, the platoon had one cross-country car and four armored cars, each equipped with a .30-caliber machine gun. Each trooper carried a pistol and the armored car crewmen had either rifles or submachine guns.

Of interest was how the platoon was organized. The remarks for Table 414W, which described the organization, states:

> "Each platoon is divided into two sections of two cars each, each section being commanded by a section sergeant who also acts as commander and observer of his car, the other car being commanded by a corporal. Each car has a crew of one sergeant (or corporal) as commander and observer, and three privates (driver, gunner, machine gun, and gunner, sub-machine rifle)."[18]

The platoon leader and platoon sergeant rode in the cross-country car (not yet the well-known "jeep" or lesser-known "peep") from which they controlled the movement of the two sections. Control had to be executed through flag, hand, or voice signals, although voice could hardly have been effective. How the platoons would operate together over extended distances appears not to have been considered. There is no indication that any of the vehicles were radio equipped; there is no mention of a radio operator in the armored cars. Thus it would be difficult for the armored cars to perform long-distance reconnaissance without an extended-range communication capability. Motor messenger would have to be the principal means of transmitting information.

As for a combat role, the armored cars were too lightly armed to engage any tank. A .30-caliber machine gun had only very limited armor penetration capability. Mobility gave the platoon an advantage in skirting enemy positions, but it was not intended for the platoon to ride to the battle area and then dismount to fight. What the platoon could perform was to provide security for vulnerable organizations, execute close-in reconnaissance and conduct delaying actions. Its ability to "shoot and scoot," for example, gave it the ability to stay behind and cover the withdrawal of a supported organization.

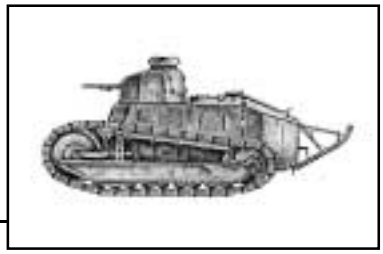
Of note, nevertheless, is that the platoon's organization was the forerunner of the scout section in the 1950s "integrated armored cavalry platoon."[19] In that platoon, the platoon leader had his own radio-equipped quarter-ton truck. The "eyes and ears" of the platoon were a two-squad scout section consisting, as did the 1928 armored car platoon, of four vehicles with two in each squad. The section and squad leaders were both sergeants in the same manner as the armored car platoon. Each vehicle had a noncommissioned officer commanding, with two additional crew members. Each quarter-ton truck had a radio and carried a .30-caliber machine gun. The difference between the two versions, of course, was the ability to communicate with other elements.

As to employment, movement by bounds was preferred. In the armored car platoon, one car could cover the movement of the other as they moved forward or to the rear. While one performed "overwatch," the other moved. The same mode of movement was standard operating procedure in the armored cavalry platoon, and continues today in the brigade cavalry troop's platoons.

The Light Tank Regiment

The light tank regiment outlined in the *Tables of Organization* had, as its basis, the light tank company to be found in both the infantry and cavalry divisions.[20] That is, each platoon had five light tanks with each of the five consisting of a crew of two and a machine gun or 37mm cannon. The platoon leader and his platoon sergeant were not crew members. The replacement section now became the "reserve" section, still under the command of a first lieutenant, and equipped with nine fully-crewed tanks. This gave each platoon a back up of three tanks completely prepared to take their place in the line platoons if needed.

Looking at this organization, it is interesting to see how the triangular configuration was now creeping into the Army's organization. This was to be seen particularly in the tank formations. There were the three platoons in the light tank company and three companies in the light tank battalion. The



battalion headquarters company was heavy on administrative and logistics personnel with the principal logistics element being a 17-man maintenance platoon. It was commanded by a first lieutenant who was also the headquarters company commander. The battalion headquarters consisted of only seven officers, with a lieutenant colonel battalion commander, a major executive officer, and a staff of five lieutenants. The organization thus reflected the intended bias of being purely an infantry support formation.

There were, further, three battalions in the regiment commanded by a full colonel. The other organizations in the regiment were the headquarters and headquarters company, a 29-member band, and a large maintenance company. The latter company was a third-echelon organization formed into four platoons and a company headquarters commanded by a captain. A "float" of four tanks was also provided within the unit.

The band was a standard formation for a regiment at this time. There was no division or brigade band, but the infantry, artillery, engineer, and medical regiments all had organic bands. Military music had an important role in maintaining regimental morale and *esprit de corps*. Emphasis was still on a regimental structure and soldiers identified most readily with their regiment. There was no such feeling by soldiers of attachment at brigade or division level.

The entire regiment consisted of 93 officers, the band leader warrant officer, and 1,733 enlisted men including nine medical officers and 48 medical enlisted men. The most striking feature of the regiment was the number of tanks it was supposed to have. There were 223 light tanks, just a few less tanks, both medium and light, than were to be found in the WWII armored division after the armored regiment organization was largely abandoned in 1943.[21]

The Heavy Tank Regiment

If the light tank regiment was heavy on two-man tanks, the heavy tank regiment was unique in the number of personnel in it. There were 237 officers, the warrant officer band leader, and 2,749 enlisted men, again including the medical personnel. There were 135 heavy tanks in the entire regiment.[22] These vehicles were the ponderous, World War I-era Mark VIII tank which were designed to work closely with the infantry, operating at their pace.[23]

This time, the triangular configuration was maintained even down to the platoons, which had three squads. Each squad consisted of one tank with a crew of 11 men. Such was the "nature of the beast" that the squad was commanded by a second lieutenant. The three-tank platoon had a first lieutenant commander, and there were three line platoons plus the headquarters in the company.

As with the light tank company, the headquarters platoon was a large formation. It consisted of a big headquarters section, designed to provide broad administrative and logistics support and reflecting the desire to make the company a self-contained organization. This could also be seen in the hefty maintenance section of 29 enlisted men.

The most remarkable formation in the headquarters platoon was the reserve section. It had a first lieutenant, six second lieutenants, 60 enlisted personnel, and six tanks. Thus, two-fifths of the entire tank company were held in reserve, with not just their vehicles but with their full crews ready for deployment. When a tank became disabled, the whole system (which included the crew) was to be replaced. Evidently expecting a high vehicle casualty rate, either through enemy action or mechanical failure, there was the very high ratio of replacement vehicles and crews to line platoon elements.

There might have been other reasons for this somewhat lopsided organization. The heavy tank was even less reliable mechanically than the light tank. This is reflected in the unit's large maintenance organization. It must have been expected that a large percentage of a company's tanks would be out of commission at any one time, necessitating immediate replacement. It appears that tank employment experience in World War I still played a major role in determining the decision to provide so many replacements and the size of the maintenance section.

Why the crew which lost its tank could not man a new vehicle is not quite so evident. If a tank broke down, then the mechanic or mechanics in the crew could be expected to remain with the tank to repair it, but these were but a fraction of the crew. The heavy tank of the time was not exactly a "user-friendly" combat vehicle, so it may have been anticipated that if the tank was hit, all or most of the crew would become casualties. If key personnel were wounded or killed in the tank then, possibly for the sake of teamwork, it would have been easier to replace the whole crew. In addition, a fast-moving situation was not envisioned for the employment of the heavy tank formations. Thus limited time to coordinate with the infantrymen advancing mostly on foot was not a major factor. The "set-piece" type of battle envisioned for the employment of heavy tanks could be expected to yield sufficient time for detailed briefing of such a replacement crew. The tank commander lieutenant could also be expected to quickly integrate his vehicle into the scheme of maneuver.

Whatever the reason for such a large reserve section, the company became a cumbersome organization for a captain to command. He had five first lieutenants and 16 second lieutenants. There were 247 enlisted men for just 15 tanks.

The tank battalion of which these heavy tanks were components was also a cumbersome formation. It had over 900 officers and men to fight and support 45 tanks. The battalion's headquarters company consisted of a 29-man maintenance section (including a first lieutenant company commander) and a 60 enlisted man company headquarters. The preponderance of the battalion's personnel were in the three line companies (again, a triangular formulation).

The battalion headquarters was particularly light in assigned personnel, with no enlisted men and only seven officers, five of whom were lieutenants. There was only limited staff functioning which reflects the lack of expectation that the battalion would engage as

a unit in independent action. The lieutenant colonel commanding the battalion was in all probability best utilized as an armor advisor to a division or corps commander.

Finally, the regiment itself consisted of three heavy tank battalions, a maintenance company, the regimental band, and a headquarters and headquarters company. It appears that the employment of the regiment called for either subordinate unit attachment or a breakthrough accompanying infantry role. Given the state of vehicular radio communication, it is difficult to envision anything for the regiment to be capable of beyond a limited accompanying role. The staff was restricted to junior officers, which mitigated against the organizing of any independent operation. The large maintenance company of four platoons, each with 36 men and an officer, on the other hand, made it possible to provide effective support to a multitude of elements spread out among a number of supported organizations.

It is obvious that the heavy tank regiment, like its light tank regiment brother, was to do battle as they had on the Western Front in World War I. Employment of independent mechanized and motorized combat formations had to be conducted using a methodology that saw the Army planning to fight the next war by preparing for the last one.

Conclusions

The tentative institutional organization of a cavalry division clearly pointed the way towards using cavalry in exploitation and mobile warfare. The British experience with mounted troops in Palestine under General Allenby in 1917 and 1918 could also have served as a model, not only for horse-mounted troops but for motorized formations as well.[24] But it seems that the tanks and armored cars in the division were expected to yield small return. With the primitive state of mobile radio communications, it is difficult to see how these vehicles could be effectively controlled using signal flags and motor messengers in a fluid situation. A significant result was the fragmentation of command and control. At the lowest levels, there was a built-in bias against cohesive small unit leadership. At the levels of command where there were headquarters elements, there was an excess of overhead while the staffs were woefully undermanned, thus denying them effective input into the conduct of operations. So, the tanks and armored cars became "tag-along" elements whose employment was expected to be limited.

The huge infantry division literally swallowed the light tank company. The U.S. Army was saddled with a surfeit of obsolete World War I tanks which gave little incentive to develop new, technologically advanced armored fighting vehicles. But with the armor tied to the slow-moving infantry tactics, the lack of mobility became a moot point. One wonders how 15 light tanks in the line platoons were to give the division anything but a tiny amount of armor-protected firepower and mobility. Their limited capability suggests that to the Army of the time, tanks were simply a sop to the idea of mechanized warfare. Although the controversy as to which combat arm, the cavalry or infantry, was to ultimately control the successors to the World War I Tank Corps was not yet full blown, there seems to be little doubt that, by 1930, the future of an independent mechanized/motorized combat arm was insignificant within the full context of the manner in which battle was to be prosecuted as promulgated by the U.S. Army's leadership.

The independent tank regiments, seen primarily as corps assets, were too large and cumbersome to be little else but holding formations for numerous small packets of tanks attached to infantry organizations. Attachment to the cavalry division operating in an independent mode appears out of the question. If force structure was to reflect forward-thinking employment doctrine, then what was taught at the Command and General Staff School in 1930 had not progressed much in the ten years after World War I.[25]

Not only was the inclusion of a limited tank capability indicative of a "last war" mentality, so was the size of the infantry division, the large number of horses, horse artillery, and horse transport in the division, and the limited inclusion of aviation assets in both the cavalry and infantry divisions.

Luckily, what was extant in 1930 was to be greatly altered in the next few years. Ten years later, the entire landscape had changed. It was impossible to not only ignore German and other foreign armored warfare developments, but for the then-Command and General Staff School to stagnate in executing its mandate of preparing mid-level commanders for future combat.

In 1930, there was no Armor School. Indeed, there was no Armor branch, nor armored force. Today, however, the Armor School has proponency for "... history of armor and armored cavalry units at the brigade/regiment level and below..."[26] The Command and General Staff School's 1930 *Tables of Organization* for tank and motorized cavalry are today part of that history. Although not meant to be some stellar exposition, the *Tables* are a concise revelation of the predominant thinking on mechanized/motorized force structure of the early interwar era.

Notes

[1]John B. Wilson, "Influences on U.S. Army Divisional Organization in the Twentieth Century," *ARMY HISTORY* (Washington, D.C., Fall 1996) p. 4.

[2]The Command and General Staff School, *Tables of Organization* (The Command and General Staff School Press, Fort Leavenworth, Kan., 1930) p. 1. Henceforth noted as "Tables."

[3]Tables, p. 75.

[4]Wilson, p. 3.

[5]Tables, p. 68.

[6]See Mary Lee Stubbs and Stanley Russell Connor, *Armor-Cavalry, Part I: Regular Army and Army Reserve* (U.S. Government Printing Office, Washington, D.C., 1969) p. 40. One cavalry division was organized in Texas in December 1917, the 15th, consisting of three brigades of three regiments each. A complete division organization, however, was never formed and the division was disbanded in May 1918.

[7]Russell, P. Weigley, *Eisenhower's Lieutenants* (Indiana University Press, Bloomington, Ind., 1981) p. 1. The Regular Army's 2d Cavalry Division, authorized under the 1920 National Defense Act, was inactive. See Stubbs and Connor, p. 53.

[8]Stubbs and Connor, p. 56.

[9]Tables, p. 13.

[10]Richard M. Ogorkiewicz, *Armour (*Stevens & Sons, London, 1960) p. 175.

[11]Tables, p. 13.

[12]Ogorkiewicz, p. 170. The French Renault FT, with which the American light tank company was equipped as a result of the tremendous number remaining in the U.S. Army's inventory after World War I, carried either a 37mm gun or a machine gun in its turret. The two-man tank weighed about 6.5 tons, could attain a maximum speed of 4.8 miles per hour, and had an operating range of 25 to 30 miles.

Continued on Page 37

Evolving Army Structure

From Page 34

[13]Tables, p. 14.

[14]Tables, p. 68.

[15]Tables, p. 75.

[16]Stubbs and Connor, p. 50.

[17]Tables, p. 83. For how rifle troops fit into the cavalry regiment organization and how they were organized, see Stubbs and Connor, p. 54.

[18]Tables, p. 76.

[19]Letter, U.S. Continental Army Command, 13 January 1959, Subject: The Armored Cavalry Regiment (U).

[20]Tables, p. 108.

[21]Stubbs and Connor, p. 61. The 1943 armored division had 263 tanks with medium M4 tanks outnumbering the light tanks by a ratio of about two to one.

[22]Tables, p. 109.

[23]Ogorkiewicz, pp. 189-190. This tank was based on the British designed heavy Mark VIII. The rhomboidal heavy tank had overhead tracks and a main armament of two 57mm guns, one on each side mounted in a sponson box. The tank did not see action in World War I, with only a hundred being constructed, the majority after the war had ended. The Americans employed the British Mark V and Mark V Stars in the 301st Heavy Tank Battalion during the war. See also Stubbs and Connor, pp. 46-47.

[24]T. Dodson Stamps and Vincent J. Esposito eds., *A Short Military History of World War I,* (U.S.M.A.A.G. Printing Office, West Point, N.Y., 1950) pp. 241-248. Allenby's campaign in Palestine in 1917-1918 served as the basis for Major General John K. Herr's lectures on mobile warfare at the Army War College in Washington, D.C. during the 1920s.

[25]See James S. Corum, *The Roots of Blitzkrieg* (University Press of Kansas, Lawrence, Kan., 1992) pp. 92 and 190, for a scathing indictment of the instruction at the U.S. Army Command and General Staff School between the two world wars.

[26]*ARMOR*, January-February 2001, Vol. CX, No.1, Contents Page.

BG Raymond E. Bell Jr., USMA Class of 1957, served in the 3d Armored Cavalry, 32d Armor, 15th Armor in Korea, and 5th Cavalry in Vietnam. He has been a member of all three components, last commanding an Army Reserve MP brigade. He attended both the Army and National War Colleges.