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German and British Experimentation In the 1920s and '30s Inspired Emergence of U.S. Armor Force

by John Cranston
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Many writers (including this one) have concluded that MG Adna R. Chaffee developed the American Armor Force, virtually alone. Chaffee's associates have bemoaned the lack of organizational and financial support which Chaffee and other tank warfare enthusiasts received in the 1930s.¹

Chaffee certainly helped turn military opinion to support a strong armor force; his decade of quiet and consistent leadership paid off in the Louisiana Maneuvers of 1940 and the founding of the American Armor Force in July of that same year. However, Chaffee's work in the 1930s, including successively expanded maneuvers, in many ways built upon foundations laid earlier in Germany from 1918 until 1926, and, to a lesser extent, in mechanized maneuvers held in England after that time through 1938. Chaffee's outstanding achievements by 1940 may well have evolved because of his knowledge of these European precedents. Throughout combined arms exercises, he preserved the integrity of the mechanized and later of the armor force.

More than any other German leader, Hans von Seeckt, Commander-in-Chief of the new German Army (Reichswehr) from 1919-1926, laid the groundwork for a revitalized German fighting force. For von Seeckt, the military leadership

training and battlefield maneuvers for a mechanized force could take place without the latest equipment. In his large-scale mechanized maneuvers through 1926, von Seeckt trained his leaders first, and he trained them well. German armor was the first to benefit from this training.

A political pragmatist, Von Seeckt turned each and every event to his advantage. He took over a Reichswehr which had survived defeat by crushing the political left in the Spartacist Revolt of 1918/19. The crushing of the revolt stabilized the Weimar Republic, making the new government more dependent upon a strong army than its founders had anticipated. The former General Staff was reconstructed by von Seeckt under the redesignation of *Truppenamt* (literally: advisory council for troops). Von Seeckt accepted the Versailles reduction of officers from 34,000 to 4,000, but was able to compensate by recruiting 56,948 NCOs in 1924. Since Versailles placed restrictions on organizational strength, von Seeckt used the treaty's provisions to create "triangular" divisions, with three rather than four regiments.²

Above all, von Seeckt recognized the importance of maneuvers in assessing the mobility and maneuverability of his military forces. Troops often had to

train using wooden weapons mockups. Trucks frequently were substituted for tanks. The largest-scale maneuvers since World War I in Germany took place in 1926, von Seeckt's last year of active duty. There were two different maneuvers, each with five divisions. Tankers trained in defense, reconnaissance, support, surmounting obstacles, and night river crossings. By the end of the maneuver, the Third Cavalry Division reported to Army Headquarters that "battle without tanks is obsolete."³

The cavalry divisions (using mockups and a limited number of tracked vehicles) conducted their portion of the mechanized maneuvers in eastern rather than in western Germany. This was no accident. Under Gustav Stresemann, the perennial Weimar Foreign Minister until his death in 1929, the German Government pursued a policy of "fulfillment" of Versailles restrictions in dealing with governments in Paris and London. However, Germany had also been secretly negotiating with the newly-formed Soviet Communist Government in Moscow for the sale of military weapons in return for quietly training near or on Soviet soil. In 1927, just one year after von Seeckt's retirement, a German Armor School was established in the Russian university town of Kazan.⁴

Although interested in Armor doctrine, von Seeckt left to others, like Ernst Volckheim and Heinz Guderian, to formulate new tactics and strategy after his retirement in 1926.

British interest in a mechanized force increased just as von Seeckt was departing from the scene. The Tidworth Garrison, on the edge of England's Salisbury Plain, had been developed after the First World War to include ranges and maneuver areas ideal for tanks. In the summer of 1927, an experimental force of tanks and armored cars engaged in a series of maneuvers at Aldershot, England, on the Plain. The U.S. Secretary of War, Dwight Davis, attended one of these maneuvers, and concluded that the United States, too, needed an experimental mechanized force.⁵

Davis arrived on the scene just as Britain's J.F.C. Fuller, one of the two leading proponents of an experimental mechanized force, had decided to leave the Army. (Basil H. Liddell Hart was to remain on active duty.) Believing that he had been offered the command of the new Experimental Force, Fuller rejected in March 1927 the offer to command instead the 7th Infantry Brigade at Tidworth. Fuller was informed by his superiors that the Experimental Force was considered only temporary; nevertheless, he declined the offer to command the infantry unit, which might have led to the eventual command of the Experimental Force. Fuller officially retired in 1933. A solitary and relatively inflexible figure, with much to offer an experimental force, Fuller proved, in the eyes of one biographer, to be "his own best friend and own worst enemy." The decision to reject the Tidworth appointment may well have been the worst mistake in Fuller's career. With his knowledge of tanks and his forceful presence, plus his contacts in and outside the Army, Fuller's resignation meant the death of a strong experimental mechanized force in Britain in the 1930s. Fuller found it hard to work within the system. The system was to find it hard to operate without him.⁶

The 1927 maneuvers were not the last held on the Salisbury Plain. In 1934, the first tank brigade, formed in April, maneuvered there in July, attacking small fortified areas and then advancing in armored formations. In the ninth set of maneuvers, the tank brigade moved out after midnight, engaging in daytime concealment to avoid detection

by aircraft. In 42 hours, medium tanks traveled 120 miles, with light tanks up to 160 miles, proving the value of tanks and aircraft in battle. However, the tank brigade fared less well in the July 1935 maneuvers. Two divisions were fighting two other divisions in a corps vs. corps maneuver. Older tanks were distributed among infantry divisions for the first time since 1925. Infantry, rather than armor, was placed in the forefront. Perhaps, had Fuller not declined the post offered to him in 1927, armor and the two-year old tank brigade, with the concept of a mechanized force, would have fared better in the late 1930s.⁷

It is hard to say how much Chaffee borrowed from the German and British precedents. His doctrine and his opera-



General Chaffee escorts visiting congressmen on a visit to Ft. Knox in 1941.

tional skills resembled those of von Seeckt, rather than Fuller. When Secretary Davis's hope for an experimental mechanized force failed to materialize, Chaffee continued in the 1930s to work within the system. Like von Seeckt, he initially trained without tracked vehicle equipment. At Fort Knox, Chaffee trained the 1st Cavalry Regiment, "unhorsed" from Marfa, Texas, for the Fort Riley Maneuvers in the summer of 1934. The mechanized forces at Fort Riley, under Colonel Dan Van Voorhis, included an armored car troop and also a combat car squadron, with only six of the 18 vehicles actually "combat cars," or tracked vehicles. This 1st Cavalry Regiment initially fought the horse units of the Fort Riley Cavalry School Brigade. Then both forces fought a common enemy. Lessons learned included the need for more night training by the 1st Cavalry and support in overcoming obstacles — especially bridges. To at least one observer, horse units operated better at night.⁸ In the maneuvers to Allegan, Michigan, in August 1936, 1st Cavalry traveled 400 miles in two days. Under Colonel Bruce Palmer, 1st Cavalry then fought with the "Red" Team against the "Blue" Team for the first time in a division-level maneuver.

Horse units engaged in a close envelopment, with mechanized cavalry units in a wide envelopment, delaying the advance of the Blue Force. Lessons learned included the fact that mechanized force could now successfully engage in night surprise attacks.⁹

All this training paid off at the August 1939 Plattsburg maneuvers, largest American peacetime exercise to date, with the 1st and 13th Cavalry Regiments (both now in the 7th Cavalry Brigade) engaging in mock combat between two corps. The brigade leaders refined cavalry doctrine, with tracked vehicles traveling at night, without lights, to take the major road center of Peru by surprise. Unlike the British use of a mechanized force to support infan-

try, the 7th Cavalry Brigade at Plattsburg followed the German example by preserving the separate organizational integrity of the mechanized force.¹⁰

The 7th Cavalry Brigade went on to fight in the corps-level Louisiana Maneuvers of 1940, which were the largest peacetime maneuvers ever conducted in the United States up to that time. Together with the recently-arrived 6th Infantry Regiment (Mechanized), the brigade was attached to IX Corps. A Provisional Tank Brigade from Fort Benning, under BG Bruce Magruder, was attached to IV Corps. The two brigades fought first against each other and then on the same side, with mechanized brigades emerging as clear winners in the maneuvers. IV Corps borrowed from von Seeckt's organizational model, employing the "triangular" division concept with three, rather than four, regiments per division.¹¹

Chaffee consciously or unconsciously borrowed from the German and, to a lesser extent, from the British example. Major accomplishments included the ability to conduct long road marches without mishap and, at and after Plattsburg, the capacity to use tracked vehicles effectively at night. Through-

out his career, and especially after 1938, Chaffee took care to preserve the organizational integrity of his mechanized units, in keeping with the German example but in contrast to the British maneuvers of 1935.

Certainly Chaffee, like von Seeckt, could have benefited from more and better tracked vehicles. However, both of these leaders showed that, between the two world wars, officers and NCOs in a mechanized force could be trained in superior doctrine, tactics, and strategy without the latest weapons.

Notes

¹See especially MG (USA, Ret.) Robert W. Grow, *The Ten Lean Years: From the Mechanized Force (1930) to the Armored Force (1940)*. Manuscript in Patton Museum Collection, Fort Knox, KY. For the description of Chaffee, see Mildred Gillie, *Forging the Thunderbolt* (Harrisburg, Pennsylvania, The Military Service Publishing Company, 1947). Gillie worked with the now missing Chaffee Papers.

²Cite James S. Corum, *The Roots of Blitzkrieg: Hans von Seeckt and German Military Reform* (Lawrence, Kansas, University Press of Kansas, 1992).

³Corum, p. 186.

⁴Corum, pp. 190-195.

⁵Noted in Gillie, *Forging the Thunderbolt*, p. 20.

⁶See Anthony John Tythall, 'Boney' Fuller: *Soldier, Strategist, and Writer: 1878-1966* (New Brunswick, New Jersey, Rutgers University Press, 1977), p. 141 and quote on p. 179.

⁷Basil H. Liddell Hart, *The Liddell Hart Memoirs, 1895-1938* (New York, G.P. Putnam's Sons, 1965), Vol. I, pp. 245-53, 267-70.

⁸See "The Cavalry Maneuvers at Fort Riley, Kansas, 1934, *Cavalry Journal*, Jul-Aug 1934, pp. 5-13.

⁹Colonel Bruce Palmer, "Mechanized Cavalry in the Second Army Maneuvers, *Cavalry Journal*, Nov-Dec 1936, pp. 471-77.

¹⁰Gillie, *Forging the Thunderbolt*, pp. 130-33.

¹¹Gillie, *Forging the Thunderbolt*, pp. 161-164.

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Smart Tank Munitions (Continued from Page 25)

on the horizon. As they maneuver into position to launch their missiles, a tank in the overwatching platoon spots them and fires an X-Rod. The round easily sees the targets and maneuvers toward one of the helicopters. The long rod passes through the thin shell of the aircraft, causing only minor damage, but its expended rocket motor crashes into the side of the helicopter. As the damaged helicopter autorotates to the ground, the other helicopter pilot decides not to test fate and aborts his attack.

When the attacking tank platoons are 2000 meters from the objective, the three defending enemy tanks open fire. Because they are firing against maneuvering targets, their fire is not particularly effective. What they have done though, is to give away their positions. Some of the attacking tanks have 'smart' rounds in the chamber, as do the overwatching tanks. Without pausing, and despite traveling 30 miles per hour over rough terrain, the attackers let loose a barrage of guided, kinetic-energy and top-attack rounds at the defenders. Puffs of smoke identify projectiles whose rocket thrusters ignite to maneuver them against identified targets. Bright explosions above the ground mark the launching of EFPs

against armored targets. Two more defenders are destroyed. The final defender is seen by the overwatching platoon as it moves towards an alternate position.

Two more STAFFs are fired. Hits to the enemy's turret and engine compartment ensure that the objective will be taken without further loss of friendly tanks.

Conclusion

In these simple scenarios we have attempted to illustrate the potential impact of 'smart' tank munitions. Because of their longer range, they will open the spacial parameters of armor units. The added range will also provide commanders more time to shape the battle. Additionally, by providing a moving tank the same hitting capability as a stationary tank, 'smart' tank munitions can speed up the tempo of battle. These are just some of the implications. Members of the Armor Force must begin considering all the tactical implications of 'smart' tank munitions now. New ideas must be explored, tested, and simulated. This new technology will open a whole new era for the U.S. Armor Force. Now is the time to start preparing for it.

Building Better "Bullets" - The OPM-TMAS Story

The charter for the Office of the Project Manager for Tank Main Armament Systems (OPM-TMAS) was approved by the Secretary of the Army in 1979. OPM-TMAS's original mission was for the development, acquisition and fielding of 105- and 120-mm tank lethality systems for the XM1 tank system. Under its original mission, the OPM-TMAS staff managed the development and subsequent acquisition of the 120-mm M256 cannon, now in service on the M1A1 and M1A2. They also provided the M774 and M833 105-mm kinetic energy rounds. Additionally, under its original charter, the personnel at OPM-TMAS managed the development and fielding of 120-mm tank ammunition, most significantly, the M829 kinetic energy round, the M830 HEAT round, and their equivalent training projectiles, the M865 and the M831. In the mid-eighties, OPM-TMAS became responsible for the Armament Enhancement Initiative (AEI). This program is an effort to leap ahead in tank fired, antiarmor munition's lethality. OPM-TMAS's successes to date, under the AEI, include the M900, the M829A1 and its follow-on, the M829A2, and the M830A1 multi-purpose round. AEI also includes the Smart, Target Activated, Fire and Forget (STAFF) round, which is one of the subjects of this article. In addition to tank ammunition, OPM-TMAS is charged with fire control development and several advanced projects in this area are on-going at this time. OPM-TMAS's current Project Manager is COL Richard Bregard. He is assisted by a core staff of 35 civilian and military personnel. For questions concerning this article or OPM-TMAS, contact MAJ Bruce Held, DSN 880-2615.