158th Cavalry Brigade—Franconia, N. H.

LIEUTENANT COLONEL C. H. GRIFFITH, Cavalry-Reserve, *Executive Officer*

The recent re-allocation of units of the 158th Cavalry Brigade placed the 315th Cavalry in Massachusetts, the 316th Cavalry in Rhode Island, Connecticut and Vermont, and the Brigade Headquarters and Headquarters Troop in New Hampshire and Maine. Although the officers assigned to Headquarters and Headquarters Troop are scattered over northern New England, with the greatest number of officers in any one town being in Portland, Maine (three), every effort is being made to overcome the handicap of this "dispersion."

The first opportunity this year for the brigade officers to meet was at the Contact Camp held on March 25th and 26th at Norwich University, Northfield, Vermont, under the auspices of the 3d Squadron, 316th Cavalry. An invitation to attend this camp was extended to all Cavalry Reserve officers in the First Military Area by Major John Brainerd, the squadron commander. Of the officers assigned to Brigade Headquarters and Headquarters Troop there were present at the camp Lieutenant Colonel C. H. Griffith, Executive Officer; Captain William E. Cornell, Adjutant; First Lieutenant Richard D. Wagner, Supply Officer; First Lieutenant William L. Stockman, Jr., Commanding Officer, Headquarters Troop; Second Lieutenant John F. Howe and Second Lieutenant John R. Kelly, Jr.

A most interesting and instructive program had been arranged for the camp by Lieutenant Colonel L. S. S. Berry, Cavalry, our unit instructor, and Major John Brainerd, Commander of the 3d Squadron, 316th Cavalry. All brigade officers wish to express their appreciation to these officers for the opportunity of attending, and most particularly to Lieutenant Colonel George S. Andrews, Commandant of Norwich University, for his hospitality and for placing at our disposal the excellent facilities of the University.

316th Cavalry (3rd Squadron)—Montpelier, Vermont

MAJOR JOHN BRAINERD, *Commanding*

The division of the First Corps Area into three Military Areas brings to the Cavalrymen of Vermont two great advantages. An entire squadron is now located within the state and a regular army instructor is stationed with us. Lieutenant Colonel Lucien S. S. Berry assumed command of the Rutland Sub-Area and also is unit instructor of the 3d Squadron of the 316th Cavalry. The other two squadrons of the regiment are located in Connecticut and Rhode Island.)

Vermont, through the ROTC Unit at Norwich University, has been graduating each year a fine type of well trained officer and it is around the Norwich graduates that the squadron is being built. The records indicate that of the one hundred officers assigned to the squadron, ninety per cent are Norwich men.

It was natural then to turn to Norwich University, with all the facilities it offers as a military college, for the gathering place for our first contact camp. The University willingly coöperated, and on March 25-26 thirty officers assembled for a two-day schedule that included equitation, musketry, movies, lectures, and a well conceived terrain exercise held in the mountain passes around Northfield. The squadron entertained the officers of the 158th Cavalry Brigade of New Hampshire and Maine and the reserve officers of the 1st Squadron of the 3rd Cavalry.

The success of the camp was made possible by the assistance of the University and Lieutenant Colonel George S. Andrew, the Commandant there, by the work of Lieutenant Colonel Berry and the enthusiasm of all squadron officers.

Contact camps at Norwich will, in the future, be a definite part of the inactive training of the squadron and will augment the troop schools and correspondence school work.

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DRESS REHEARSAL FOR THE NEXT WORLD WAR

It is customary—and wise—during those periods of suspended strife, known somewhat euphuistically as "peace-time," for the military quidnuncs up and down the world to indulge in a little thoughtful stock-taking. Whatever campaign has recently been concluded has invariably been prodigal in "lessons"; since, in war, both combatants are prone to error, and it is usually a case of the side winning whose mistakes have been fewer and less egregious than those committed by their opponents.

Thus, with the rather pedestrian campaign which has recently been brought to an end in Spain, even if it is going too far to regard it as "a dress rehearsal for the next World War," the usual quota of lessons it has produced is worthy of more than passing consideration by those to whom the art, and practise, of war remains a serious study.

Accepting it as axiomatic that the strategic principles of war remain unchanged and that only their tactical application undergoes modification, it is to an investigation into the battle-methods employed in this most recent struggle that this enquiry will confine itself.

The first thing that emerges, quite clearly and unequivocally, is that the advantage—as in the 1914-18 World Crisis—remains very largely on the side of the defence. The machine gun, the concrete mixer, and that mechanically produced "Wait-a-bit" thorn we call barbed wire have seen to that. Nonetheless, although the scales are definitely tipped on the side of the defender, they are not so mercilessly weighed down in his favour as some prognostications had anticipated. Given sufficient preponderance in the air (with unlimited munitions), and the inhabitants of a rigid trench line can be so far devitalised that an *assault à outrance*, if it is prepared to sustain loss in a ratio of at least 5 to 2, *can* pierce a defensive system effectually and decisively. This bull-at-the-gate method was tried out in the earlier days of the assault on Madrid; and making all allowance for the rawness of the troops opposed to Franco's assailing legions, the fact remains that the latter did manage to carry a reasonably well-dug and wired defensive system by a series of frontal attacks. The cost, however, both in rifle strength and in morale, was so inordinate as to set the leaders on the Red[1] side, no less than Franco himself, excogitating an alternative method of obtaining their objectives. It must be allowed

[1]Be it noted that the terms "Red" and "Rebel" are used throughout purely with the idea of ensuring easy identification, and without any indication of bias, one way or the other, whatsoever.—THE AUTHOR.

By
Major Reginald Hargreaves, M.C.
British Army, Retired

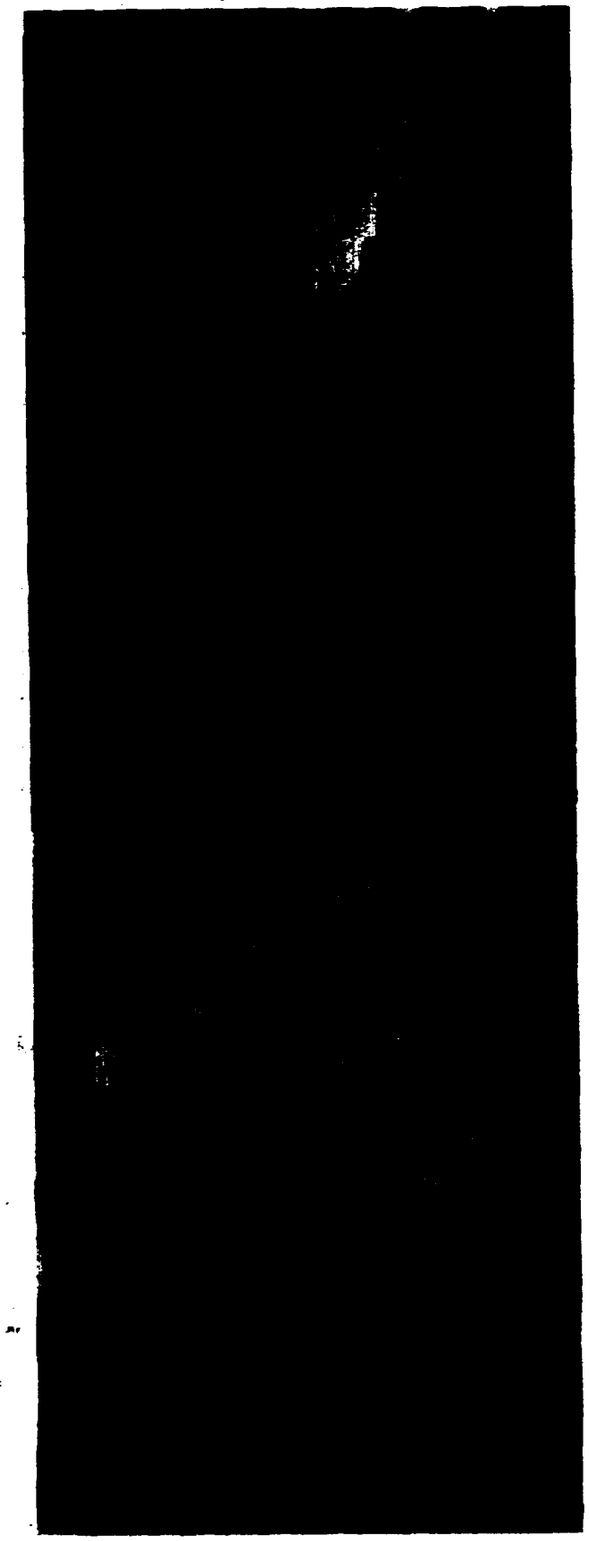
It is axiomatic that the strategic principles of war remain unchanged and that only their tactical application undergoes modification.

that to the Red leaders must go the credit for first disinterring the principle of "infiltration" from the sepulchre of neglect where in it had hitherto lain unregarded.

That it was the Reds rather than the Rebels who were the first to take this initiative is really less surprising than at first appears. The old conception of the commander, sumptuously mounted on his conspicuous charger, directing the battle in person from some convenient coign of vantage, fortuitously overlooking the scene of action, is one that dies remarkably hard. Despite its obvious impracticability in those days when the sheer power and range of the engines of war had operated to force an ever increasing recession on the part of the command, it was a conception to which many general officers still clung mentally—unconsciously, maybe, but with an inherent tenacity—during the campaign of 1914-18. Brought up in the same school of orthodoxy, and without even the corrective to erroneous conceptions administered to the contestants by the struggle of twenty-odd years agone, the Franco hierarchy were predestined to a slower readjustment to realities than their opponents, unhandicapped, in the main, by any "bow-and-arrow" predispositions. In other words, while Franco and his supporters had to unlearn before they could even begin to learn, their adversaries had only to learn. Thus, for once, theoretical inexperience was its own reward!

Thus one of the first things the Reds succeeded in assimilating was the folly of bull-headed frontal attacks on a strongly-held enemy position. But the alternative of "infiltration" embodied a requisite of considerable novelty and peculiar exaction—the *devolution* of the functions of command until the responsibility for the actual conduct of the battle rested with subordinate officers, rarely of greater rank than that of company commander or section leader, and infrequently reaching back even so far as to the actual commander of the battalion.

It has long been realised, of course, that beyond planning a battle to the best of their ability, and taking such provision against contingencies as their experience and imagination can envisage, the higher command can do comparatively little. Once zero hour has arrived, events, during their earlier and crucial stages of development, pass out of the staff's control. They can putty-up here; add a little extra pressure there—generally too late!—stand by to exploit a success, if such is achieved; throw in reserves in time—if they are lucky!—to stem any enemy counter attack or to launch one of their own; or, at worst, plan a fresh operation upon the residue of the first effort if nothing more has been accomplished than a stalemate. But that is about all.



A successful battle, in effect, is one which, in the firs instance, has been well-planned, and, thereafter, has bee well fought and alertly directed by the subordinate com manders on the actual fighting ground itself.

This, as will be obvious, demands a high degree of fle bility and intelligent coöperation on the part of the co pany officers and section leaders, who, above all thing *must thoroughly appreciate the purpose and intention the operation with whose prosecution they have been trusted*. This, in turn, demands the most careful worki out of the operation's "general idea"; while the details the execution of the "particular idea" must be fram d with sufficient elasticity to permit of their readjustme t and readaptation to the quickly-changing aspects of the combat by the leaders actually on the spot. Such sub-ordinate leaders must patently be men possessed of the ability to arrive at a correct and speedy decision on the local problems as they arise, without reference back to higher authority, whose intervention and decisions in all localised tactical problems must—such is the pace, and space-demand, of modern war, and the continued unreliability of forward communications—be so delayed in transit as to be stultified or out of date before they can achieve delivery—even allowing that they ever do!

This conception of battle-control is, of course, in direct contradiction to the theory of *Fuehrer-prinzip* (or control by the central leader), upon which the Germans have always relied, if we except the operations directed by Ludendorff against the British Fifth Army in March of 1918. Yet this *Fuehrer-prinzip* theory of battle-control was one upon which the Franco staff continued to rely long after their opponents had abandoned it as impracticable under modern war conditions, and were groping their way towards the application of those methods of "infiltration" they were subsequently to employ with a really remarkable measure of success.

* * *

Infiltration, as will be obvious, demands a certain measure of looseness in the opponent's system of defence before it can be successfully essayed. Against a long, well-dug, adequately-wired, concrete-and-pill-box-strewn defensive line, it can, at best, only be employed after heavy preliminary bombardment to clear the way and in conjunction with smoke screens to shroud the movements of the assaulting troops; aided by tanks at their most protean.

But against an elastic defence line, held in depth and wherein the forward zones are maintained in, possibly, too great strength at the wrong points; or with a tactically unsound dispersion of the front line garrisons so as to leave penetrable gaps, infiltration stands an excellent chance of success. But, as has already been said and can well be said again, the accompanying corollary is that the subordinate leaders *must* know the purpose of their activities, and be sufficiently capable of swift readjustment to local circumstances to achieve them by means which have only figured as an alternative in their previous orders, or in their own excogitations of them.

Of equal importance is the composition of the force by which the assault by infiltration is to be conducted. And in this connection, an examination of the action fought, late in 1937, at Fuentes del Ebro well repays the closest scrutiny and analysis.

Against a well defended but not fixedly rigid line held by Franco troops, the Reds launched an attack in which, while the more thickly protected sectors were to be cautiously assailed on orthodox lines, infantry with a liberal supply of machine guns, carried as passengers by, and in conjunction with, tanks in considerable numbers, were to push right through, avoiding all strong points, redoubts, fortified villages and the like, and keep on going until they reached a position well behind the enemy forward zone and right athwart his lines of communication. In its initial stages the operation was crowned with almost complete success. The mosquito-cloud of "infiltrators"

pushed right through and landed, without encountering serious opposition, on their ultimate objectives. The infantry promptly went to ground, and the tanks took a look round, "seeking whom they might devour."

It was then that things started to go wrong.

Cover there was for the infantry and machine-gunners in reasonable sufficiency; but where the tanks were concerned there was nothing for it but for them to remain "naked and unashamed before their enemies." Unhappily, too, the array of their enemies included a useful force of field artillery, which lost no time in getting the armoured pachyderms range. Unable to "stay put," since that presented the hostile gunners with a stationary rather than a moving target, many of the tanks were kept so perpetually circling around as to exhaust their supplies of gasoline; whereafter they became no more than a gift to the opposition. Others became hopelessly bogged in their attempts to achieve low-lying cover and, like the first-named victims of short-sightedness, had to be abandoned. The artillery also registered a considerable number of direct hits.

The infantry and machine-gunners who had pushed through with the tanks, proved too few in number to do more than hold on for a time in the positions to which they had penetrated: whence they were compelled, eventually, to retreat, suffering a high percentage of loss in the process.

The main holding attack having by this time been brought to a standstill by the superior volume of fire developed by the defence, the net result of the joint enterprise was the gain, on the part of the offensive, of a few unimportant sections of ground at the cost of very heavy losses, in tanks, machine-gunners and infantry—*in that*

order. It should be added that, in the main, the Franco machine-gunners were either unaware of, or disregarded, the fact that hostile forces had passed them and, for a time, threatened to cut them off.

The lessons to be derived from the stultification of this well-intentioned, if maladroitly devised, attempt to mount an attack by infiltration in force, are not far to seek.

Firstly, the mosquito-cloud of infiltrating infantry and machine gunners was far too small, constituting, all in all, no more than a *point d'appui* rather than a force formidable enough to impose its will upon such considerable bodies of the enemy as the rearward zones would be capable of producing.

Secondly, the number of tanks accompanying the mosquito-cloud was far too many. In this particular, almost invariably, experience during the Spanish conflict points to the fact that the tank does *not* supply the solution to the problem of how to make an attack easy and relatively inexpensive which its more obdurate advocates would claim for it. In the two years of their participation in the struggle, so one of their battalion commanders has recorded, the British contingent of the International Brigade was seriously impeded on three occasions only by hostile tank action. In many engagements they were able to stalk and drive back the moving fortresses to the cover and protection of their own infantry and machine-gunners.

Noisy, short-sighted, necessarily nervous and intensely sensitive to terrain, with a bad gun-platform when in movement, when stationary a target to bring tears of joy to the eyes of any gunner, the tank has had to resign its claim as *prima donna* and reconcile itself to becoming just another member of the cast. In which connection, the highly efficient English commander of the battery of anti-tank guns attached to the International Brigade has given it as his considered opinion that his handy little weapons could be relied upon to knock out any enemy tanks, at whatever speed they might be travelling, that came under his sights up to a distance of two miles; and this while the position he himself occupied offered no more than a negligible target. Of this ability he was absolutely convinced, as he was of his certainty in not getting embroiled and swamped in any surprise sprung upon the defensive line of which he formed part, always providing that he was allowed to site his guns within half a mile or so of his leading infantry; but not in line with it, as was advocated by the Germans.

In effect, the most that experienced men, on both sides, were prepared to allow of the tank was that (like the machine-gun of old), it constituted, in the hands of swift-thinking, keen-witted, opportunists, aware of its limitations as well as of its possibilities, a weapon *of* opportunity, to be utilised with discretion and within the definitely limited orbit of its sphere of usefulness. In support of this heterodox contention, it was pointed out that at Brunete the Franco troops had utilised, in conjunction with their infantry, tanks in mass, in an effort to steal the thunder of their adversaries and pull off an inexpensive advance; with the result that casualties inflicted on their tank corps were heavier than the average of infantry casualties. In the counter-offensive, despite the fact that the Rebel troops were badly furnished with anti-tank weapons, their field guns were able to knock out a heavy proportion of such Red pachyderms as were put into the field. "And," so the writer's informant insisted, "there was nothing wrong with the tanks—as tanks."

The obstruent will argue that, as Spain is "a bad tank country," all this constitutes no real confutation of their belief in the armoured vehicle's all-round efficacy. To which the reply must be that most potential cock-pits are "bad tank countries": the Argonne and Galilee are too rough and broken; Flanders, the Masurian Marshes, the Chapei rice fields, the snow-plains of Poland, are too wet: the sand and stone deserts of Arabia and Libya too shifting; the dongasplit uplands of India's northwest frontier offer impossible going; in effect, that far too few pleasant grassy slopes, such as Cambrai provided, are liable to present themselves. So what it comes to is, if anybody wants to play around with tanks in mass, he will have to wait until he can declare war on a nation possessing a really "good tank country!"

So far as the Fuentes del Ebro attack is concerned, the conclusion seems obvious that if cavalry—cavalry with its superior mobility, its noiselessness and power of dispersion, its greater ability to take advantage of cover, and its all-round range of vision—had been employed in place, or very largely in place, of tanks the result might very well have shown a notable difference in favour of the attackers. For too often it is forgotten, or overlooked, that the tank is not so much a substitution for, as a specialist amplification of, the mounted branch; and that, given an area or conflict which permits of war of manoeuvre, there still remain innumerable functions which can best be fulfilled by the *arme blanche*, and a few which only that overdenigrated service can successfully perform.

But then, cavalry simply cannot be improvised in a hurry, nor trained to efficiency by any save a lengthy process. And although Franco possessed a fair number of reasonably good native mounted troops, timidity invariably marked his employment of them; while the Reds being an almost entirely extemporised force, suffered from an absence of anything like an adequate and properly trained body of cavalry throughout the entire campaign.

* * *

Spain has provided almost equally striking refutations to many of the prophecies indulged in with regard to the preponderant influence, in a military sense, capable of being exerted by the forces of the air.

Where the bombing of cities is concerned a factor in the conduct of all future wars which no amount of antenuptial pietistic pact-signing will be likely to affect—it is clear from the example afforded by the Madrelenos, that providing the morale of the civil population survives the initial shock and alarm created by aerial bombardment the tendency is for the will of the non-combatant to stiffen into a dogged determination to stick things out on the home front and pray, meanwhile, that a sanguinary

vengeance will be exacted by his own air force on the *boches inutiles* of the other side. In other words, the attempt to cow the population of a big city by persistent air attack, if it does not attain its object within a very limited period, were better abandoned lest it generate a "hate-fixation" (to employ the modern jargon), so fortifying to the general civilian morale as to constitute a definite asset.

With regard to the purely military employment of the air offensive, the examination of the report of an actual participant in two "sample" instances may be regarded as producing an impression typical of the general reaction. Captain Tom Wintringham,[2] successively adjutant and commander of the English contingent of the International Brigade, has categorically stated that "a battalion of infantry, well intrenched, can be bombed and machine-gunned by a dozen 'planes, which visit and revisit them all day, without suffering casualties to the extent of one per cent." with regard to infantry in the open, who, at the first sight of a 'plane, go to ground, well extended and distributed, and who, thereafter, *keep still*, they can expect to suffer casualties to the extent of from three to five per cent.

It is a very different story, however, when it comes to the movement of mechanised forces along highways from which it is impossible for them to break away. During the general offensive around Guadalajara, for instance, after the Italians' deep penetration of the Red defences, such motley collection of bombers and fighting machines as the Reds then had at their disposal were hurried into the air in an attempt to halt, or at least delay, the two mechanised Italian divisions, hastening forward to reinforce their fellow-countrymen's successful thrust. The 'planes were sent into action during heavy rainfall, with a cloud ceiling from three to five hundred feet up. There was also ground haze; but that entirely failed to obscure their targets—two main roads packed with the lorries, cars, artillery, dragons, and numberless attendant vehicles which constituted the Italian mechanised column's establishment.

The first bombs, dropped at the head of the column, did sufficient damage to bring the whole convoy to a standstill and for a moment the men, gripped in a paralysis of startled inaction, sat mumchance in their trucks. Then, on a common impulse, the olive-coated soldiery started to abandon their vehicles in a frantic scramble for cover; only to come under the fire of the fighter machines busting up and down each side of the road. Defence by the Italian antiaircraft guns never got going; before they could be trained, the raiding 'planes had again sought the obscurity of the cloud-wrack; only to emerge again from another direction to continue the work of destruction and demoralisation. Drivers tried to turn their heavy charges on to the fields, only to overtip them or sink them axle-deep in mud. Groups of men, bunching as men always will when panic supervenes, fell an easy prey to the busy machine-gunners roaring overhead; many of the drivers of vehicles which had remained stationary were killed or wounded where they sat. In effect, in a little over half an hour two divisions, strung over some fifteen miles of road, had been put out of action to such an extent that the offensive they were intended to drive home petered out for want of the necessary reinforcement.

It would certainly appear, as Wintringham has himself opined, that "daylight advance by infantry or machine-gunners under air menace is difficult but not impossible. Daylight movement by mechanised forces along roads that are not heavily picketed with antiaircraft weapons, is suicide"—unless, of course, it is known for a certainty that all hostile aircraft in the vicinity will be heavily engaged, either by your own air arm or upon the destruction of some other objective.

In counter-example of the foregoing incident, at Brunete, a fortnight of intensive bombing by an air force relatively unhindered by inadequate counter-measures, and working from clear skies, was unable to do more than save from capture the ultimate objective of the advance, situated between ten and fifteen miles beyond the original point of attack. Again to quote an actual observer's words, "the reason for the contrast lies in the strength of 'planes against a modern (i.e. mechanised) army, and their relative weakness against an army consisting of machine-gunners and riflemen." To which he might well have added, and of horsed troops equally skilled in the art of dispersion and the trick of taking effective cover.

What, then, are the general conclusions which emerge from even this relatively cursory study of the modern conditions of warfare?

Firstly, it is suggested, that a new conception of what is implied by the term discipline constitutes one of the primary and most vital considerations upon which those responsible for the training of troops should concentrate their attention. The aim of discipline has always been the training of the soldier's mind until, under the strain of action, it is automatically capable of the right response to the military need of the moment; of the instinctively correct execution of an order, delivered in all the heat and bewilderment of action. That, of course, still remains the core of disciplinary training. But, under the increasing trend towards devolution which the conditions of modern warfare impose, it should be clearly realised that the order the soldier springs mechanically to obey will, more often than not, be one that he has been obliged to issue to himself!

Sound, imaginative, flexible planning before action is joined is as essential now as at any time in the history of war. But the quietus has been given to the old "chess-board" type of meticulously detailed planning, beloved of the Moltke and Schlieffen school; and in these days the demand is for something more supple and less liable to "seize-up" should an accident occur to one small cog in the wheel.

[2] Wintringham fought in the 1914-18 campaign, and its lessons were no more lost on him than those of the Spanish conflict, on which he has reported with the trained lucidity of the professional writer no less than with the natural-born soldier's military insight.

This increasing trend towards devolution can be attributed, in part to the sheer size of modern armies, spread over an area which denies direct control to the commander; and partly to the firepower of modern weapons, compelling the "directive," if it is to function in reasonable and necessary immunity, to a remoteness which puts a premium upon delay in the transmission of intelligence and orders. For still no system has been evolved which will preclude the breakdown of the chain of communications during the actual period of battle fighting. Indeed, communications remain a problem in the solution of which less headway has been made than in any other aspect of war.

(*Inter alia*, the "unreality" which is the curse of peacetime manoeuvres is never more dangerously unreal than in this matter of communications. Messages and orders flow to and fro with a punctuality and celerity which argues complete oblivion to the incidence of enemy action, creating an entirely false impression of the conditions that would actually pertain were "the buttons off the foils.")

Secondly, it would seem clear that the extravagant claims advanced on behalf of the tank and the aeroplane, as marking as great a leap forward as characterised the substitution of the musket for the bow and arrow, will have to be reoriented with a little more modesty. That both engines have their usefulness, can fulfill many useful functions, it would be foolish to deny. But that they possess protean and overwhelming qualities against which it is impossible to take adequate counter-measures, is not borne out by experience.

Thirdly, that while the mechanisation of the brigade and divisional unit offers many advantages, the process inevitably suffers from the defects of its own qualities. It is unnecessary to emphasize that any new device capable of inflicting destruction must possess significant usefulness within the boundary of its own limitations. The folly lies in attributing talismanic powers to an engine of limited potentialities. Thus, while armoured vehicles obviously offer protection from small-arms ground fire, their very size and solidity render them grateful targets for heavier ground weapons and from the air. Apart from the not inconsiderable problems of supply, it may fairly be affirmed that the more heavily you mechanise the offensive, the more immune will it be from injury from the bullet of the machine-gunner and the rifleman. At the same time, with every added vehicle, with every additional pound weight of armour plating, so from the air as from the heavier ground weapons, the target becomes more sensitively vulnerable.

☆ ☆ ☆

Squatting amid the rubble of ruined Ypres one bright morning in the early Spring of 1918, the writer and a brother officer (now holding a position of pre-eminently high command), turned their eyes from the fiery conclusion of an aerial combat, which had brought both 'planes crashing to the ground in flames, to the melancholy spectacle of the flats towards Passchendaele, littered with their fringe of bogged and splintered tanks. It was some time before the future Generalissimo spoke, and then it was to mutter, almost to himself: "All wars wind up in very much the same way: when all the latest ingenuities have mutually cancelled each other out; when there aren't any more cunning little tricks left up anybody's sleeve, then things get down to a couple of men in a ditch, with their hands on each other's throats—and eventually one of 'em will win!"

Allowing for the natural floridity of metaphor, it is a verdict we can still ponder with advantage!

Horse's Place in War

The Horse Show at Olympia was as interesting as ever, especially in the changes that are taking place among the competitors from this country. It was painfully noticed that the R.M.C., Sandhurst, sent no entries for the gentlmen cadets' jumping. The R.M.A., Woolwich, sent eight. Indeed, gunners came out strong in the jumping competition, both Regulars and Territorials. It would have been comforting to see more Yeomanry officers taking part in the Horse Show, for it is to them that will fall the task of reinstating British Cavalry as such, whenever Authority realizes that the horse has still its place in warfare. That time may not be far distant.—*The United Services Review*, London, July 13, 1939.

TANK ATTACK IN SPAIN*

By Brigadier General Henry J. Reilly
Officers Reserve Corps

(*Note by the translator:* Throughout this article, as with nearly any other non-professional magazine either in France or any other country, no distinction is made between the words "tank," "char d'assaut," "char legar," and the like. All these apparently refer to the same type vehicle. From other sources and to the best of my knowledge, this attack was made with Russian tanks modeled after the English Vickers-Armstrong six ton light tank, profiles and dimensions of which are given in Figure 1. According to German sources its crew is three men, and it carries a 47-mm. cannon and a 7.69-mm. machine gun. It has a maximum speed of thirty-five km.)

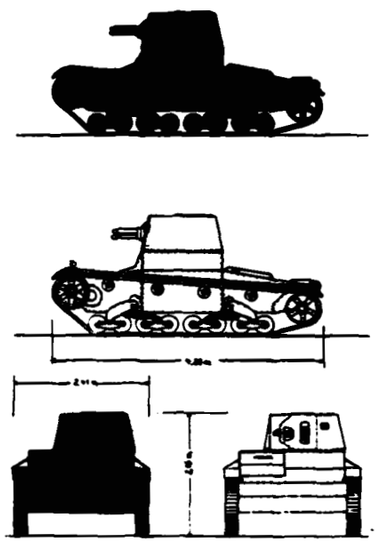


Figure 1

Brigadier General Henry J. Reilly, who was, as a lieutenant, an instructor in history at the United States Military Academy, and at the end of the World War commanded an American light artillery regiment on the French front, and later a brigade of infantry, has just spent several months in Nationalist Spain; a part in the general area around Saragossa, and more on the active fronts of the Northern or the Eastern Armies. He brought back with him many observations, and especially the account of the attempt made by a hundred armored cars to break through a line of trenches. This feat, although now fourteen months old, still taught a notable lesson.

*A translation by Lieutenant T. L. Crystal, Jr., Field Artillery, of an Article in *L'Illustration* (France), January 28, 1939 issue.

When the World War of 1914-1918 ended under the dull sky of November, on that memorable morning of the eleventh, an important unanswered question was the rôle of the tank in future wars.

The tanks, a product of the needs of the World War, arrived too late and in too few a number on the actual field of battle to receive a definite category as to either their possibilities or defects. Nothing was proven, other than that a new arm had been added to the panoply of Mars.

And so, two schools of thought developed.

One, struck by the possibilities that the tank had offered, notably during the battles of Cambrai in 1917 and in August, 1918, predicted for it a future comparable only to the most glorious days of knights in armor when opposed only by the simple infantryman before the invention of gunpowder. This school claimed that mass attacks of tanks, accompanied by motorized infantry, artillery and sometimes by aviation, formed a virtually independent force and appropriated from the infantry its title of "Queen of Battle." The leading proponent of this school is without a doubt the brilliant English General Fuller. It was to his theories that the English subscribed in the postwar years, and they were the first to develop this new arm.

The three German "Panserdivisionen," which constituted an independent army corps, were organized along similar lines. The speedy triumph of Italy over the Ethiopians was due, in a large part, to the tanks and air corps.

The other school was convinced that the infantry was still the "Queen of Battle," and that the artillery remained its "Prince Consort," while the tanks were only another servant of the pair. This is, in a general way, the view held by both the United States and France.

The Spanish Civil War has lasted two and a half years. The Italians and Germans have tried out many types of tanks and calibers of antitank guns, while the great majority of armored cars and antitank weapons used by the Government forces were of Russian manufacture, or of Spanish make patterned after the Russian. The two adversaries made a complete trial of these Russian tanks, because the Nationalists have captured many of them and even used them against their former owners.

The more the war in Spain drags out, the more the combatants, the high command and even the infantrymen, tend toward the adoption of tanks armed solely with a cannon (in this case of a caliber of 45-mm.).

General Monasterio, Commander-in-Chief of the Nationalist Cavalry, told me one day while speaking of armaments and military tactics: "The war would have been

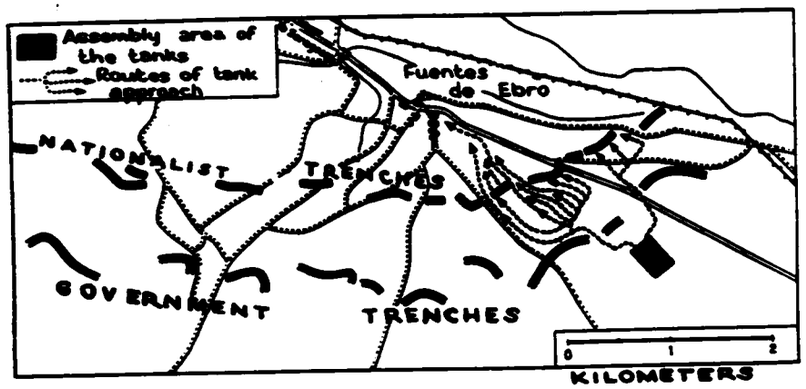


Figure 2: Dispositions for an attack made by Government troops at Fuentes de Ebro. About one hundred combat cars or light tanks made a mass attack at the point shown and were repulsed with great losses.

terminated already were it not for the power of our enemy being made so great by the possession of many armored cars equipped with cannons."

The Battle of Fuentes de Ebro on the 13th of November, 1937, definitely established, at least for this war, the rôle evolved for the tank.

Before this battle opinions differed, mainly with respect to one point. This was relative to light cars armed only with machine guns. In combat it was definitely established that these cars were not able to overcome either the difficulties of the terrain or the fire of the enemy. Confronted with a tank armed with a cannon, they were on a par with the foot soldier of the middle ages clothed in his leathern jacket, opposed to a knight in armor.

Ever since the Battle of Fuentes de Ebro, neither the Government troops nor the Nationalists had the slightest doubt as to the rôle to be played by the combat cars.

In this attack, the Government army relied on the strategic success of a breach in the Franco front formed by the valley of the Ebro River, and on the tactical success of an assault of armored cars against Nationalist infantry holding an entrenched position at that point.

Approximately ninety to a hundred Government tanks attacked seven Nationalist companies entrenched on both sides of the national highway between Tarragone and Saragossa at a point 27 kilometers from the latter.

For an account of what happened, I can do no better than to give the exact words of one of the men there engaged, 2d Lieutenant Antonio Quarte Alfarez: "The attack took us by surprise," said Quarte. "Suddenly, we heard the noise of the approaching tanks. It got louder, coming from the other side of the crest occupied by the enemy some 500 or 700 meters to our front. Then a column of tanks, which seemed endless, began to form, coming out of a breach in the enemy trenches, and headed for the spot which I held with my platoon. (See Figure 2.)

"After going about 100 meters on the slope in front of us, the car which formed the head of the column obliqued towards the right, and travelled thus parallel to our line of trenches in the direction of the national highway.

"At the instant that the end of the column executed the same movement, a red flag was waved from the leading car. At this signal, every ninth or tenth car made a half turn to the left, toward our position.

"These cars were each followed by five or six others, thus making nine or ten columns or about six vehicles each headed for us.

"The other tanks, to the number of about thirty, ranged themselves in a single line and fired on us with their cannons.

"The enemy artillery batteries did not open up; these thirty cars armed with cannon and the cannon carried by most of the others advancing on us, constituted the only artillery supporting the attack.

"We had no artillery, but only three antitank guns of 37-mm. caliber, one on a small hill on the right of the enemy company and to the left of mine, another on the Saragossa national highway and the third on the extreme left, on the bank of the Ebro. My company, the 51st of the Thirtieth Division, was on the right of the highway. The 19th Company was on our right. On the left of the road were two companies of Phalangists and two companies of regulars. These four last held the line between the Saragossa highway and the Ebro. The tank attack to which they were subjected was less intense than ours. On their side, had the terrain not been so irregular, it would have been more suitable for the attack than ours. The terrain in front of my company and half of the 19th Company close to ours, was perfect for the combat cars. Here came the main attack.

"About half of those which attacked carried sandbags on them behind which crouched soldiers. Those men behind these barriers who were not knocked off by our machine guns were effectively dislodged by hand grenades when the tanks got within good throwing distance. Very few of the tanks reached our trench. Their crews were rapidly killed or taken prisoner. Many attackers jumped out of their wheeled coffins as soon as they were within range of our grenades and fled.

"The closer the tanks got the more they lost their beautiful formation. They avoided the places where our resistance was the greatest or where the trenches were on a slight rise, and headed always towards the least cut up sections of our line.

"We stopped several by throwing glass canteens of sulphur and of gasoline in their caterpillar treads, their gas tanks and their ventilators and by hurling hand grenades at them.

"When the first tanks had broken through the several openings which were in our line, we waited without fear the thirty others, which had, with their artillery, supported the movement and now were advancing on us. The enemy infantry had also come out of their trenches and seemed ready to charge.

"We left the tanks which had succeeded in getting through our defenses to the attentions of the companies in reserve, who were holding the ravines behind our trenches. We could hear the din of a violent struggle behind us, principally, in the hollow separating our little crest from the village.

"Soon we saw two tanks in flames emerge from the village, come down the main highway and retire towards the enemy lines. Then others, which had not yet been disabled, tried to return through the breaches and the more level portions of our defenses. Several escaped, but the others were burned while returning and destroyed without having attained their objective. On the right of the 19th Company an antiaircraft gun annihilated one tank which tried to fire on that side and stopped those which formed the left flank of the thirty others, all enfiladed in their support formation.

"As soon as the retreat was definitely under way, these reenforcing tanks retired, and the infantry returned to their trenches.

"We then led about half of our men to the rear to complete the destruction of those vehicles which were still trying to make good their retreat. We captured sixteen. Two had reached the village, but the stone houses and narrow winding streets had not proven a favorable place for maneuvering the cars. The command-post personnel of the battalion commander, the rear echelon, and the cooks set them on fire."

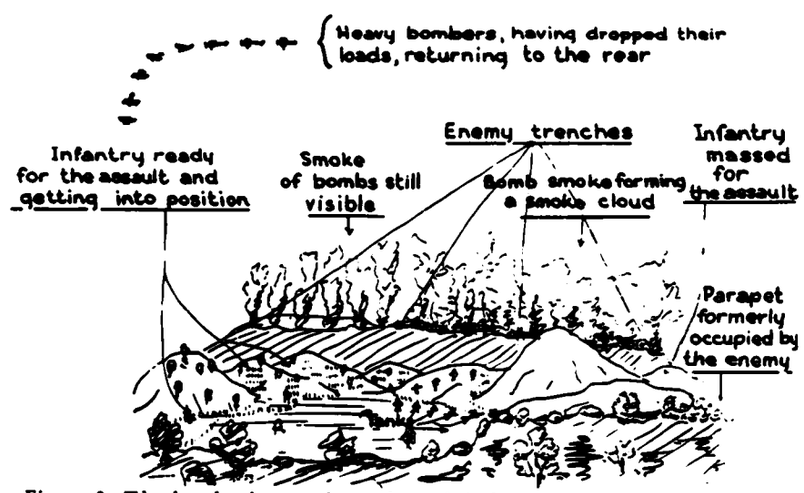
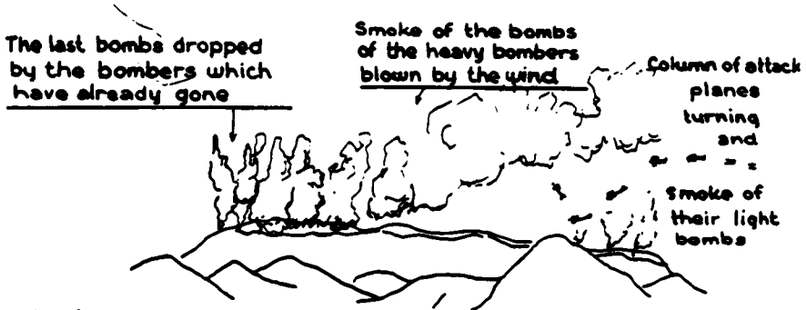


Figure 3: The bombardment planes drop their bombs while the infantry and tanks get into their jump off positions.



Attack aviation starts its first attack on the left of the enemy at the instant that the last bombs of the heavy bombers fall on the right.

NOTE: Preparation of an offensive against government trenches in the Spanish Civil War.

(Sketched by Brigadier General Reilly, USA, an eye witness, on a battlefield to the east of Teruel.)

"First came an artillery preparation then an aerial attack by bombardment planes, immediately followed by another bombardment by attack aviation, aided by their machine guns and power dives. During this phase the tanks and infantry occupied their jump off positions. The bombers and attack ships repeated their attacks several times. At the moment that the attack planes finished their last attack, the tanks, in a single line, followed by the infantry in a formation of small columns, began the assault."

Several months later the cars still remained in the spots where they had been disabled. You could still see the half burned bodies which the sun and air of Spain seemed to mummify rather than decompose.

Ever since, except for minor sorties and those attacks well supported by infantry and artillery, the tanks stayed out of range of the 37-mm. guns, and carefully avoided too close contact with the Nationalist infantry. They have taken advantage of the longer range of their cannons to put these 37-mm. guns out of action and of their great mobility to avoid becoming an ideal target for the 45-mm. mountain guns.

The Nationalists themselves always use their cars to assist the assault of the infantry. First comes the artillery preparation, and then the aviation gets a crack. (See Figure 3.) Then, in several lines, but well-spaced, come the combat cars, followed by infantry. If there is a sufficiency of tanks mounting cannon, only they are used, or the numbers are split half and half with light tanks, but these latter are used only to cover the flanks of the normal attack formation. The infantry follows immediately after the tanks. This method of fighting, which has been proven by two and a half years of war, shows that if infantry is to be always the "Queen of Battle" she has still, to repeat my first metaphor, two princes consort: the artillery and the combat car.

MOBILITY—FIREPOWER AND SHOCK

By Captain Hayden A. Sears, Cavalry

The division of any organization into several or any number of parts does not imply that there must exist therein a lack of cohesion. We find our country divided into forty-eight states, no single one of which could stand by itself. Taken together, these same forty-eight states form, however, the United States, a potent world power. In the Army we have branches, and it is on the judicious blending of the performance each is capable of giving that a successful military operation is conceived and constructed. So we come to the two elements of cavalry—horse and mechanized—which together make up Cavalry as it is known to our army today. Let us at the start get it clearly in our minds that we have in both these elements cavalrymen and cavalrymen only. To attempt to delineate by saying a "horse" cavalryman or a "mechanized" cavalryman is, under our present War Department directives, presumptuous to say the least.

Throughout the ages, the masters of the art of war have recognized the vital rôle of cavalry in the army combat team. Napoleon once remarked: "There is no end to what I could do with the help of good cavalry." And again after the battles of Lutzen and Bauten, where he lacked cavalry, he said: "With enough good cavalry, I could have changed the map of Europe."

In our own day, Marshal Foch has said, "The next war will begin where the last war ended—with movement." General Pershing has stated, "Cavalry is as important today as it has ever been." And our present Chief of Cavalry, in his "Greetings to all Cavalrymen" on the occasion of his assuming his duties as Chief, wrote: "We must never forget that basically our mobility centers around the horse, whether it be the iron horse or the horse of flesh and blood. . . . There is no difference between the horse and mechanized cavalry except that caused by the respective qualities of their mounts."

In the *Cavalry Field Manual* we find cavalry defined as "That combatant arm of the army organized primarily to perform those missions of ground warfare that require great strategical or tactical mobility combined with firepower and shock." Its characteristics are listed as those of mobility, firepower, and shock. To these characteristics we add in the case of mechanized cavalry "protection"—i.e., the protection afforded to personnel by armor.

As to mobility, I quote again from the Chief of Cavalry: "Under its own power, it (mechanized cavalry) has the same strategic mobility as have other troops moved by motor. It is more vulnerable on the march to surprise attack than is horse cavalry. . . . The horse is quite mobile under his own power, marches of 100 miles in 24 hours or 150 miles in 48 hours being within the capacity of hardened troops. The ability of horse cavalry to go cross-country in scattered formation reduces its vulnerability on the march." As an example of this horse cavalry strategic mobility, the actual operations of the Second French Cavalry Corps in 1918 may be cited. Covering 65 miles the first day and 46 miles the second—a total of 101 miles in the zone of operations in two days—it arrived April 14th on the battlefield in Flanders and from April 15th to 30th stopped the advance of the German in that area. Again on May 27th—less than a month later—when the Germans attacked, this same cavalry corps marched over 125 miles in three days to the Ourcq. In spite of superior enemy forces, and the almost complete rout of their own infantry, this cavalry corps was able to stop the offensive until the arrival and formation of the infantry reinforcements.

Mechanized cavalry has no such historical examples to offer. War, and war alone, can prove whether or not this new weapon of cavalry is suited to perform cavalry missions. Lack of dependability of its iron mounts is frequently brought to the forefront of argument as an obstacle yet to be overcome in the use of mechanization. I have only to refer you to the magnificent maintenance record of the 7th Cavalry Brigade during its 700-mile march of last spring from Fort Knox, Kentucky, to Fort Oglethorpe, Georgia, and return; or its 800-mile march from Fort Knox to Fort Riley, Kansas. This march to Kansas, followed by one month's participation in maneuvers, and another 800-mile march back to its home station, shows clearly that this alleged disability has been entirely overcome.

Taking Paris, France, as the center of a circle, and a radius the length of these marches, we would, if we travelled to the east, traverse a third of the way across France, clear across Germany, and into Poland within 50 to 100 miles of Warsaw. Marching to the southeast one would traverse half of France, across Germany—including all of former Austria—to Budapest, on the Danube, the capital of Hungary, or into Italy south past Rome to Naples. Or if we happened to get off toward the southwest, we would go beyond Madrid, or by altering our course, after going south of the Bay of Biscay, we could make northern Portugal.

The necessity of fuel supply is frequently advanced as a detrimental factor in the employment of mechanization. The armored cars and personnel carriers now used have a capacity of sustained operation of about 250 to 300 miles; trucks of the trains about 200 miles, and combat cars about 140 miles. Diesel experiments now being worked out show that a range of 250 miles for combat cars is entirely practical. Another alleged objection disposed of through experience and intelligent practical experimentation.

The razzle-dazzle and glamour of mechanization, and the extravagant claims made for it, are for the most part attributable directly to those enthusiasts who were but briefly, if at all, exposed to the aggravations and disappointments involved in its earlier operations.

Artillery in position supporting Cavalry action.

Here then mechanized cavalry possesses its *first cavalry characteristic*—MOBILITY.

Let us, for the moment, turn back the pages of time and see what ancestors the idea of mechanized cavalry had. In past ages, we are told, men, by mounting skins on a rolling framework, attempted to armor themselves. Possibly the Horse of Troy is another predecessor, for certain it is that it achieved surprise and results similar to those of the tank employed on the Western Front. In 1482 Leonardo da Vinci invented a kind of a tank (covered chariot), while in the same century the Scots used a wooden war cart enclosing both the motive power (two horses) and the crew within wooden armor. For the Crimea (1854) a tank was designed, but it was abandoned as being too barbarous. A practical caterpillar design to be driven by steam was made in 1888, and a trial machine even constructed. In 1908 a track vehicle was constructed and viewed by the British Staff, which turned it down. In 1913 and again in 1915 the Germans turned down armored caterpillar vehicles demonstrated to them. On the Somme front north of Pozieres on September 15, 1916, an armored cross-country vehicle—the tank we know today—first went into action. Previous attempts through many centuries to give man an armored fighting vehicle had been doomed to defeat because of failure of the motive power. Not until the advent of the gasoline engine did the armored fighting vehicle become practical. The tanks of 1914 worked. Here then we see a definite trend to mechanization in armies as we know it today. Next, auxiliary weapons had to be developed and speed added.

This has now been done, and the mechanized cavalry of our Army represents the American idea of a balanced mechanized force. The unit of mechanization is a balanced unit composed of four combat elements. These are: (1) a reconnaissance element—the armored or scout car; (2) the fire support element—machine guns and attached artillery; (3) the element for the neutralization of hostile antimechanization weapons — the mortar, throwing smoke; and (4) the striking power of the unit, the combat-car element. This last is the element envisioned for centuries, which arrived in battle in the fall of 1916 and is the backbone of any mechanized organization for which all other elements function in order to aid in securing its satisfactory and successful employment. It is the World War tank of 1917, with cavalry speed and mobility.

Briefly we may now compare the organization of a horse regiment and that of a mechanized regiment. The horse regiment consists of Regimental Headquarters and Band, Headquarters and Service Troop, Machine Gun Troop, Special Weapons Troop, and three squadrons, each consisting of a squadron headquarters and three rifle troops (W).

The mechanized regiment consist of a Headquarters, Headquarters Troop, Service Troop, Machine Gun Troop, Armored Car Troop, and two combat-car squadrons of a squadron headquarters and two troops each.

Totals in personnel and weapons are as follows:

	Horse	*Mechanized*
Personnel	1,761	798
Rifles	1,013	40
MG (Lt.) .30	86	302 (AA141)
MG (Hvy.) .30	12	...
MG (HB) .50	23	93
Sub MG .45	11	127
Mortars 60-mm.	4	...
Mortars 3.2	...	6

Clearly here is our *second cavalry characteristic*—FIREPOWER.

From the foregoing we perceive at once that there is a decided organizational difference between these two elements of cavalry. Taking the combat troops only into consideration, we have in the horse regiment 138 squads of all sorts, 108 of which (rifle troops) are capable of subdivision into half squads (216), or 81 of which are capable of subdivision into sets of twos (324), should occasion demand it. If we now turn to the mechanized regiment, taking again only the combat troops, we find 99 combat vehicles, including mortar mounts and machine-gun carriers, which means 99 crews (squads) capable of no further subdivision. It is therefore apparent that by the very virtue of its organization, a mechanized regiment cannot be dissipated except through vehicular loss. Through the very fundamentals of organization, mechanized cavalry builds the basis of SHOCK—its *third cavalry characteristic*.

The fourth characteristic, pertaining only to mechanization, that of armored protection to the crews, needs no further mention.

A difference which we must consider in any treatment of mechanized cavalry is the difference in ability, insofar as it pertains to rate of march and endurance, between it and the horse cavalry, which leads to a decided variation in time and space factors. As a simple example of this difference, let us take horse cavalry marching at 5 m.p.h. and mechanized cavalry marching at 25 m.p.h. It is obvious that in one hour of marching the mechanized unit is going five times as far as the horse unit. Taking then this ratio of 1:5 in space, and converting it to time, we find that the mechanized hour, being to the horse hour in the ratio of 1:5, is 12 minutes long as compared to the horse cavalry hour of 60 minutes. Therefore may we not say that mechanization reduces space by economizing on time?

This time and space difference is, however, largely strategic, and as contact with the enemy becomes more imminent, this difference becomes more nearly equal from a tactical point of view.

The terrain sensitiveness of mechanization must not be forgotten. It is obvious that horse cavalry can cross a deep canyon by use of narrow single-track trails, and it is equally obvious that mechanized cavalry cannot cross the same canyon by these same trails. However, with its mobility, mechanized cavalry can go around this obstacle on a march too fatiguing to be contemplated by horse cavalry, reach the other side, and lend valuable coöperation to the horse unit should it encounter opposition.

Any mission assigned mechanized cavalry must warrant the expense involved. This expense is not measured in dollars and cents. It is measured in supplies expended, wear and tear on vehicles and crews, and maintenance involved. Mechanized cavalry is a weapon of opportunity, expensive of operation, difficult of replacement, capable of achieving maximum results only when judiciously employed.

During the Third Battle of Ypres in October of 1917, we find in a subaltern's notebook the following paragraph: "It infuriated me to see valuable lives and machinery risked in this unimportant work for which tanks were quite unsuitable. When correctly used, they would, I felt sure, prove their real worth. It seemed contrary to common sense, to continue such waste." And twenty-two years later we must recognize those words as still being truth.

From a section leader's diary, we quote again, after the Battle of Cambrai on November 21 and 22, 1918: "When the gate to Cambrai had been ours, the opportunity had not been utilized. If the cavalry had gone into the breach made by the tanks, and followed up the enemy along the Fontaine-Cambrai highroad, it was my opinion that Cambrai would have fallen." German official reports confirm this man's view. I quote: "The English command omitted on the afternoon of November 21st to continue its attack against Cambrai, and it failed to recognize and utilize the possibility of enlarging its achieved success by advancing in a northerly direction through the gap existing to the east of Bourlon Forest. It did not even employ its cavalry, and its reconnoitering patrols also did not appear." Clearly an opportunity lost, due to lack of appreciation of a new weapon and failure to coöperate therewith. One must understand something of the use of the tools available when one sets out to do given job.

With proper timing, mechanized cavalry can be delivered at any scene of operations at the proper time to coöperate in the action and perform its assigned part. It can take ground, but it cannot hold it. Again I quote: "If the infantry failed to turn up, what orders should I give? Tanks could attack and capture a position, but they could not hold it." And again: "Tanks had entered the village and moved along the streets. Now, however, it was to be shown that tanks can win terrain, but cannot hold it if they are left to their own resources. The tanks lacked the field of fire in narrow streets, and they were hemmed in in their movements from every direction."

In February of 1937 in Spain, employment of a tank mass was made on one occasion which resulted in an advance of 50 kilometers, demonstrating that a tank mass used for surprise purposes was an excellent offensive weapon, capable of obtaining quick and brilliant success. However, supporting troops could not keep up with this advance, and the mass was driven back 30 kilometers, thus as clearly demonstrating that their ability to hold ground was nil. Mechanized cavalry can and does attack, it can deny hostile troops access to terrain, but it cannot hold terrain. Its mission accomplished, it returns from whence it came, refits, and is prepared for its next assignment.

It is too early for us to see clearly or to evaluate properly recent-day employment of mechanized units in either Spain or Japan. We know that in Jehol mud and again at Nankou Pass in 1937, the Japanese bogged down. We know also that in Spain Italian troops at Guadalajara in trucks and light tanks, confined to a road because of rain and mud, got nicely bombed. Can anybody say, however, that employment of mechanization under such conditions was either justified or warranted? Did not Napoleon's cavalry charge into a sunken road at Waterloo, June 18, 1815, and did not Lord Cardigan's Light Brigade at the battle of Balaclava, 25 October, 1854, charge up a valley, losing 478 out of 673 men? Can anybody say that in these cases horse cavalry was properly employed? But did these disasters, or Custer's Massacre, condemn horse cavalry? Certainly not. It is by the study of disasters such as these, as well as by the study of successful operations, that the art of leading horse cavalry and properly employing it has been advanced to its present state. It is to be hoped that the study of mechanized reverses may point the way to the development of an employment of American mechanized cavalry which will under battle conditions prove correct and accomplish successes that future generations may study and from which they may profit.

It is curious to note that what serves as a defense against mechanized cavalry—antitank guns or land mines—is no defense against horse cavalry. On the other hand, the greatest enemies of horse cavalry—barbed wire and emplaced machine guns—are practically useless when used against mechanized vehicles. A perusal of this thought suggests that it is almost as impossible for combat cars and armored cars wholly to replace horse cavalry as it is for horse cavalry to do the work of combat cars and armored cars.

In no way should we permit ourselves to become blinded by the immense mechanized developments in Europe to realities as they exist for us today. Our case is not similar. In Germany, in England, in France and in Italy there is a dearth of horses and draft animals. Their problem is different and can only be solved by using mechanization and motorization to supplement their animal supply. Poland and Russia possess horses as well as the land on which to forage them, and although we find ample mechanization in their armies, we also find that they envision a large place for the employment of horse cavalry in any operations they may be forced to undertake, and that they have not gone to the lengths in mechanization to which other governments have been forced to go.

Here in the United States we have a large supply of both riding and draft animals, and we shall doubtless need them. But we shall also need an adequate mechanized cavalry, capable of operating on independent missions or in coöperation with horse cavalry, and we shall need men trained in its employment and operation. In the words of General Harbord: "Modern equipment is necessary to win a modern engagement, but there must be men of stamina there who know how to use it to fullest advantage."

With the idea in view of coöperation of horse and mechanized cavalry, maneuvers were held last fall at Fort Riley. The 7th Cavalry Brigade (Mecz), the only self-sustained mechanized cavalry unit of the army, marched, as I have mentioned, from Fort Knox, Kentucky, to Fort Riley, Kansas. For a period of one month extensive exercises requiring the coöperation of horse and mechanized cavalry were held. The results were profitable and enlightening, and the lessons learned may be briefly summed up as follows:

"1. The tactical characteristics of horse and mechanized cavalry are largely complementary. Therefore their combined employment against a common objective, if and when the situation permits, is usually more effective than the employment of either type alone.

2. Horse cavalry, by virtue of its unexcelled cross-country mobility, is able to furnish close support to mechanized cavalry on the battlefield whenever the situation permits or suggests combined operations.

3. The strategical mobility of mechanized cavalry enables it to afford opportune assistance to distant horse cavalry in spite of their initial wide separation. The tactical mobility and combat power of mechanized cavalry are valuable adjuncts to horse cavalry in the performance of its battlefield missions.

Cavalry Scout Car on distant reconnaissance. Note camouflage and local security measures.

4. The strategical mobility of mechanized cavalry greatly exceeds that of horse cavalry, but their tactical mobility is more nearly comparable (or equal), being dependent largely on the obstacles of terrain to which mechanized cavalry is relatively more sensitive.

5. Daylight reconnaissance is effectively accomplished by mechanized cavalry, but under most circumstances horse cavalry is more suitable for night reconnaissance, and close-in battle reconnaissance.

6. The whole matter of cavalry communications needs a thorough study from the ground up, with a view to simplification, coördination, and other improvements.

7. Control of a mechanized cavalry unit the size of a brigade with the present facilities for command and communications is a difficult problem, and indicates that no material increase in the number of organic units under one command should be attempted until adequate means and ability to control them have been tested and proven.

8. The machine-gun fire support within the mechanized brigade is inadequate, due primarily to the limited range and limited fire power of the light machine gun. It is believed this could be improved by the substitution of the heavy machine gun for the light machine gun.

9. In order to obtain the maximum combat effectiveness of cavalry as a whole, it is essential that the two types of cavalry—horse and mechanized—be able to train together continuously."

The mechanized cavalry brigade consists of a Brigade Headquarters and Headquarters Troop and two cavalry regiments, mechanized. The mechanized brigade will normally be reinforced with the following units:

Battalion of 75-mm. howitzers (mechanized)
Engineer troop (mechanized)
Maintenance troop (mechanized)
Medical troop (mechanized).

The headquarters and headquarters troop include elements for the command control, administration and tactical employment of the brigade and reinforcing units.

The reinforcing units provide the brigade with the necessary elements for the fire support, maintenance, movement and evacuation of the brigade.

The regiment is organized so as to provide elements for the performance of four major tactical functions. First,

the armored-car troop for reconnaissance missions; second, the machine-gun troop for local fire support missions; third, the mortar platoon for the mission of neutralization of the hostile anti-mechanization weapons; fourth, the combat-car elements for the mission of furnishing shock, crushing power, and fire power. Attached artillery may furnish additional fire support. All these elements coöperate to support and drive home the combat-car attack. In addition to the tactical missions, the regiment is organized so as to provide a highly mobile and efficient system of administration, control, communications, maintenance and supply.

It may be said, also, that the organization of the mechanized regiment is developed around the combat-car units. In addition to the combat-car units, for purposes of adding fire power, necessary reconnaissance elements, command and staff administration functions as well as maintenance, the regiment has an armored-car troop, a machine-gun troop, regimental headquarters and headquarters troop and service troop. These will be discussed in that order in the following paragraphs.

The combat-car troop has four combat-car platoons and a troop headquarters. It is assigned a zone of action or objectives and attacks with one or more platoons in the fighting line and one or more platoons in support, or occasionally in column of platoons echeloned. It is maneuvered and controlled in a manner similar to that used in the horse cavalry troop. In addition it has radio and disk or flag signal communication to its platoons and higher commanders.

The troop, or units thereof, with or without machine-gun and rifle elements, attached, constitutes the close-in security elements (advance guards, rear guards, etc.) for the larger mechanized forces.

The combat-car fits into the regimental combat team in the same manner as the horse cavalry squadron functions in the regimental horse cavalry combat team.

Reconnaissance of roads, terrain and hostile forces is made by the armored-car troop or its elements, with or without coöperation from air service. The armored-car troop, or elements thereof, usually precede the regiment from one to two hours' distance on reconnaissance. They may be assigned a route, zone or locality to reconnoiter. Definite missions are assigned. Where the reconnaissance mission is directed towards a hostile force, the armored-car platoons seek to gain and maintain contact. When contact is made by the regiment, the armored-car platoons continue reconnaissance and cover the flanks and rear of the regiment.

An armored-car troop can reconnoiter satisfactorily a zone not to exceed 20-25 miles in width. A platoon can reconnoiter a zone of six miles in width.

When the entire troop is used for reconnaissance, it operates in a manner similar to that prescribed for a horse cavalry detachment; the troop less three platoons moves along the axis of advance of the regiment, while the platoons patrol on parallel roads covering the zone.

Efficient reconnaissance is dependent on a suitable road net. In many situations a platoon may operate by sections for a few miles. However, information to be of value must be promptly transmitted. Therefore a platoon operating by section should have previously designated assembly points.

The detachment and patrols move by bounds, halting under cover for frequent observation of localities, and often for dismounted reconnaissance.

In combat, any armored-car elements retained with the main body are usually with the reserve employed in counterattacks and on security missions.

The principal mission for armored-car elements is reconnaissance. In many situations reconnaissance and security are combined. The regimental commander may employ the entire troop or only a part of it. It depends on the enemy situation, the zone to be reconnoitered, the duration of mission. The armored car has a fuel capacity for 300 miles on road under normal weather conditions. An armored-car platoon on a reconnaissance mission is usually deployed in depth over a distance of between 800 and 2,000 yards.

The armored-car platoon consists of one officer and fourteen men, one attached radio operator from headquarters troop. It is organized into two sections, each of two cars. It is maneuvered and controlled by section, with radio, visual signals, or an attached motorcycle messenger. Sections are never broken up for tactical operations. Its formations are simple, consisting of line, column and echelon, in normal, close, and extended order. It attacks by fire only and seeks concealed positions. Each car is equipped with one caliber .50 and two caliber .30 machine guns, one of which is mounted for antiaircraft defense, and one sub-machine gun. The car crew consists of the car commander, gunner, assistant gunner, and driver.

The machine-gun troop furnishes the fire support for the attack by combat-car units, and also holds ground gained by the combat cars and covers by fire, if necessary, their assembly. They may be attached by platoon to the maneuvering force, if the scheme of maneuver is a wide envelopment, or remain under regimental control. In either case, a part of the machine-gun troop is prepared to move forward in support of combat-car units. A portion of the machine guns is always in the secondary attack. In defense, the machine-gun troop constitutes the main ground holding element of the regiment. The machine-gun troop, less one or two platoons, usually constitutes the march security element for the regiment at night.

The machine-gun platoon is comprised of one officer and 35 men transported in five personnel carriers, and is divided into two sections of two squads each, the extra carrier being the command car.

The machine-gun squad consists of seven men and can employ two ground caliber .30 or one caliber .50 machine gun. The machine-gun section consists of two squads and may employ four caliber .30 machine guns or two caliber .50 machine guns.

The platoon may employ eight caliber .30 or four caliber .50 machine guns, or a combination of each.

In dismounted combat the squads of a section are seldom separated more than 100 yards or sections of a platoon more than 200 yards.

Each personnel carrier is equipped with a light machine gun mounted on the cowl, for vehicle, ground and antiaircraft defense. Personnel carriers are retained as close to the dismounted section and platoon as cover will permit, like led horses.

The rifle platoon, employed by squads and sections, furnishes fire support and ground protection for combat-car units and machine-gun elements. Rifle platoon elements act as covering detachments for machine-gun platoons moving to a position captured or overrun by the combat-car attack, mop up the position, take over prisoners and provide flank security for the machine-gun-troop elements. They also furnish dismounted combat patrols in offensive and defensive situations. Rifle platoon elements are invaluable at night for use with security elements, including advance guards and outposts.

The regimental headquarters troop is divided into platoons that furnish the administrative control, communications, and a means of denying the enemy effective use of his anti-mechanization weapons. It has three officers and 105 men, and is composed of a troop headquarters, staff platoon, communications platoon and mortar platoon. The organization into platoons is for administrative and training purposes only. Their tactical and administrative functions cause the personnel to be distributed throughout the regiment.

The mortar platoon neutralizes hostile anti-mechanization weapons, primarily by the use of smoke. Tactically it operates independently, being placed in the headquarters troop for administration and supply. It normally functions under the direct orders of the regimental commander. It occupies defilade positions in rear of or to a flank of the supporting machine-gun elements. It fires smoke and HE shell, phosphorous and gas, and has a maximum effective range of 2,400 yards. It consists of three sections of two mortar mounts each.

The platoon is equipped with radio and radio telephone for direct communication with the observation post. It is very mobile, both in going into and out of action, and its fire is flexible without a change of position.

The communications platoon, under the communications and signal officer, functions in the forward echelon regimental headquarters, forward and rear echelon headquarters troop and operates 29 radio sets throughout the regiment in all organizations except the set in each section leader's car of the armored-car platoons.

All members of this platoon, including drivers and motorcyclists, are instructed in signal communications, thereby furnishing relief for drivers and operators within the vehicles of the forward echelon. All radio equipment and personnel to operate and maintain it are contained in the communications platoon. Radio sets are installed in the command vehicles of different units under the supervision of the signal officer.

The service troop contains elements which obtain and transport supplies, furnish maintenance for the vehicles of the regiment, and provide for evacuation of vehicular casualties.

From February 5 to 21, 1937, there raged in Spain what General Weygand, Foch's one-time Chief of Staff, said was "the most perfectly conceived and brilliantly executed battle of the Civil War up to that time." This was the battle of the Alfambra, resulting in the Insurgent capture of Teruel, in which "a spectacular part was played by Monasterio's cavalry, which contributed greatly to the victory by the speed and decision of its movements."

"The attack was preceded by an artillery and an aerial preparation unparalleled in intensity in the Spanish war. . . . Then the shock troops advance, *tanks leading*, in coördination with the infantry, artillery and aviation. . . . The government line gave way. . . . Through this gap came with lightning-like speed the mass of maneuver —Monasterio's Cavalry Division."

* * *

On March 9, 1938, thirteen months later, we find Monasterio's Cavalry Division again in operation. . . . "This cavalry division had been completely reorganized after the battle of the Alfambra, and now included motorized infantry and *detachments of armored cars and tanks.*"

Might we not say that here is the cavalry of today, as proven on the battlefields of Spain? Does it not combine horse, mechanized and even motorized elements into an effective whole, which drove through a gap, cutting off lines of communication and harassing the hostile forces in flank and rear, and which was officially commended for its "rapid and masterly advance"?

In closing I would summarize as follows:

(1) Mechanized cavalry is a modern development possessing the cavalry characteristics of mobility, fire power, and shock, plus armored protection.

(2) Mechanized cavalry is not a replacement of horse cavalry but may coöperate with it or act independently.

(3) Mechanized cavalry must be assigned appropriate missions and given latitude in performing them.

(4) Mechanized cavalry has its limitations, as has any other combatant arm. Exceed these limits and you court disaster.

(5) General Harbord: "Modern equipment is necessary to win a modern engagement, but there must be men of stamina there who know how to use it to fullest advantage."

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Horses in Japan

NOTE: The following was taken from the April, 1939, edition of the *Tokyo Gazette*, Tokyo, Japan. The *Tokyo Gazette* is a monthly report of current policies, official statements, and statistics of the Japanese Government:

Many things hitherto unnoticed even by the thinking public have been brought to light, frequently with new emphasis and implications, through experiences undergone on the China and home fronts in connection with the present conflict. The usefulness of the horse in modern warfare is one of such discoveries. In reality, without the services of this dumb, faithful animal, Japanese troops would not have been able to carry out successfully, daring attacks upon enemy positions, particularly in battles on the rugged steeps and in the narrow passes of the Chinese mountains. Contrary to popular expectations, the increasing mechanization of the Army has by no means diminished the utility of army horses. The present hostilities have certainly established their distinct place in modern warfare. Accordingly, a new horse administration policy for Japan and Manchoukuo inclusive has been worked out, while the Second Horse Administration Plan already in force for Japan has been revised. In the following are given outlines of the two Plans.

The Japanese-Manchoukuoan Policy

In view of the prevailing international situation and conditions of resources in horses in Japan proper, overseas territories and Manchoukuo, the program applied only for Japan proper has proved far from adequate for meeting the urgent and growing demands both for army horses to be used on the Asiatic Continent and for horses to be used in connection with industries at home.

Many seem to believe that Manchurian horses are superior to Japanese horses, but the actual case is to the contrary. Japanese horses, though by no means perfect, have been greatly developed in quality by years of endeavor; their abilities are far superior to unimproved Manchurian horses. The latter, and Chinese horses too, have been used in various services on the Chinese front and have been found slow in pace, lacking in strength, and useful only as draught horses for baggage. Their power to pull and to bear represents approximately two-thirds of that of Japanese horses. Hence, what is needed is establishment of a horse administration policy for Japan proper, overseas territories and Manchoukuo, inclusive, by which the overseas territories and Manchoukuo can be aided with Japan's superior technique of horse breeding and stallion resources, and by which horses of Japanese breed can be sent to districts according to needs and with a view to effecting adjustment in distribution of suitable types of horses. On the basis of such consideration, the Horse Administration Policy for Japan and Manchoukuo, inclusive, has been approved, as far as the Japanese end of the procedure is concerned, by the Japanese Cabinet Council on July 12, 1938.

Its essential points are as follows:

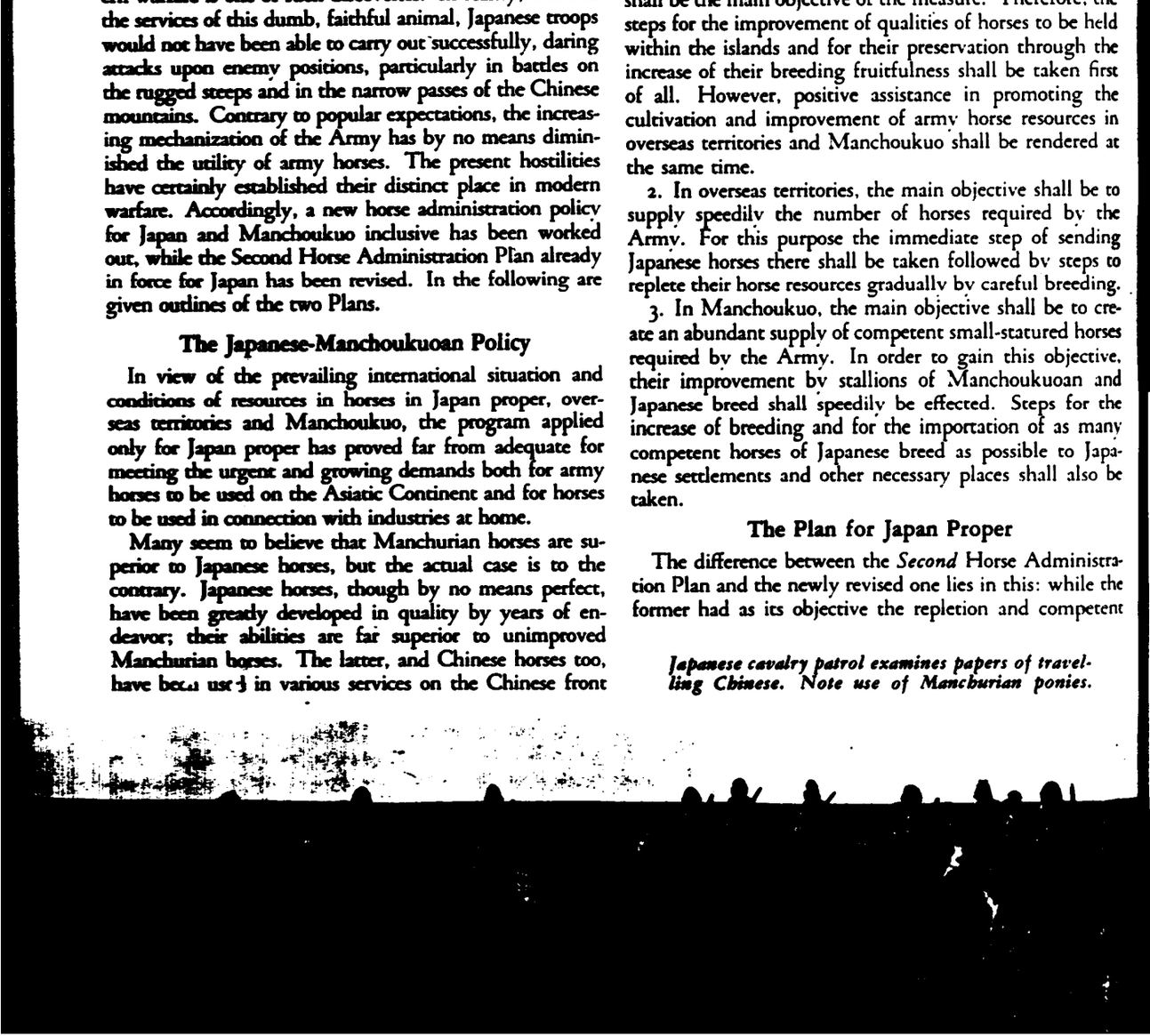
1. In Japan proper, the supply of competent horses required by the Army, particularly by battle-line troops, shall be the main objective of the measure. Therefore, the steps for the improvement of qualities of horses to be held within the islands and for their preservation through the increase of their breeding fruitfulness shall be taken first of all. However, positive assistance in promoting the cultivation and improvement of army horse resources in overseas territories and Manchoukuo shall be rendered at the same time.

2. In overseas territories, the main objective shall be to supply speedily the number of horses required by the Army. For this purpose the immediate step of sending Japanese horses there shall be taken followed by steps to replete their horse resources gradually by careful breeding.

3. In Manchoukuo, the main objective shall be to create an abundant supply of competent small-statured horses required by the Army. In order to gain this objective, their improvement by stallions of Manchoukuoan and Japanese breed shall speedily be effected. Steps for the increase of breeding and for the importation of as many competent horses of Japanese breed as possible to Japanese settlements and other necessary places shall also be taken.

The Plan for Japan Proper

The difference between the *Second* Horse Administration Plan and the newly revised one lies in this: while the former had as its objective the repletion and competent riding and draught horses, the latter has as its main objective competent horses necessary for battle-line troops, in other words, the supply of riding, draught and pack horses for use in battle lines. Accordingly, the revised plan aims at the extension of the scope of horses to be required for battle-line troops and the improvement of the quality of horses to be held in Japan proper, which involves the carrying out of the thoroughgoing augmentation of the post-breeding protective measures as well as the increase of their successful breeding. No term is fixed to this plan, as it may be required to make further and partial revisions according to possible changes in the state of affairs concerned and to actual results of the operation of the present plan. However, the term fixed for the former plan, extending over 7 years from 1939-45, has been made the basis of the immediate program. Its essential points are explained below.



Japanese cavalry patrol examines papers of travelling Chinese. Note use of Manchurian ponies.

Japanese supply column in undeveloped country. War as she is fought!

Essential Points of the Revised Plan

1. Horses of Military Age to be Held in Japan Proper. Endeavors for the preservation of 1,500,000 head shall be conducted as hitherto, and increase in the breeding of Japanese horses shall be planned in order to give positive aid to overseas territories and Manchoukuo in the cultivation of army-horse resources and in the improvement of the quality of horses. As for horses of military age—from 5 to 17 years of age—to be held in the main Islands, their number must at least be 1,000,000 head.

2. Improvement of the Quality of Horses.

Necessity for the improvement of the quality of horses to be held in Japan Proper has been keenly felt through the experience of the present conflict with China. In the horse administration policy hitherto carried out emphasis was placed on breeding. The present affair, however, has taught the urgency of enlarging and strengthening post-breeding measures.

An important matter to be taken account of in this connection is the impossibility of importing horses from abroad, a measure which was carried out during the Russo-Japanese War to great advantage. Thus Japan depends entirely on the internal resources for supply of Army horses. Consequently, organizations for preparatory training of horses for use in the Army have been set up since March, 1937, with a view speedily to carry on measures

for training and hygienic protection—including the protection of hoofs—of horses likely to be requisitioned. These measures have been seriously and successfully carried out. Horses trained in this way before being requisitioned have not only shown by far the better records as army horses as compared with those not undergone such training, but also been contributing to the maintenance of the nation's productive power as industrial horses when not requisitioned. Their growth in strength has prevented them in a large measure, from getting exhausted easily, thereby making up deficiencies in labor power caused by numerous cases of requisition. These emergency measures will be made permanent in connection with the present program and strengthened and extended in their methods and scope of application.

Returning to the main point, essentials of the measures for improving horses to be held in Japan proper can roughly be summarized as: (1) to enlarge and perfect pastures and other grazing facilities; (2) to strengthen measures for improving the methods of rearing horses by carrying out thoroughgoing hygienic facilities and measures; and (3) to complete measures for their training. As for colts which are to be successors of army horses, a special legislative measure, the Law for Protection of Army-Horse Resources, has been enacted providing for the system of protected army-horses and for subsidies to be granted to those who are rearing them. The animals are thus to be carefully reared and also trained. With regard to fully grown horses coming within the purview of this system, special training for qualifying them as army horses is to be given. Such a measure as the training contest is to be adopted also for purposes both of training and popularizing the idea of protected horses. This measure, superseding as it does the local horse-racing regulations, will serve as the means of improving local horse racing systems, a step long in demand.

3. Adjustment of Distribution of Horse Resources.

In coördination and close coöperation with horse administration policies in overseas territories and Manchoukuo, positive aid shall be given to the cultivation and improvement of horse resources there.

4. Improvement in and through Breeding.

Utilizing breeding mares and the breeding technique most effectively, endeavors shall be made for the fruitful breeding of horses necessary for aiding overseas territories and Manchoukuo in this matter while adequately preserving horse resources in Japan proper.

In carrying out the new breeding policy the first objective should be to breed the short- and broad-statured and strong-limbed horses with the draught and endurance power and which are not only covenient for middle-statured persons to drive and use but also easy for rearing. On the other hand, the breeding of horses of the riding type should be restricted in number on the basis of the peacetime demand of the Army. The breeding of delicate, lean horses, particularly of excessively high-spirited ones is to be guarded against. Briefly, the main objective of the present revision in breeding policy is to try to breed service horses for defense purposes.

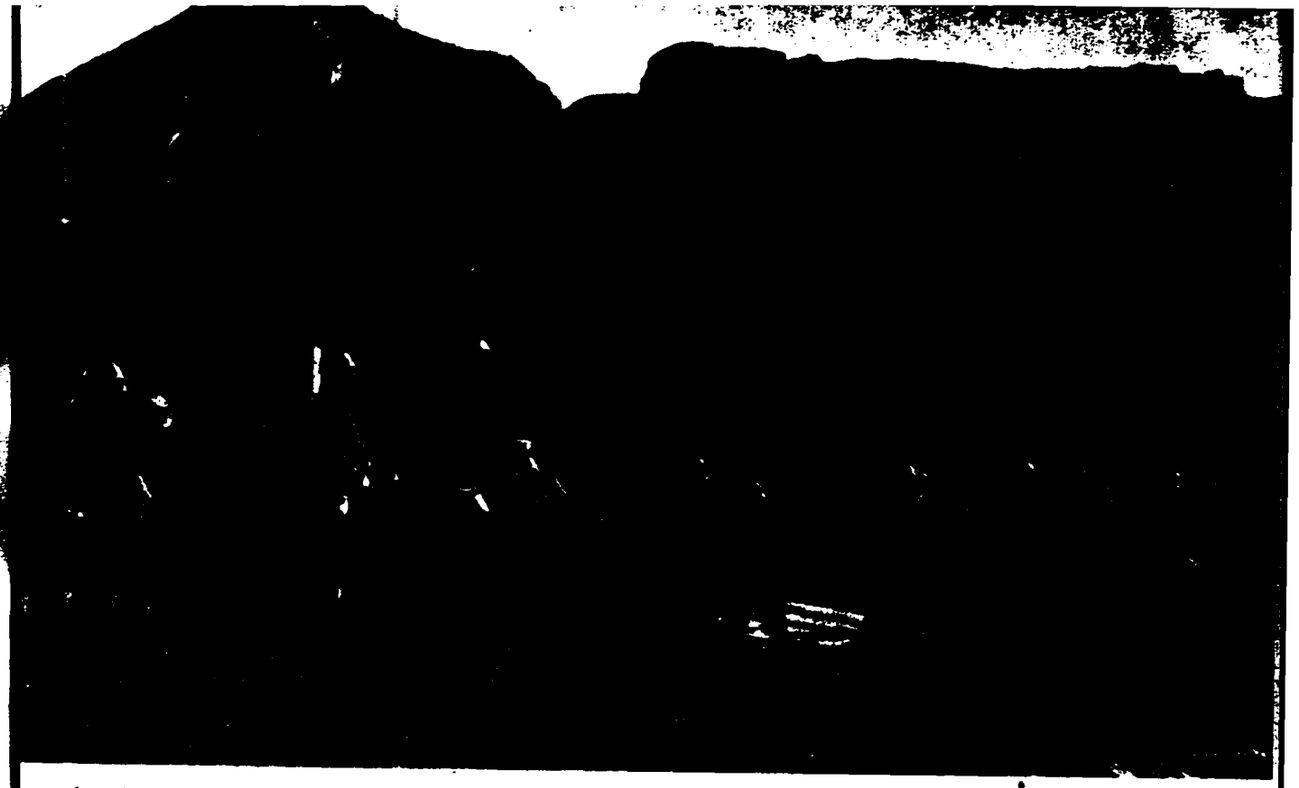
Another important measure in improving horses through breeding is to establish breeding policies by regions and classes of service according to the actual conditions of different localities and, at the same time, to try to produce competent horses having abilities fit for different classes of service by carefully selecting breeding horses, by regulating their distribution and mating, and by adjusting and readjusting blood and physical types.

With regard to classes of service, four classes of riding, draughting, small-statured draughting, heavy draughting have been adopted as in the former plan. With regard to breeds and types of horses, the new plan has made such revisions as necessary for achieving the above-mentioned purposes. Important steps worthy of special mention here are the creation of the system of registering breeding horses and the carrying out of the State ownership of breeding stallions other than those specially permitted for private ownership. The former measure will promote the fixing of the types peculiar to Japan by practicing strict methods of selection of individual horses and the latter will enable the State to own, by 1945, *7,500 head of stallions*, of which 2,000 head will be held and reared directly by the State. By this measure of State ownership, the privately-owned breeding stallions will be eliminated by 1945. However, as the repletion of breeding horses for those of the riding type is urgent, those stallions which fall short of the standards in quality and stature, will speedily be eliminated. With regard to mares of superior quality, endeavors will be made for keeping them where they were bred; and at the same time, subsidies will be given to those who rear mares of superior quality. The contemplated Law for Control of Breeding Horses is designed for such repletion and distribution. In this connection, horse races as provided for in the Horse Racing Law have been improved so as to be able to examine abilities of breeding horses necessary for the improvement of horses in general and thus to facilitate the obtaining of breeding horses of superior quality as well as to popularize the knowledge and promote interest in such matters.

These revisions may be regarded as radical changes in the breeding policy. They cannot, however, be expected to bear fruit within a year or two. In purchasing army horses, therefore, the unqualified application of the new principles cannot be made for some years to come. Accordingly, interim arrangements have been made in consultation with the Army for gradually making changes in the purchasing policy in accordance with the forementioned revisions. By 1950, however, all the new measures will be ready for full application even in this connection.

5. Utilization of Horses and Popularization of Knowledge Concerning Them.

In order to maintain and cultivate horse resources, the extension of the scope of utilization of horses and the improvement of the methods of their utilization are extremely exigent. For these purposes necessary measures will be perfected; in view of experience gained in the present conflict with China, a measure for popularization of the knowledge concerning horses will be carried out.



Japanese troops entering Kupeikow. Note Japanese bred horses.

6. Preparation for the Supply of Army Horses and the Maintenance of Industries in Time of Emergency.

There has never been in Japan anything similar to the plan for mobilization of horses. The present conflict has taught the necessity of some such plan. Accordingly, basic investigations will be made and a systematic plan will be framed for the supply of army horses and for the maintenance of industries in time of emergency. In connection with this plan; it is further contemplated to set up in Japan proper an institution devoted to the study of horses, with a view particularly to making scientific studies necessary for the promotion of horse administration in East Asia.

Advantages, Restrictions and Responsibilities

These plans for improvement of horses will function to no small advantage for those engaging in the horse-breeding industry in that the cost of breeding will be decreased through State-ownership of breeding horses and through the augmentation of measures for protection of mares and in that the prices of horses will be stabilized through the establishment of the protected horse system. On the other hand, however, horse breeders will be placed under restrictions in that they will be required to breed the types of horses in which their particular region is to specialize and may be led to change their breeding policies in accordance with provisions of the new plan.

Those who are rearing and using horses will also gain advantages in having the qualifications of their horses officially recognized, in receiving subsidies accordingly, and in effecting improvement of their horses by means of various governmental measures. They must, however, bear many responsibilities for these privileges. The Government is confident that, with the intelligent understanding of all these people concerned, the new program will be successfully carried out in conformity with national purposes.

A tragic war time convoy

A welcome sight was two small black British destroyers

In September, 1918, there sailed from the port of embarkation at New York a large convoy transporting troops for the American Expeditionary Forces. Ten days later, near the end of a rough and tempestuous crossing, two of these ships, the *Otranto* and the *Kashmir*, collided off the Scottish isle of Isley and the *Otranto* sank with heavy loss, including over three-hundred United States soldiers.

An endeavor will now be made to record the observations and impressions of this voyage as recalled after a lapse of twenty years by one who witnessed the disaster from his post on the S.S. *Saxon*, one of the ships in the convoy.

The convoy was made up of British merchant ships and, it was understood, was under British direction and control. The *Otranto* was the leader and its captain was in command and directed the movements of all the trans-

By Lieutenant Colonel P. F. Gault, O. R. C.

ports. The naval escort to guard the troop ships from hostile attack, as far as an appointed rendezvous with the British forces, was furnished by the United States and consisted of the battleship *Louisiana*, the cruiser *St. Louis*, and a large first line destroyer.

Among other troops aboard the transports was the 59th Field Artillery Brigade, consisting of the 125th Field Artillery, the 126th Field Artillery, and the 127th Field Artillery, the author being an officer of the regiment first named. The brigade was distributed among three ships, the 125th on the *Saxon*, the 126th on the *Kashmir*, and the 127th on still another. Each ship, in addition to these field artillery regiments, carried other smaller organizations and detachments of casuals. The *Saxon*, moreover, was fortunate in having aboard a number of trained Red Cross nurses, who later on the voyage had the opportunity to and did render service of great value.

The regiments, as National Guard organizations, had served on the border during the Mexican trouble, and had returned to their home stations not long before the outbreak of the World War. After being mustered into Federal service for the emergency they again returned to the border, where at Camp Cody, New Mexico, they became units of the 34th Division.

In the process of reorganization and training numerous vacancies occurred in the commissioned grades, and these were filled from two sources, promotions within the regiment, including the commissioning of noncommissioned officers, and transfer and assignment of officers of the Reserve Corps, largely from Camp Jackson, South Carolina. Those remaining as noncommissioned officers in most instances were the original enlisted personnel, nearly all of whom had had Mexican border experience. While at Camp Cody there had been an infiltration of selective service men, but these did not balance in numbers the draft already made for overseas replacements.

Shortly after the new officers joined the regiment the entire brigade moved to the brigade training center, Fort Sill, Oklahoma. The organizations and individuals profited from the training at Fort Sill, particularly in physical strength and condition. Exercises and maneuvers under the summer Oklahoma sun, interspersed with occasional dust storms and torrential rains hardened the personnel, both enlisted and commissioned. As the period of training drew to a close the condition of the regiment, both as to discipline and health, was excellent. Shortly before leaving for the port of embarkation an increment of selective service men joined the regiment. As a whole these men were of high quality but there was time to do little but instruct them in simple rudiments, and there was of course no opportunity to bring them to the condition, physically or otherwise, of the regiment's original personnel. About this time the regimental surgeon rejoined the regiment. He had been away on detached service, and thus did not have the benefit of the training and conditioning process at Fort Sill.

After a brief stay at Camp Upton, Yaphank, Long Island, where medical examination resulted in the elimination of only a few as physically unfit, the regiment entrained in the dead of night for the port of embarkation and went aboard ship early the next morning.

The *Saxon* was constructed to carry both freight and passengers. Although not a large ship, especially as measured by present-day standards, it seemed well designed and reasonably comfortable. But there was no waste space and after the men were aboard and their equipment stowed, the close quarters proved irksome to the men.

The ship's officers were men of long experience at sea and were understood to be members of the Royal Naval Reserve. Members of the crew, with some exceptions, impressed one as being too young, infirm or otherwise unsuited for the Royal Navy. Some of them took keen delight in entertaining the soldiers with tall tales of the sea. Early in the voyage one of the battery officers chanced to see a number of his country boys grouped around one of the seamen. The soldiers were listening with goggle eyes and long faces, and upon drawing near the officer was surprised to learn that the *Saxon* had never completed a voyage as a transport. Some disaster invariably occurred and all had to abandon ship and either row or swim ashore. Afterwards the ship was pumped out and put back into service. Since most of the rapt listeners had never been on a ship of any kind nor had ever seen a body of water larger than the Mississippi River, such yarns were not reassuring.

As the ship was steaming out to sea it was announced that officers of the regiment were to furnish submarine lookouts who would be in addition to those of the ship's company. Senior battery officers were selected and detailed to this duty. Watches were established and posts assigned. Until relieved shortly before docking at the end of the voyage these officers trained their land-lubber eyes through mil-scale field glasses and swept the tumbling seas in search of submarines.

It was interesting to watch the men as they emerged from the forward hatch and came on deck in the morning. Invariably, the first thing they did was to look for the escort of war ships. After locating them with apparent relief, they directed their attention to the other ships of

the convoy to see whether they were all in position. After this inspection of the convoy and its escort, the men proceeded about their affairs, usually, after the first few days, in search of food.

The ships were assigned positions in the convoy and these were maintained except for an occasional case of lagging. The *Saxon* was on the left flank towards the front. At night no lights were shown. The convoy followed a zig-zag course, which involved, it was said, steaming on certain bearings for a given time and then changing to new bearings, this process being constantly repeated. To those unaccustomed to the sea, such an operation appeared a difficult one, particularly at night, since the ship's officers and men being of the merchant service presumably were not accustomed to handling ships in such maneuvers, and neither the ships nor the machinery had been constructed with that in view.

To the starboard of the *Saxon* and directly abeam steamed another ship of the convoy. As the ships drove through the heavy seas and darkness of the night, the presence of a ship off to the starboard was felt rather than seen. As other ships of the convoy were similarly spaced, in order to fix his relative position, particularly when the sea was rough and the night dark and misty, the ship's officer on watch occasionally would switch on a light, which in turn would be answered in kind by the ship close by. One such incident was followed by the progressive appearance of lights all about. A group of ships were on the course of the convoy, and had it not been for the wish of the officer navigating one of the ships to locate the one nearest to it numerous collisions conceivably might have taken place. The running lights of all these many ships passing in the night made a spectacular sight.

As the convoy proceeded eastward on the North Atlantic it ran into increasingly rough weather and heavy seas, and what was worse, the dreaded influenza made its appearance. Sickness was first observed among the casual detachments. The next cases were found among the recruits who had joined the regiment at Fort Sill. While it was spreading rapidly among those troops, some of the old enlisted men in the regiment, fortunately only a few, were affected.

It was not long before all ordinary hospital facilities were overwhelmed and the public rooms of the ship were made use of in order to take care of the increasing numbers incapacitated by the disease. As a part of the treatment, to obtain the benefits of fresh sea air, some patients were accommodated on deck. This relieved appreciably the pressure on the indoor facilities, both permanent and temporary, but unfortunately this method of taking care of the patients later became increasingly impracticable because of heavy seas breaking over the decks.

The regimental surgeon and his assistants, together with the group of nurses, worked with the sick day and night, and towards the end of the voyage the epidemic had run its course so far as the regiment was concerned.

Late one afternoon rumors from the usual and universal source had it that the convoy was approaching land. The next morning there was no naval escort in sight. During the night the United States warships, pursuant to orders, left the convoy, the arrangement being that the British were from that time on to furnish the armed escort. Because of some mischance, the British warships did not meet the convoy and the troop ships were obliged to proceed all day and into the night without an escort.

Nightfall brought with it a gale and rapidly mounting seas. After the evening submarine watch went on deck the ship was forced to contend with mountainous waves. At one time a heavy sea rolled the ship far to the left. The foremast attracted the attention of the observer, and it seemed that the mast had gone down to the left as far as it could with safety to the ship, and that further downward movement would indicate sure disaster. The mast seemed to hesitate as though balanced between two opposing forces, but finally a heavy sea washed over the ship and the mast went down even further. Then there was a brief lull as the ship struggled to right itself, and, fortunately, the mast started to return to the right and the ship resumed the rolling and pitching to be expected under such conditions.

As the ship rolled a terrific crash in the dining room could be heard, even as far as the boat deck. Although for several days the tables had been equipped with racks to keep the dishes from sliding off, the downward lurch of the ship had hurled against the side of the room dishes, glassware, and about everything else not nailed down.

The extreme roll of the ship and the violent swaying of the mast appeared too much for the nerves of the seaman posted as lookout in the crow's nest, as he was seen to scramble out and scurry down the mast and out of sight.

While all this was going on an officer and two men had a harrowing experience. In moving the body of a recent influenza victim it was necessary to cross the after well deck of the ship. When about halfway across they lost their footing on the heaving deck and were thrown against the rail, and as a result their burden was wrenched from their grasp. As the ship rolled back they were hurled across the deck and against the opposite rail and with them empty containers and light gear which had become unloosed. Then followed a grisly game of hide and seek as they tried to recover what they had been carrying. Although in imminent peril of being floated or washed overboard, their persistence met with success, and eventually they reached the safety of the ship's deck house.

As dawn broke the next morning, a wild scene met the eye. The seas appeared as an unending series of snow-capped mountain ranges. The force of the gale whipped and drove the spray before it as though it were light and swirling snow. The convoy was widely scattered. Some of the ships were not within the range of vision and the few that were to be seen were rolling and pitching among enormous waves.

A welcome sight was the presence of two small black British destroyers which had joined during the night. These boats were tossed about by the waves like chips. Now they were high on the crest, next seen sliding down into the trough of a wave, where they disappeared from view to reappear on a surging crest.

The *Otranto* and the *Kashmir* were about 1,200 yards ahead of the *Saxon*, wallowing along closely in line, the *Otranto* on the right. Suddenly, as though observing or sensing some danger ahead, they started to turn, the *Otranto* to the left and the *Kashmir* to the right. As this change in direction and the power of the heavy seas were bringing the ships together they seemed to be living things struggling to escape the forces threatening them with disaster. These efforts were of no avail. The ships crashed, the prow of the *Kashmir* striking the side of the *Otranto*.

After the ships struck, the *Otranto's* siren was sounded and continued to blow repeatedly. As wafted back through the misty air and above the noise of wind and waves, the sound of the siren was remindful of the cries of something that still had the desire to cling to life.

Immediately after the collision of the two forward ships, the *Saxon* turned about to the left, as someone said at the time, on a thin dime. When about halfway around a huge sea came over the forward main deck and its force shook the ship from end to end. This wave was the cause of an incident which might have been tragic, but fortunately was only amusing. On the deck at the port rail was a temporary wooden structure housing a galley used in preparing meals for the troops. Green seas came over and through this structure, and there flooded out on the rushing waters, through windows and doors, cooks, kitchen police, cooking utensils, pans, potatoes, and miscellaneous loose gear. Happily the men were able to clutch some firm objects and scramble to safety on deck.

Just as the turn was completed the mists parted momentarily and directly ahead of the *Kashmir* and the *Otranto* a cold, bleak, and forbidding headland came into view.

The *Kashmir* worked clear and backed away from the *Otranto*. No small boats could live in such a gale, but the stricken ship received help from one of the destroyers, which immediately rushed to its aid. Small as this boat was, by skillful and courageous handling it was able to take from the *Otranto* a considerable number of those aboard, who had the opportunity and courage to leap from the rolling and laboring ship to the pitching and heaving deck of the destroyer, a small and uncertain objective at best. A contemporaneous rumor, which has never been verified, was that some men were so unfortunate as to land in the blazing funnels of the smaller boat.

The difficulties of maneuvering this small and narrow ship in the raging North Atlantic so as to save these men must have been enormous. At times it seemed that the destroyer surely would be pitched clear over the masts of the sinking ship. Often the destroyer was thrown back or was forced to back away, but with courageous persistence it would return to save additional lives.

The author felt then, and still feels, that he witnessed a perhaps unique exhibition of valorous and superlatively skillful seamanship.

The *Kashmir* suffered considerable damage and took in a large amount of water as a result of the collision, but was kept afloat by its water-tight bulkheads. After a nerve racking experience for all those aboard, the ship made port at Glasgow under its own steam.

The *Saxon* eventually worked around into quieter waters, and at sundown that evening a sad but impressive ceremony was witnessed. Several men of the regiment, recent victims of influenza, all recruits received at Fort Sill were buried at sea. Officers and men so far as available were assembled on deck. A prayer was said by the regimental chaplain. The ship's executive officer, a colorful figure in the blue and gold of his rank against the drab background of the military, read the simple service of the Church of England and the weighted and canvas-shrouded forms were consigned to the deep. Other burials at sea had taken place on the voyage, but under conditions which permitted less ceremony.

As the ship steamed through the night on the comparatively calm waters of the North Channel it seemed that final escape had been made from the perils of the voyage. But unfortunately tragedy still hovered about. The next morning, as the ship was on the sunlit expanse of the River Mersey approaching Liverpool—the end of the voyage, the regimental surgeon succumbed, a victim of exhaustion and influenza. This death marked the only one among the personnel, officers and men, who had been with the regiment through the training period at Fort Sill.

EDITOR'S NOTE: Colonel Gault's account of this transport episode prompts one to consider the various vicissitudes which may lurk in such an undertaking. In the face of modern long-range aircraft the problems involved have not diminished.

Training of Modern Cavalry for War

Polish Cavalry Doctrine*

The peacetime training of troops assumes proper importance only when conducted with due regard for the preparation of an efficient force for war. This fundamental principle is of especial importance in the case of those arms of the service which are difficult of organization during mobilization in an emergency, and whose training is more complicated. Among these are first of all the cavalry, aviation, and mechanized forces, the organization and training of which can not be provided by any makeshift methods. The procurement of the necessary animals and equipment is in itself a difficult task, but even more difficult is the matter of providing properly trained leaders and men skilled in the functions devolving upon the aviation, mechanized and cavalry forces.

From this it follows that while in the case of the infantry it is permissible in peacetime to maintain skeleton organizations that may be quickly developed and expanded in case of an emergency, the same is not true with regard to the three arms just mentioned. These must be maintained at their full war strength, since it will be difficult to raise their strength materially upon the outbreak of hostilities.

A fact to be considered in this connection is that all of these mobile forces will be called into action during the initial stages of the conflict, and that they will be utilized on strategic reconnaissance and attack missions, in establishing contact with the enemy before infantry concentrations, etc.

The difficulties incident to organization and training of the cavalry have resulted in the maintenance of the cavalry close to war strength.. The cavalry is ready for action on short notice; yet the mounted warfare of the next war will differ greatly from anything in the past.

Are we prepared for the new warfare methods? This is a question the cavalry must ask itself.

What are the requirements that the modern cavalry must be prepared to meet? It would appear that the answer to this should be sought in the scope of future cavalry missions and the conditions under which these missions will be performed.

*(Condensed Russian translation from the Polish.)

Various historical examples from wars of the past justify our conclusion that neither the heavy machine gun, the quick-firing gun, nor even the tank, gas or aviation will exclude the cavalry from the battlefield. It is quite obvious, however, that all these new modern weapons considerably complicate the employment of the cavalry in combat.

We are inclined to believe that in the future the cavalry will be capable of the execution of independent, and even strategic missions, particularly in the eastern parts of Europe. The cavalry may and should serve in the hands of the higher commander as a mobile force which, in conjunction with the aviation and mechanized forces, may extend the maneuver potentialities of the modern army, and guard it against stabilized warfare and losses in material incident to position warfare.

In stating that the strategic cavalry will in the future be capable of participation in decisive military operations, we assume that *only the* modern cavalry will be suited for such action, since only the modern cavalry will be capable of the execution of its missions under the modern, greatly changed warfare conditions.

What will be the missions of the modern cavalry? If we mean the full utilization of the cavalry in a manner not involving a scattering of efforts on minor frontier engagements, as was the case in 1914, it will be more expedient to employ the cavalry in large formations on independent strategic reconnaissance missions and on G. H. Q. missions.

In considering these missions to constitute the main objectives of the cavalry, we do not propose that when necessary a part of the strategic cavalry may not be employed for the protection, or in the interest of dismounted troops. The assignment of certain cavalry units for this purpose will not affect the general aspects of the cavalry formations.

The strategic cavalry may be employed either as part of a strategic force made up of several large cavalry units, a mechanized unit, an appropriate air force, motorized artillery, etc., or as independent divisions or cavalry brigades.

In either of the above instances the cavalry units will operate independently without any forces on their flanks, or in pursuance of orders from higher commanders, they may maintain contact with one of the flanks of their army or group of armies. The Cavalry missions will always be strategic in nature, involving a great radius of action and will often be in the shape of raids. Even in those instances where the cavalry will be employed on passive missions, it will still operate more or less independently.

This suggests the conclusion that the cavalry should constitute an independent force, relying solely on its own resources: it should be powerful enough to be capable of the execution of the missions that may be assigned to it. Next, it must adapt its tactics and combat training for independent action against any type of forces that it may encounter in the execution of its missions.

What will be the conditions under which the cavalry functions will be performed? So far the views prevail that in spite of the development of mechanized forces the mainstay in battle is still the infantry, reinforced with powerful auxiliary forces of the various arms and services. The highly mobile forces will serve as the basic means of strategic maneuver, the object of which will be to prepare, secure and exploit the massed infantry attack.

The military operations in Spain and in the Far East confirm this. They testify to the fact that the modern infantry constitutes the main factor in the attack around which are grouped the fire action and movement of all other types of forces. The massed infantry operates in one or more strategic units and is supported by large mobile forces the mission of which is to reconnoiter and clear the area before the main objective, whereupon these join the attack, developing the assault on the hostile flanks on a strategic scale (cavalry and mechanized forces) and against the hostile rear (aviation).

As regards the cavalry, we may note two phases of action: (1) along the front of the dismounted armies, and (2) on the flanks (subsequent to the concentration of the main forces).

Let us ask the question: against whom will the cavalry operate during these two phases—against the main hostile forces, or against the hostile mobile units?

Detachment of Polish Cavalry shown during recent crisis with Lithuania

Obviously, in the first phase, the cavalry will engage the mobile forces of the enemy operating before his main forces; while in the second phase, when the main battle will be fought, the cavalry will engage the enemy on the flanks, consisting primarily of mobile forces. Only at the very end of the battle, when a maximum intensity will be reached and when everything will be thrown into balance in order to gain a final superiority over the enemy, will the cavalry engage any foe that it may encounter, i.e., whether it be a mobile or infantry force.

Thus we arrive at the conclusion that the cavalry must be prepared for action (ie.e., trained in times of peace) first of all against mobile forces, and then against the infantry, which it may be called upon to engage during the crucial stages of the battle. During a pursuit or withdrawal from action the cavalry will first encounter hostile mobile forces which will either be covering the hostile withdrawal or engage in the pursuit. As can be seen, the cavalry will nearly always encounter mobile forces of the enemy, and in some fewer instances, but in critical periods, it will encounter massed infantry forces which it will be called upon to attack with utmost vigor.

In view of the fact that with the outbreak of hostilities the cavalry will face the mobile forces of the enemy, and that action against the hostile infantry will come considerably later, the question may be asked if all attention in the training of the cavalry should not be devoted entirely to action against mobile forces, assuming that its action against the infantry will follow as a matter of course during the conflict.

Cavalry training for action against mobile forces is so complicated in itself as to require nearly all available time. Obviously, it would be best if we could gain both objectives. But, considering this to be impossible, we may choose that which is of greater importance. And there can be no doubt that the training of the cavalry for action against mobile forces is more important.

Action against the infantry will come at a time when the cavalry is already inured to battle, after it has weeded out the weaklings, and when the cavalry officers have already gained practical experience in the control of their troops in actual combat. Thus we believe that the cavalry should first of all be trained in action against mobile forces, without, however, overlooking the need for training against infantry which some cavalry elements may encounter at the very outset of the war.

What type of mobile forces is the cavalry likely to encounter? What will be the characteristic features and powers of these forces? To answer these questions properly there is no need for any complicated study; we need only make a careful examination of the foreign military press for the purpose. The presence of large cavalry forces, in eastern Europe especially, and the formation in all countries of a large number of mechanized units, speak for themselves. Obviously, these mobile types of forces will not be employed on the defensive, for which they are not particularly suited; instead, these will endeavor to invade the hostile territory and to attack the enemy during his mobilization, to collect information regarding the concentration of his main forces, to seize favorable terrain for the friendly forces, and finally, to destroy anything which may help to prevent the main hostile forces from invading our own territory.

When and just how quickly may hostile mobile forces penetrate our territory? Will sufficient time be available in which to meet such hostile forces? All information testifies to the fact that the next war will start differently from the wars of the past; that it will start unexpectedly and without a declaration of war. Due consideration must be given the fact that each country devoting great efforts toward the organization of mobile forces, such as mechanized units, will want to make full use of these—concealing its plans of aggression to the last moment. This may produce a situation where prolonged periods of strained relations between countries, such as preceded the wars of the past and afforded time for preparations, will be reduced to a minimum.

Mobilization, which in the past consumed weeks of time, in view of the employment of motorized and mechanized forces, may be greatly accelerated and the minor frontier skirmishes of the past between border guards may be quickly converted into deep strategic penetrations by the motorized and mechanized forces of the opponents. At the same time, the aviation may go into action immediately upon the declaration of war, while the mobile units, made up of cavalry, motorized and mechanized forces, may enter the field within one, two or three days.

All this basically alters the old methods and concepts of mobilization and leads first of all to the need for the appropriate training of the mobile forces, since a conflict may start without warning.

There can be no mistake about it that any spark in the present political situation in Europe may well set off a conflagration. There is no telling just how long the present period of peace may last, if it still exists today. The European cavalry may suddenly find itself face to face with its powerful foes. Is it prepared for action? We believe that it is not.

This may be seen from an examination of the existing European cavalry training regulations. All existing regulations indicate that cavalry training is conducted in one direction only, against a single enemy. Whereas in the Western countries the small strategic cavalry is trained for dismounted action against hostile infantry or dismounted cavalry (the horse being regarded merely as a means of transportation), in eastern Europe the large cavalry forces are being trained for action in mounted formations against hostile cavalry and individual dismounted detachments which, however, will very seldom afford the cavalry an opportunity for surprise action. If we add to this the fact that the cavalry training regulations in all European countries fail to give sufficient attention to the action of the cavalry against other types of mobile forces, especially against mechanized, motorized and air forces, we may well conclude that the cavalry is not prepared for war, and that its training is one-sided.

The hostile aviation, with the very beginning of hostilities, will endeavor to destroy the cavalry with the aid of bombardment and attack planes; under favorable conditions, the aircraft will inflict heavy losses upon the cavalry and retard its arrival on the battlefield. Hostile mechanized forces, operating either independently or in conjunction with the cavalry, will not disregard or avoid marching cavalry forces; they will rather endeavor to destroy these in order to protect their own rear (the supply of ammunition, provisions, and especially fuel). Hostile motorized units, which might be utilized in the initial stages of the war to reinforce the cavalry and mechanized forces, will endeavor to prevent the cavalry from gaining the rear of the forces engaged in the initial operations and of the areas where the main forces are concentrating. We may assume that strategic units directed against the interior of the enemy's country, who will be protected by the various types of forces above referred to, will encounter great difficulties in action against the hostile forces. We are convinced, however, that, given favorable terrain, the cavalry will not only be able to cope with any such hostile forces, but that it will be able to defeat them. To insure this, however, the following conditions are necessary:

1. The cavalry must adapt its organization and armament, as well as its tactics and combat training, for action against each of the above forces (cavalry, mechanized, motorized and air forces), and not merely against any one of these;

2. The cavalry must utilize in its action all favorable conditions—first and foremost, the terrain and time of day, and weather conditions in a manner which will have a favorable effect upon its own action and an unfavorable effect upon the enemy.

Cavalry Tactics

In determining the proper tactics of the cavalry it is necessary to endeavor to overcome or offset the superiority

of the adversary; to exploit the deficiencies of the hostile forces, and in general to formulate methods of combat that would make it possible not only to get around or repulse the enemy, but also to defeat him. The favorable aspects of mobile hostile forces operating against the cavalry are the same as those of any highly mobile forces, and consist of the following:

(1) Great speed (with resultant facility of surprise attack);

(2) Very great fire power (with chance of inflicting great losses upon the cavalry);

(3) Lesser danger, than that confronting the cavalry, in possible losses from hostile fire owing to their speed (in the case of aircraft) or armor protection (mechanized forces).

It is particularly important to emphasize the fact here that the third (3) feature does not apply to motorized forces, which are even more vulnerable to surprise attack than the cavalry.

Along with these positive features, all mobile types of forces have a number of deficiencies, the more important of which are the following:

(1) Difficulty of control and supply;

(2) Dependence on roads to a greater or lesser extent;

(3) Slight combat efficiency in close country or when moving cross-country;

(4) Dependence on weather conditions;

(5) Slight capacity or complete unsuitability for night action.

Among the mobile types of forces the cavalry is less affected by the deficiencies above enumerated. By taking due advantage of the deficiencies of the other types of forces the cavalry may well defeat them.

How are the cavalry tactics to be adapted in practice against the deficiencies of the other types of forces which it will encounter in combat immediately on the outbreak of hostilities?

We shall endeavor to analyze the basic methods of cavalry action. Let us begin by stating that the speed, fire power and vulnerability of the cavalry are such as to promise little success for the cavalry in action against mobile hostile forces in open terrain.

Hence the first basic conclusion is that the cavalry—

(1) Must endeavor to deliver its attack against the enemy under conditions that will be unfavorable for the enemy; where he will be unable to make the best use of his forces;

(2) If it succeeds in this, the cavalry must attack with all the power at its command with a view to defeating the enemy, and if possible, to annihilating him;

(3) In view of the fact, however, that superiority in mechanical weapons will be on the side of the hostile mechanized force throughout the encounter, an effort must be made to curtail the hostile material and moral superiority without waiting for any favorable conditions: the cavalry must create these conditions.

The tactics of the cavalry must remain active and offensive in nature notwithstanding the changed conditions, otherwise it will lose its inherent characteristics by becoming involved in minor skirmishes, which always tend to exhaust the cavalry.

However, no generally active operations can always be imposed upon the cavalry. Cavalry combat has passed beyond its primitive stages of action. Due consideration must be given the fact that the dismounted or mounted attack will in each case depend on the particular action. In order that the battle be developed to its culminating point the cavalry action must be delivered not only with surprise effect but also with sufficient power, since any efficient modern force, fully equipped with modern weapons, can not be expected to become panicky merely on the appearance of the cavalry on its flank or rear. And in order to gather the forces at the decisive point at the proper time with a view to their employment at the crucial stages of the battle, these must be brought up in proper formation under the protection of modern military weapons.

Hence the movement of the unit to the point where it is to be employed requires much skill on the part of the commander, and is more complicated than the organization of the attack itself. To locate the enemy, to discover the particular point in his lines where to strike, to concentrate there all necessary forces in the face of all obstacles, and finally to deliver a successful attack in depth—all this represents the difficulties that confront the commander of the modern cavalry organization.

Commanders of cavalry forces will find it easier to overcome these difficulties if they will understand the deficiencies of their adversaries and know how to properly exploit them. The difficulties of control and supply are the Achilles heel of all mobile types of forces. Hence proper control will be maintained only during their initial attack, which will be the more formidable. After the initial attack the mobile forces always become intermingled and their action is considerably retarded. Planes must return for new loads of bombs, and some time elapses before they can renew their raids. Mechanized elements will need time in which to assemble and re-form, issue new orders: any change in the plans of action or even in the direction of the attack of the tank forces will involve much difficulty.

Motorized elements are easily separated from their transport equipment, which, in the case of a deep penetration complicates the supply of ammunition, and renders their advance dangerous; and the farther the troops advance the more dangerous becomes the situation of their motorized transport equipment. As regards march and supply situations, the long columns of all mobile types of forces always furnish good objectives for the cavalry; the cavalry may deliver raids against these by means of fire action; it may cut off part of the columns, or destroy a part of their forces or supply organizations.

The dependence of mechanized forces on good roads and their slight suitability for action in more difficult terrain should be reflected in the tactics of the cavalry.

(1) The cavalry should avoid open terrain and good

roads in order that it may not be surprised or destroyed by hostile air or mechanized forces.

(2) The cavalry should make its main effort in more difficult terrain and in areas with poor roads, in order to effect the turning of the flanks and gain the rear of the hostile motorized and mechanized forces in greater depth and to destroy them by brief surprise attacks launched against their more vulnerable points or dispositions.

Both of the above factors must be thoroughly stressed in the tactics and technique of the cavalry. Our cavalry (Polish) will have to overcome its natural aversion to action in forest and swampy areas, since the difficult terrain here involved will facilitate cavalry action and tend to conceal it against hostile aircraft. This applies mainly to small Cavalry detachments, up to a cavalry regiment. But larger cavalry units must also be able to utilize difficult terrain far better than heretofore.

Finally the last and most essential deficiency of the modern mobile forces is their poor adaptability for action in bad weather (rain or snow) or at night.

The fact must be recognized that action in bad weather and particularly at night is becoming ever more important for the cavalry not only because under such conditions the employment of aviation and mechanized forces by the enemy will be more difficult, but also because fog, rain, snow, and darkness afford more opportunities than daytime for surprise action against any hostile forces (hostile infantry and cavalry included)–while darkness has the effect of reducing the effectiveness of hostile fire, which is highly important from the cavalry standpoint. The efficacy of the cavalry consists first of all in its ability to act with surprise effect; night, from this standpoint, affords greater opportunities, ***provided the cavalry is thoroughly trained for night combat.***

It is impossible to cover in a single article even the salient features of cavalry tactics. In our present effort we merely wish to stress the fundamental requirements of cavalry tactics and training which in our opinion are essential in modern warfare.

Even in the organization of a march some distance from the enemy (without security measures) certain changes and modifications are necessary in order to protect the cavalry against distant raids by hostile air and mechanized forces. These modifications should be in the nature of provisions for security of the cavalry on the march:

(1) By means of reconnaissance (air or mechanized detachments);

(2) By the dispersion of marching columns laterally and in depth (as a protection againts hostile aerial bombardment);

(3) By the organization of small advance detachments, flank patrols and outposts, with the main object of protecting the column against attack by mechanized forces;

(4) By providing appropriate means of antiaircraft and anticank defense.

No part of the column must be without protection in the event of a hostile attack on the ground or from the air.

All these measures, however, will still fail to fully insure the security of the cavalry, and it must, as far as possible, utilize the night for its approach. This will not only afford it greater security but will also conceal its movements, which is so vital for surprise.

A march with security measures must be undertaken with greater precautions than a march effected without security measures, since in addition to protection against air and mechanized force attacks it must be protected also against hostile cavalry and infantry.

The fact, however, should be emphasized that it would be a grave error to send out strong security detachments in all directions, in accordance with a hard and fast plan, since this would involve a great expenditure of forces and decentralization of weapons.

Moreover, extreme cautiousness may retard the speed of the march and nullify one of the outstanding qualities of the cavalry, namely: its mobility.

In organizing a march with security measures, primary attention must be given the question as to whom the cavalry is intending to engage and against whom it is merely to maintain security and protection.

Hostile aircraft will always constitute a secondary enemy of the cavalry which, however, will require constant vigilance. This may be accomplished with undue difficulty, with the utilization of suitable weapons, particularly so in view of the fact that the hostile aircraft will prove dangerous only to large columns (regiments or higher) while the bombardment of small detachments will prove rather expensive.

All other types of forces, i.e., mechanized, motorized or cavalry forces, must be regarded as equal foes and the principal ones selected from among these. If, for example, the cavalry is in possession of information that it has before it a large cavalry force and some small mechanized detachments, naturally, the principal foe will be the cavalry. Therefore, the march will have to be organized so as to reach a more favorable position as quickly as possible for an attack against the hostile cavalry. At the same time, the flanks must be secured against sudden raids by the hostile mechanized forces, which must not delay the movement and action against the hostile cavalry. The precautionary measures here involved should take the form, first of all, of the selection of the axis of the movement that will be better protected against attack by the hostile mechanized forces; the proper disposition of antitank weapons; the protection of any defiles along the axis of communications, etc. With these precautionary measures the cavalry unit involved must proceed energetically to meet the hostile cavalry force. In the event of an attack by the hostile mechanized forces the marching column will be compelled to halt momentarily. The principal objective, however, must not be lost sight of in the meantime, and this principal and only objective must remain the hostile cavalry.

Under the circumstances, with the appearance of the hostile mechanized force it must be attacked and until it has been defeated and routed everything else must be regarded as secondary. Here the cavalry will merely protect itself against the hostile cavalry, infantry or motorized elements while directing all of its efforts toward decisive action against the mechanized forces. This will necessitate the reinforcement of the cavalry with tanks and additional antitank weapons and motorized engineer troops, and, as far as practicable with aircraft. With the aid of these, and by properly utilizing the terrain, the modern cavalry will be able to cope with the mechanized forces. The preparations should here be made during the day (reconnaissance, location of vulnerable points, concentration of forces, etc.) while the main attack should be delivered by the cavalry under cover of darkness.

In all instances, the march with security measures will vary considerably from those methods now in vogue. We shall not attempt to consider this question in greater detail; we merely wish to stress the flexibility of the forms of the march with security measures. The combat training of the cavalry must provide for the prompt adaptation of the marching columns to the changing conditions so that the cavalry might proceed without interruption until it reaches the main hostile forces, without being delayed en route by other hostile elements.

The cavalry attack will vary even more greatly in its forms than the march with measures of security. It must be capable of the execution of "partisan" raids against hostile motorized supply columns, as well as sudden attacks in mounted and dismounted formations, or fire actions on hostile marching cavalry columns and motorized detachments. The cavalry must be thoroughly trained in the technique of fire action against hostile mobile motorized and mechanized forces and in systematic action against hostile infantry occupying positions in defiles.

It is thus apparent that the modern cavalry is confronted by a number of missions which vary greatly in their nature, each of which has its distinctive features and requires greatly varying forms of execution. Consequently, cavalry training merely for attack in dismounted formation against hostile cavalry or infantry will not suffice under modern warfare conditions.

Let us consider the tremendous variations in the forms of fire action of the cavalry against an advancing hostile mechanized detachment, and the forms of attack against a narrow front of a hostile infantry force in a defense position. In the first instance the fire weapons of the cavalry will be widely distributed over the locality and will be almost completely decentralized, and the battle will assume the nature of individual fire action of separate dismounted cavalrymen or small groups with tanks. In any such duel, primary importance will be assumed not so much by the actual strength involved as by the individual training of the cavalry soldier, by his speed and daring.

On the other hand, in the attack against the infantry in defense position the fire power must be centralized as much as possible and be delivered in the form of powerful thrusts so as to insure the attacker an opportunity to approach the hostile infantry position for the charge.

And what, for example, is there in common between the swift cavalry charge against an infantry column and an assault delivered in depth at night against a mechanized force in bivouac, or a fire action against a mechanized column? There is very little similarity between these. The conditions involved are entirely different: each hostile type of forces has its own distinctive features, and the action against it requires quite different tactics.

The cavalry will frequently be utilized in defense situations on a wide front against infantry and even against motorized forces, which are unable to utilize their mobility at close range. In a mobile defense the cavalry may boldly launch counterattacks in dismounted or mounted formation from behind cover against open terrain.

In defensive action against hostile cavalry on a wide front the tactics to be employed will have to be different. It will here be necessary to select swampy areas with obstacles: defiles will be covered while leaving small open gaps in a manner which will permit the destruction of the enemy when he becomes scattered and dispersed by reason of the obstacles. The cavalry here operates from behind the obstacles and from favorable positions.

The defense against mechanized forces on a wide front will be even more difficult. This will call for exceptionally favorable terrain and barriers that the mechanized forces will be unable to negotiate. Here the enemy should be destroyed from ambush, by the use of mined fields as well as by individual action or by the action of small detachments of not more than a platoon in strength, which, by properly utilizing the terrain should manage to get to single tanks and destroy them with their small arms or hand grenades.

The conduct of containing actions is more favorable for the cavalry, but the form of action here employed also requires modification. As in the case of a defense on a wide front, in a containing action (mobile defense) the best situation will be where the defender possesses greater mobility than the attacker. In this connection, small cavalry detachments may successfully conduct containing actions against large infantry forces either by fire action or by brief counterattacks or by the utilization of either mobile or position defense (until the approach of darkness). Each of the four forms referred to requires different methods of execution. It should be emphasized that the employment of fire action alone will fail to produce the desired results in a containing action and might bring about prompt withdrawals and loss of ground. Be that as it may, the conduct of containing actions against hostile infantry by a cavalry force is a comparatively simple matter. This will be more difficult where the hostile forces include cavalry. There is no more complicated or dangerous mission than a containing action against a hostile cavalry force twice the strength of the containing force. Where the officers and men on both sides are of equal efficiency, the weaker force will always be courting defeat: since the mobile hostile force effecting a penetration at a given point may swiftly proceed into the depth of the disposition of the opponent's forces and launch a parallel pursuit, allowing the containing force two alternatives: either to attack the advancing enemy, i.e., engage him in

combat and be enveloped and destroyed; or else to withdraw, i.e., abandon the execution of its mission. Hence there can be no containing action against a cavalry force along the lines of action which may be employed against an infantry force. It is necessary to select a more suitable point (defile) and to maintain nearly all available forces in concentrated form, or else to contain the enemy at a more favorable point by fire action while preparing a way for a withdrawal to a rear position considerably farther back than in the case of an action against an infantry force.

The containing action will be much more difficult where hostile aviation participates in the action and where it prevents the concentration of the force for a withdrawal or where instead of the cavalry the enemy may employ mechanized forces.

Where action is to be conducted against a large mechanized force, neither a containing action with fire weapons, nor an attack or a mobile defense will suffice to contain it, and any such action might easily result in the destruction of the cavalry involved. Other methods will have to be found: positions will have to be taken up behind barriers that the tanks could not negotiate; the cavalry might take up defense positions, or, it may concentrate all its forces in several groups in woods, permit the tanks to pass and then cut off their retreat, while at the same time blocking the advance of the hostile infantry and cavalry in the wake of the tanks, wait until dark and then attack the tanks in the positions which they will have taken up for the night.

Thus we note that the conduct of containing actions against each of the types of forces above discussed requires different forms and methods. Obviously, where the cavalry will operate with mixed forces, even greater flexibility and maneuverability will be necessary.

Briefly analyzing the forms of cavalry action we arrive at the following basic conclusions:

1. A properly equipped modern cavalry may successfully engage any type of forces on the field of battle provided it operates not according to a single pattern but rather by taking advantage of all of the negative features and mistakes of each of the particular types of forces.

2. In order to be able to accomplish this it is necessary to be familiar with the special features of each type of forces: only then will it be possible to determine the method by which the mobile force may be defeated;

3. This is a function of each and every cavalry officer; press discussion will aid in the study of the enemy and will enable one to reach basic conclusions concerning the method of action to be adopted against him;

4. Therefore, while the proper tactics are being developed, it is necessary to undertake a study of these various missions with as little delay as possible.

Cavalry Training

From the above discussion one highly important conclusion suggests itself, namely: the great variety of missions devolving upon small and large cavalry units impose the need for the training of the cavalry in a manner that will not restrict it to a single pattern. The great variety of subjects to be covered by the cavalry officer, noncommissioned officer and soldier demand strictest economy in training schedules. The training in some subjects may be allotted less time, while other subjects may be entirely eliminated. Let us ask ourselves the question: what is each cavalry unit, from the smallest to the largest, required to accomplish?

First of all, if the cavalry is to maintain its existence and engage successfully in combat in the future, it must preserve its mobility, regardless of the changed conditions, i.e., it must be capable of maneuvering so as to be able quickly and without suffering any special losses to reach those objectives against which it is operating, or to maintain positions in defense. With this object in view, the cavalry platoon, just as the cavalry division, must possess complete mastery of the technique of long, swift marches which it should be able to execute readily over poor roads, through forests, in rain, snow, in fog and at night, since these conditions will best favor the cavalry action. Both in reconnaissance and in combat all cavalry commanders, from the corporal to the divisional commander, must feel themselves confident when moving across country. The entire cavalry equipment must be adapted for movement over the worst possible roads. Prompt dispersion and concentration on the march during air attacks or upon an encounter with mechanized forces must be accomplished automatically and without confusion. The maintenance of communication during such brief but intensive actions should be worked out beforehand, and function properly, since otherwise the cavalry units in question may become scattered. Efficient march training under difficult conditions constitutes the first and foremost task in the general scheme of cavalry training.

The next most important mission is of course that of combat. What is to be given more consideration: dismounted action, or combat in mounted formation? This is a difficult question to answer, since both are highly important. However, we might state that combat in mounted formation will be conducted in more diversified forms and its training will consequently require more time. Both forms of combat (dismounted and mounted) will very often be alternately employed; hence it will be necessary to pass from one form of combat to the other. These two forms of cavalry action cannot be separated either in theory or in actual combat training, as has been the practice heretofore. The strictly dismounted action consists only of an advance from lines of departure, while the strictly mounted action consists only of the charge. All other diversified forms of combat of the cavalry will involve a combination of both mounted and dismounted actions.

It is important to be able to approach as closely as possible to the enemy in mounted formation and then dismount quickly and deliver either a fire action or a brief assault. In some instances, after a fire action or dismounted attack it will be necessary to launch a mounted charge in order to exploit the success of the previous action; at

other times a hostile cavalry or mechanized column may be attacked in mounted formation without any preliminary preparations. Finally there may be a situation when, while forming a screening force, the cavalry will be required to disperse, conceal the horses in woods or settled areas and engage in dismounted action against hostile mechanized forces. There may often be a situation when at night it will be possible to approach closely to the disposition of hostile mechanized forces, in which case the actual attack will have to be made in dismounted formation.

In most instances the march and approach of the cavalry to the enemy will be effected in mounted formation, while the actual fighting will be carried on in dismounted formation. Hence the cavalry must be trained both in mounted and dismounted action.

The mounted attack may be given less attention in cavalry training since such action is simpler and its actual employment will be less frequent. As regards mounted formation training, first consideration should be given to march training and to movements on the battlefield from one concealment to the next under various conditions. The entire cavalry training should be undertaken with this in view. If every cavalryman will be prepared to cover a 100 km. march without ruining his horse; if every rider and every cavalry detachment will be able to utilize their animals efficiently and systematically on poor roads by day or by night and in any weather; if all commanders will be able to orient themselves properly in woods and in close country; if they will be able to lead their units under concealment, with speed, whether it be a patrol or an entire mobile force; and if, finally, the deployment and dispersion of columns during an aerial attack or their preparation for a cavalry charge will be accomplished with lightning speed, and the dismounting for action, concealment and the summoning of the horse leaders will be accomplished efficiently, we may regard them as representing a modernly trained cavalry.

This will require a great deal of effort; hence everything else need receive secondary consideration only. Much valuable time may be conserved by a curtailment of training in the use of short arms. The time allotted for sabre practice is not being utilized economically; individual sabre practice should not take up more than one or two training periods per week. Mounted training includes so many important subjects as to require a restriction of the time allotment for training in all other less important subjects.

Let us consider dismounted training. Primary importance is here assumed by the following:

1. Proper organization and execution of fire action and brief surprise attacks immediately upon dismounting;

2. Advance in darkness against the position of hostile mechanized, or motorized forces and cavalry, as well as against infantry in defense position;

3. Daytime action against hostile mechanized forces.

The next phase in the combat training should include training in systematic attacks in depth in dismounted formation (in daytime) and in position defense. This too involves many training problems, inasmuch as the attainment of a high standard of efficiency in all forms of combat, especially in action against mechanized forces and in night combat will be far from easy, while without this the cavalry will be unable to cope with its foes.

As regards marksmanship, the cavalry training program should be much different from that of the infantry. The infantry engages in prolonged fire action systematically both in offensive and defensive actions at considerable range from the enemy. The cavalry, on the other hand, operates by means of brief thrusts at close range, in which action fire concentration assumes primary importance. Thus in the case of the cavalry primary importance is assumed by speed and accuracy of fire at close range. To be able to fire at a range of 40 to 50 meters against chinks in the armor of the tanks will be of greater importance for the cavalry than fire action at a range of 400 meters. Moreover, the cavalry must be trained for fire action at night at a range of 200 to 300 meters and over. The technique of hand-grenade throwing is also of vital importance to the cavalry.

On what subjects may the time be economized?

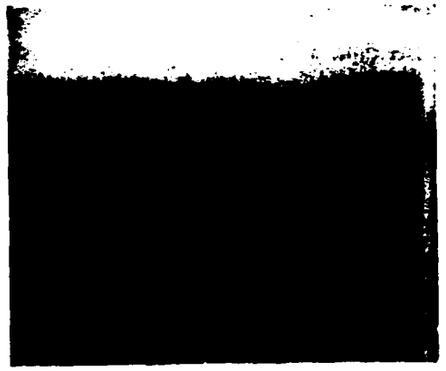
Aside from the time that may be saved in training with respect to the use of small arms, much time may be saved in the formal training for sport competitions, gymnastics and light athletics.

Sports are highly desirable for the cavalry. This, however, should not take up the time necessary for other important training. Let any lieutenant come to the barracks and select all those men interested in gymnastics. Let one organize several football teams; another, volley ball players; a third—light athletics; a fourth—boxing matches; a fifth—sabre and lance practice. There will be many who will volunteer for these and the athletic spirit may thus be fostered. The example of one will inspire the others, and soon the regiment will have mass competitions, regimental meets, athletic records, etc. It would be particularly well if all officers and noncommissioned officers would take an active part in these. This will serve to bring them together and to develop understanding among them in combat situations.

Finally, the cavalry must be trained in joint action with other types of forces, especially with those with which it will be called upon to operate. Each and every man must understand the nature and capacity of those forces with which he is to deal; he must especially familiarize himself with their equipment and know what to expect of them. A simple practical training exercise will here be worth a month's theoretical instruction.

There have been many contentions to the effect that the cavalry has outlived its usefulness. We would rather venture the statement that it is not the cavalry which is getting out of date—that instead it is our peacetime stagnation which induces thoughts along this line. Only by keeping abreast of the developments and changes that are taking place around us may we insure ourselves against surprises.

Horses For Defense*



Those who live on the land are entitled to know if the horse has really been dealt a death-blow by machines

Will the next war be won by machines? What rôle will the horse play in that war?

The headline strategists and tactical commentators have built up in the public fancy a fantastic picture of the next war between first-class powers. With the potential destructive powers of modern mechanical gadgets these experts of the pen promise a tragic catastrophe. They envision great flocks of bombardment aviation in wave after wave searching out and utterly destroying the critical areas of a hostile country. Operating under the Douhet Theory[1] every source of vital matériel would be destroyed without delay. All facilities for manufacturing additional airplanes and munitions of war would be disrupted if not eliminated. Public utilities of every large city, power plants, water reservoirs, important railroad centers would be obliterated. Terror would prevail.

Their picture grows. As the first plane takes to the air mechanized forces would hurl themselves toward hostile borders to be followed by swift-moving motorized columns of infantry, artillery and machine guns. (Let us early understand that by mechanization is meant any vehicle which carries armor plate and guns; motorization is merely the use of motor vehicles to transport men and supplies or to tow artillery and other weapons.) By its very speed the movement of these monsters would overpower and wreak destruction. With the air raining bombs of ever increasing deadliness and the ground swarming with armored vehicles an early victory would be wrenched from a helpless opponent.

No profound analysis is necessary to understand that according to these pseudo military authorities the horse has no function nor rôle in this panorama. To them he is obsolete.

We may do well to remember the sagacious counsel of the late Secretary of War Dern: "You cannot purchase national defense with gadgets—no war will ever be won with gadgets alone."

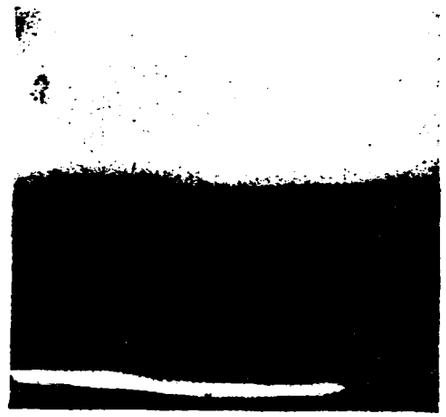
Let us view this picture in the realm of reality. True, great numbers of airplanes will darken the sky as they wing forward to their objectives. Perhaps initial destruction of property and innocent life may be frightful. The first bomb, its roar mingled with falling brick and screaming inhabitants, will evoke an atmosphere of fear. The second bomb which falls among a virile people will incite the inherent anger of that race and bring into play the spirit of viciousness which leads only to retribution. The cry will be, "A child for a child, a house for a house, a factory for a factory." The very possibility of instant retribution will forestall the practical application of the Douhet Theory.

The airplane in reality has become the tool of the politician in international affairs. Its possession, particularly in qualitative numbers, is used as a diplomatic threat rather than a weapon of military offensive power. Why the great cry of ever increasing air armadas? A careful analysis would disclose the number of airplanes necessary to inflict serious retribution in any hostile country. When that number is reached the maintenance of greater numbers is wastage of capital or a tool intended for use as a diplomatic club. The situation of today in China would have been different had China, in the summer of 1937, possessed 1,000 airplanes capable of bombing the congested cities of Japan. Although Japan was accredited with an air force of 3,500 planes, still the 1,000 Chinese planes available for long range employment would have been an important factor towards peace.

The latest crucible of real war has been in Spain. In the main operations the Loyalist forces were ordinarily dependent upon a single highway over which supplies were routed. As with all highways this road had its share of bridges, culverts, and fills. With a preponderant air force the Insurgents throughout two and a half years of strife attempted to interrupt traffic along this road. At no time were routine supplies to the Loyalist front lines ever seriously affected. For months, also, the planes of Franco attempted repeatedly to destroy the electric power sources of the city of Barcelona. The lights never failed in that city until Franco's infantry and cavalry took actual possession of the power houses well back in the hills.

Let us assume reserved seats high in the sky and with binoculars gaze down on an entire theater of war through the clear atmosphere of factual consideration. The omnipotent rush of the mechanized forces toward hostile terrain is abruptly halted by the presence of frontier fortifications. Immediately the conflict subsides into one of position warfare. Where no fortifications exist or where these barriers are flanked we see the mechanical forces advancing rapidly on all roads over a broad front. From the opposite direction the same movement is discernible. First contact is quickly made. Flashes of fire mark the bark of weapons. Vehicles turn to the nearest cover. From some vehicles clouds of smoke signal the first casualties. Radio messages fill the air. The main mechanized bodies slow up and then branch out in tactical formations as orders are received and the attack commences. Small, fast cross-country vehicles dart here and there depositng anti-tank weapons and their crews behind selected shelter. Main bodies continue. As they come to grips the smoke and din is bewildering. Losses are heavy on each side. Now one side retires while the other assembles for its next move. In the meantime the motorized infantry and artillery of each side follows at accelerated pace. From a grove to the right front the leading truck is struck and disabled. The next few vehicles mushroom into the first available cover. Their occupants dismount and deploy for action. This hostile fire must be neutralized. As the leading vehicles hastily dash for cover the recoil is felt for miles toward the rear. Enemy artillery goes into action. Now its fire finds its target on the road. Accurate interdiction denies further movement by road. Trucks attempt to continue forward under cover. Unforeseen bad ground brings the pace to snail advance. More infantry take to foot. Now starts the same historical, slow, cautious advance forward. As the infantrymen wind their way through gullies and wooded slopes they will soon deploy over a wide front as the fire of hostile artillery commences to register. Here, then, will occur the first real casualties of the war among uniformed soldiery of the country. (World War figures developed the astounding fact that artillery projectiles accounted for 80% of all casualties in the war. War in Spain has confirmed the accuracy of this estimate.) Now comes the danger of the conflict settling into one of prolonged attrition along broad fronts as it did in the fall of 1914. Now is the phase when the people will pray for competent generalship. Their army now needs a bold and imaginative leader with a keen, analyzing mind who can take the facilities afforded by modern science and formulate a plan which will result in a continuance of open warfare. Only a war of movement is capable of producing an early and adequate victory.

No nation, however, should be beguiled into war ex-

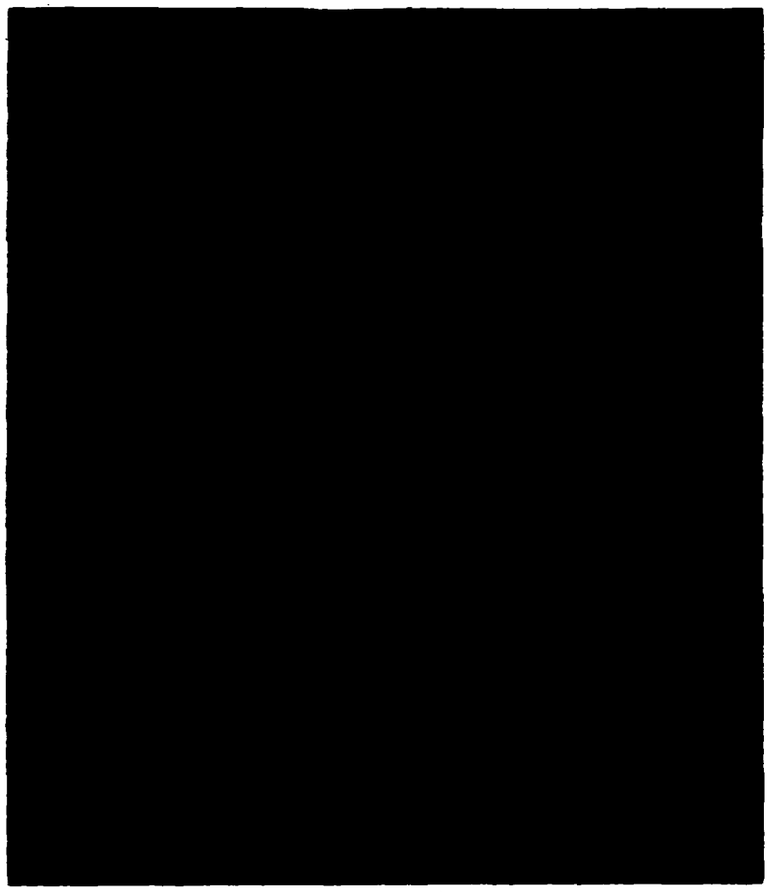


Command post in open warfare: note antiaircraft protection, airplane signal panel, scouts

What a cavalry charge really looks like: Valiant horsemen charging boot to boot is a theme long relegated to posts and the movies

[1]General Douhet, Italian, a few years ago enunciated the doctrine of utilizing air power to disrupt or destroy enemy manufacturing facilities, disorganize great centers of population by destroying utilities, and through bombardment of civilian populace to produce such hysteria as to break any will to resist. This theory has been subsequently discredited by experience in Spain and China.

*By Major Charles S. Kilburn. Reprinted from "Country Life," July, 1939.



Cavalry machine guns going into action; the American doctrine calls for cavalry masses, armed, equipped, trained to participate in any phase of combat

pecting a quick and easy victory. Had Japan, even with her preponderant facilities for modern war, foreseen a conflict now enduring over two years the present incident in China might not have occurred. No one visualized the bloody war of Spain lasting for a period of two and a half years. No! Wars are not won in weeks, but in years. As General Harbord is accredited with saying: "The next war will start in the air, but, as with all wars, will end in the mud."

The operations so far observed involve only the advance security elements. The location and composition of the main forces of each side are still unknown. It is now that the need of fast dependable ground elements is vital. It is now that the horse cavalry comes into its time honored rôle. Information must be gained of the actual strength and makeup of the hostile resistance just ahead. Likewise, the main hostile bodies must be found. There is a military expression that in war you "find 'em, fix 'em, and then fight 'em."

So long as long columns advance along well established highways vigilant airmen and advanced mechanized elements have no trouble in finding and reporting the actual location and strength of the hostile advance. It is when the major movements leave the highways under cover of the wooded countryside and march at night that anxiety shows up at General Headquarters as to the real intentions and plans of the enemy. Now, as during the past centuries of warfare, do the words of Frederick the Great to his generals still hold: "If one could only be acquainted beforehand with the enemy's designs it would always be possible to defeat him even with an inferior force." As the air loses contact through counter measures either by hostile pursuit aviation or antiaircraft fire, and the advanced mechanized elements have been either forced back or brought back for relief, General Headquarters then calls for cavalry in its first rôle of finding the definite location and strength of the enemy. The orders may direct that the cavalry, with its overwhelming strength in machine guns, seize and hold critical ground which the commanding general wishes to keep in his possession. On other parts of the front the cavalry may be given the mission of preventing all hostile reconnaissance to hide the movements and concentration of their own forces. As the enemy advance stiffens and proceeds to develop for battle he is then "fixed." It is now the job of the more static elements, the infantry and artillery, to take over their rôles.

Let us investigate how the masters of war have used cavalry during comparatively recent history. Napoleon, in the minds of many cavalrymen, was the last great master who understood the value and the rôle of this arm. It is said that Napoleon won a majority of his battles while still fifty leagues from the battlefield. He would dispatch his cavalry far to the front with two objectives. One to find the strength, location and direction of enemy movement; the other to deprive the hostile cavalry from ascertaining the movements of Napoleon's main forces. Receiving reports of the enemy strength and movements the Little Corporal then evolved his definite plan of attack. He visualized the area in which he wished to fight. He routed his columns on different routes of approach with marching time so nicely synchronized as to bring each unit on the battlefield at the proper time in the proper place. His cavalry after performing its first function was assembled, usually on a flank, and was then available for participation in the real battle when the opportunity for

complete destruction of the foe presented itself. Read Napoleon's LI Maxim of war: It is an important business of cavalry to follow up the victory, and to prevent the beaten enemy from rallying.

In our Civil War this touch of Napoleon was not felt until Grant brought in the great Sheridan and consolidated his cavalry into a real implement of offensive action. Theretofore, Union cavalry was scattered to the four winds performing the insignificant rôles of messenger, escort and occasional raiding parties. Lee, with his genius, had early organized his cavalry but used it mainly on the mission of finding the enemy and preventing hostile surveillance of his own movements. The lack of Confederate cavalry as a fighting force at the Battle of Gettysburg had much to do with our present status as a unified nation.

Cavalry is an arm that finds its best usage in times of great stress or of great opportunity. It fights in minutes and hours as opposed to the weeks and months of which infantry is capable. The great leaders therefore have shown constant regard to its conservation and availability when it would be most valuable. They have not squandered its strength on useless marching and counter marching. They have realized that it is not easily replaced. They have not called upon it for the execution of impossible missions. Cavalry was not created to attack nor to breach an organized position. The tool for that lies with the great rugged fighting arm, the infantry, supported by artillery. That team is the only one which possesses the powerful drive which is capable of advance against the power of modern defense. As the enemy, with reserves and other means, counters these powerful thrusts, there usually comes a time when he is thrown off balance. It is while he is off balance through lack of reserves or exhausted troops that the master, having held his cavalry fresh and capable, throws it in at the opportune moment to produce rout and possible destruction. There are many, having never witnessed maneuvers of present-day cavalry, and knowing little of its present organization and equipment, who visualize cavalry as charging in boot to boot fashion under the romantic rôle of the poet's prose or the modern movie. The use and military rôle of cavalry has been briefly pictured up to this point. It is not fashioned as a tool of irresistible force, but more as a weapon of great inherent battlefield mobility. When Napoleon threw his far-flung squadrons well to his front he was making strategic use of the arm; that is, he was influencing his opponents into the area in which he wished to fight. When he reassembled his cavalry and held it for an opportune participation in battle he was using it in a tactical manner. Thus, when we say that cavalry has great mobility on the battlefield we mean it has great tactical usage. The American regiment of cavalry carries into battle 132 machine guns and over 1,000 rifles. A capable commander then has an instrument in which he can place devastating fire on hostile points from the most advantageous angles. A battle in many respects can be compared to a conflict between individuals. No powerful man has trouble with a smaller one so long as he keeps his small opponent to his front. But if the smaller and more active participant can get in a few well directed blows to the kidneys from the rear, or a rabbit punch beneath the posterior cranium, the larger individual is nonplussed and placed in a disadvantageous position, to say the least.

As cavalry moves on the battlefield, one see no dense column of horseflesh riding stirrup to stirrup, but wave on wave of horsemen with five to ten yards between indi-

American cavalry scouts in action at top speed over trying terrain: this could hardly be described as a place to use modern motor cars and explains why cavalry is useful

viduals and twenty-five to fifty yards between waves. Nor is this movement ordinarily confined to the open, easy going areas, but takes place on the rougher and less negotiable ground over which they move faster than any other unit. To the ignorant, the movement of horsemen in battle against the destructive power of the modern machine gun appears impossible. Cavalry movements under these conditions were made repeatedly in the World War and have been made more recently during the Spanish Civil War. An outstanding example of this type of cavalry action was reported by the Associated Press during February of 1938 when Franco hurled his Insurgent horsemen against the heights of Teruel. The Loyalist forces felt secure in the possession of the heights surrounding that city. Towards evening the alert sentries holding the outpost line gazed boredly down the slope. The machine guns were laid to graze the ground naked of cover for several hundred yards. There was no necessity for alarm. An Insurgent attack would be heralded by an artillery bombardment. Then the long lines would form far below. In painfully slow and short rushes they would mount the heights against the clattering guns of the defense. There would be ample time to reinforce the outpost line; ample time to form the reserve, issue ammunition, don heavier clothing against the frosty air, before the attack had a chance to reach the first line. At least 400 yards to go and not more than 100 yards up hill in 6 minutes would require at least 24 minutes. As the dusk grew heavier a sudden movement occurred below. There was a high pitched roar of voices. A sudden thundering of hoofs. Steel twinkled along their front as they swept upward. Twenty-four minutes? No, a minute and a half. Before machine gunners could elevate their sights the Moorish horsemen were on them. The few horses that were wounded were struck in the legs by bullets sighted for the creeping forms of infantrymen. The defense collapsed. Three thousand Loyalists were either dead upon the slopes, or were huddled together with upraised arms.

Here was a successful attack by cavalry in the presence of machine guns. A different picture is recorded through a creditable report on the outcome of the Russian attack against the Japanese position on Changkufeng Hill in the summer of 1938. One hundred Russian tanks participated in the attack. Four returned to the Russian lines. Ninety-six had been captured or destroyed. Although cavalry will derive losses from machine gun fire, the attack on Changkufeng Hill reveals that modern antitank weapons will inflict even greater losses against mechanized vehicles. The race between gun and armor is not new. The antitank gun is now master of the tank. These weapons will be present in increasing numbers on the next battlefield.

There is a prevailing opinion that the capabilities of the modern motor vehicle have supplanted need for the horse. Let us examine realities. When a theater of war is at a distance from the areas of concentration, cavalry, like all other arms, enters the theater by rail or boat. Once in the theater, modern cavalry can march for a week at fifty miles a day, cover one hundred miles in twenty-four hours, or one hundred fifty miles in forty-eight hours. There is no conceivable area of modern war where greater distances would have to be negotiated to bring the cavalry into the battle zone in ample time for the performance of its rôle. The long fast motor columns facing attack aviation and surprise fire of hidden weapons will have been halted and forced from the roads in sufficient time to allow the cavalry to pass onward in their advance to screen the movements of the main forces. Military authorities agree that the machine gun is the backbone of defensive warfare, and the motor vehicle has facilitated the movement of troops and supplies, but neither have in any way affected the value of cavalry on a future battlefield. Let us quote wing commander A. H. W. James, M.C., member of Parliament, on November 9, 1938 who addressed the Royal United Service Institution of Great Britain. He said, on speaking of the Spanish Civil War: "Again I salute Spanish bravery. The superiority of fire power, equipment and training of Franco's troops were the main factors for success, but in the final operation the success rested with a cavalry division. *It is hardly fashionable to mention it in this country just now*, but the fact remains that the cavalry has been THE successful arm of the current war in Spain. One does not see many tanks there; nor are they highly thought of. The final recapture of Teruel was based on an outflanking movement to the North by a cavalry division."

In June, 1938, Brigadier General Henry J. Reilly, wartime brigade commander of the Rainbow Division and observer in seven major Spanish battles, wrote from Zaragoza, Spain: "Cavalry is not a thing of the past. Neither has it got to take to gasoline and grease to exist. Horse cavalry is playing an important part. Long talks with General Monasterio, Chief of Cavalry, who says in the beginning no general wanted cavalry; now all want it."

Let us examine the record to determine the manner in which the great nations of the world have organized their armies to include an element which can perform the rôle of cavalry.

In Great Britain, cavalry comprises 4.3% of the regular army. Twenty-two regiments of cavalry exist. Seventeen regiments have been mechanized. Three regiments of the line continue to be mounted on horses, as do also two regiments of the historic Household Cavalry usually devoted to the ceremonial duties in connection with the Crown. Under present unsettled conditions in Palestine, England has rushed her horse cavalry to Palestine as well as several regiments of her mechanized cavalry. Under the difficult conditions which exist in that region, there is an emphatic desire on the part of many to send the two household regiments to Palestine. If such proves to be the

*The chairman, on introducing the lecturer, said that probably there was no one better fitted to speak on this subject. Wing Commander James had made a great many visits to Spain since the outbreak of the Civil War, and had probably been given more favorable opportunities than anyone else for actually seeing the battlefront and observing the course of the operations: in fact, he could truthfully be described as an eye witness.

case it will mark the first time in history except for the World War that household troops have left Great Britain proper. Undoubtedly, the doctrine of Great Britain regarding cavalry is one necessitated by realities. Lack of surplus animals for war needs, replacements and expansion, has been a factor in English policy. A large amount of shipping under the stress of war time needs would necessarily have to be employed for the shipment of forage and animal replacements. The area of future conflict for British arms is fairly well determined. The existence of a highly developed road net together with the restricted distances of that region, quite naturally, have affected England's trend toward mechanization. It might be added, however, that in India, where different conditions prevail, the local government maintains twenty-one regiments of regular cavalry.

In France, there appears to be a policy of rational compromise in the organization of cavalry. Approximately 7% of her active establishment is devoted to this arm. Of the forty-seven regiments, five have been mechanized and others are authorized. The remaining forty-two regiments continue on a horse basis, but have been considerably augmented by mechanization and motorization of subordinate elements within the regiment. National interests in North Africa have undoubtedly influenced French policy with respect to cavalry.

The French feel that the horse is the most satisfactory means for rapid movement across all types of ground; that cavalry fulfills the requirements of an essentially mobile arm which possesses a comparable amount of fire power. In their belief, cavalry is of imperative need in the early days of a war and accordingly should be available in strength at all times. The French consider cavalry an arm for use in periods of crisis, and that the high command should have an adequate appreciation of the need to conserve it and have it ready at the desired time to perform the services to which it is primarily adaptable.

In Germany, approximately 4.1% of the regular army is devoted to cavalry. That country maintains sixteen regiments of horse cavalry, but has placed her main reliance in the mechanized organizations which comprise her famous Panzer Corps. With three exposed frontiers, Germany has perfected a system of radical and arterial highways paralleling her boundaries. Her needs, therefore are strategic during the first days of war, rather than tactical, and for this reason mainly she has placed her reliance on strong mechanized elements. If, as many believe, Germany looks to the east, it is not beyond the realm of prophecy to foresee a material increase in the strength of her regular cavalry. Reports already confirm this view. Geography of that area indicates a lack of improved roads and a rough and sparsely settled country which would affect military operations therein.

Cavalry in Italy comprises approximately 2% of her active forces. She maintains twelve regiments of regular cavalry, and up to date has seen fit to place reliance in motorization of reconnaissance units rather than in mechanization of her cavalry. Her impregnable mountain border to the north together with her system of recently constructed highways have had much to do with this policy. According to *Time* (December 6, 1937) the Italians recently have been heavy purchasers of American horses for breeding purposes. Possible eventualities in North Africa may have had much to do with this effort to increase her supply of well bred animals.

Although her people have little native aptitude for horsemanship, Japan for some time has maintained twenty-five regiments of cavalry which comprise approximately 5% of her regular establishment. Seventeen of the twenty-five Japanese regiments are scattered throughout the army as attachments to infantry divisions where their use is confined more strictly to reconnaissance than to combat. The remaining eight regiments are organized into brigades intended for traditional cavalry rôles and are maintained along her Siberian border. Lack of available resources in animals and limited supplies of forage have curtailed this country's organization of cavalry. It requires little imagination to visualize the effectiveness of well organized cavalry in the present operations in China. Against Japan's long thin lines of communication, a commensurate Chinese force of modernized cavalry would play havoc with Japan's system of supply.

Poland has long regarded cavalry as a corps d'elite. With an abundant source of animals and forage, Poland maintains forty regiments of regular cavalry, which comprise about 15.5% of her active forces. Poland has mechanized no cavalry. Lack of a highly organized motor industry, together with an undeveloped hinterland insofar as improved highways are concerned, possibly has had much to do with her policy in this respect. Polish cavalry is maintained for participation in battle, and the Poles foresee its useful rôle in attacking the flanks and rear of any hostile invasion which violates the sparsely settled regions which make up that country.

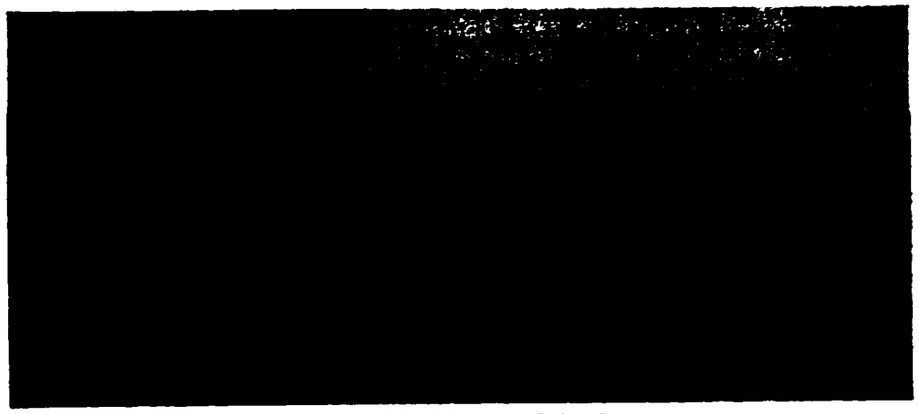
Russia maintains the greatest cavalry force of any world power. She has sixty regiments of regular cavalry, involving approximately 154,000 men and horses. Twenty-two additional regiments have been mechanized. Thus we find a total of eighty-two Russian cavalry regiments which comprise approximately 11.8% of her immense standing army. The Russian doctrine is very similar to the Polish in that cavalry operations are visualized against the flank and rear of any enemy invasion. In the earlier stages of a war her large cavalry masses closely supported by aviation and armored forces will be found operating far in advance of the main army.

The American army since the war has maintained in the continental limits of the country fourteen regiments of cavalry which comprise approximately 5.9% of the Regular Army. Twelve regiments of regular cavalry are maintained together with two mechanized regiments. The American doctrine also prescribes the employment of large cavalry masses, armed, equipped and trained to participate in any phase of combat. With a reservoir of over twelve million horses and four million mules, the

United States is peculiarly well equipped to maintain a numerous cavalry. Our cavalry has taken advantage of the gasoline engine to augment its power and capabilities. The old time mule-drawn escort wagon has been discarded in favor of the modern four-wheel-drive truck to insure a constant and rapid flow of supplies and ammunition. For long range reconnaissance in order to conserve horse flesh, each cavalry regiment is equipped with ten (in war) armored scout cars which have proven their effectiveness in all cavalry maneuvers during late years.

Prepared to participate in the early phases of any war we also maintain nineteen regiments of cavalry in the National Guard. In the event of necessity the United States can very early place in the field six cavalry divisions and one mechanized brigade, which, when brought to war strength would involve approximately 55,000 men and 60,000 horses. Our mechanized cavalry equipped through the most highly organized automotive industry in the world is on a par with any cavalry of this type to be found anywhere. As time goes on, the American people should feel assured that there will be maintained in our cavalry the balance between these two types which is best adapted to national needs. A theater of war has much to do with the organization of the forces which will be involved in a particular campaign. Operations in the Southwestern portion of the country would demand a radically different balance of forces than would operations in the Northeastern section of the country. Under the varied conditions where American arms may be called upon to protect national interests, it is well that the country maintains a rational balance in her arms and services rather than going to an extreme involving expense and special equipment for operations in any particular area. The organization of the American army of today appears in every way to fulfill this requirement.

Certainly, new scientific developments and our highly organized industrial facilities have placed a new face on war. However, recent armed conflict throughout the world is indicative of limited prospects for a quick and easy victory by means of machines alone. A wise people will continue to depend upon the power of its leadership and the brawn of its fighting men for real success in any coming struggle. Cavalry has always been and will continue to be an important element in the brawn of combat.



An attack by Mechanized Cavalry.

A Mechanized Night Ride

By Lieutenant Forrest H. Riordan, Jr., 305th Cavalry

The problem of providing interesting and practical inactive duty training for reserve officers is exceedingly difficult. Conferences and map problems are apt to be a bit dry and of doubtful benefit to any except the officer who prepares the material. Instruction which introduces the element of competition is usually highly productive in that the participants, spurred on by the competitive urge, put forth all of their energies and thereby achieve results that would be otherwise unattainable.

With these thoughts in mind and recalling how interesting and practical the National Guard and Reserve Officers' night ride had been at Fort Riley, I considered the possibilities of such an event for the officers of the 305th Cavalry. Checking off the various points in favor of the idea, I became increasingly enthusiastic.

More practical experience can be obtained from a few hours spent in scurrying around the countryside after dark, hunting for a particular spot indicated on a map, than from many lectures on map reading. It is this type of experience that will stand us in good stead when we are ordered to proceed with a horse or a car or a command to some definite location indicated by a marked map or overlay. From a training standpoint this would be more than a mere junket, and the spirit of competition, the desire to win, and the opportunity to "talk it over" afterward around the bar of some congenial tavern would be certain to draw a good crowd.

Due to the location of our regiment in Philadelphia and to the impracticability of securing mounts for such a foray, my thoughts turned naturally toward mechanization. Nearly all of the members of the regiment own automobiles and by *assigning two men to a car,* the problem of "mounts" was settled. The terrain in the vicinity of the city is particularly well suited for this type of maneuver. The country is hilly and the main arterial highways are interconnected and criss-crossed with a road net that leaves little to be desired.

Colonel Arthur H. Wilson, our unit instructor, approved the plan, so armed with a Chester Quadrangle of a Geological Survey Map, I set out one Sunday afternoon in February to locate the stations. The portion of the quadrangle map illustrated above shows the locations which were selected as well as the Media Inn which was to be the start and finish point as well as the base of operations. The points selected were near roads not ordinarily traveled and it was highly probable that even to those familiar with the countryside, not more than one of the four locations would be immediately recognizable.

The following week-end I drove over the course after dark in two hours time and the speedometer showed that the shortest route measured 45 miles. This was a cause for concern as a too difficult course might discourage the contestants. Therefore, the original plan of superimposing the military grid on the map and locating the stations by giving coördinates was discarded, and it was decided to mark the maps which were to be issued to each car crew.

Three officers from other reserve regiments as well as our own regular army sergeant major were corralled to man the stations. They were to use their own cars and park from 25 to 150 yards off the road with their lights on "dim." A troop guidon was to be placed in the front bumper of the car in order that the "station" might be distinguished from couples parked about the countryside. This subsequently proved a wise precaution. However, the elimination of all lights would not make the stations too difficult to find and has been suggested for the future.

In order to insure that each station was at the exact location as marked on the map, I planned to personally conduct the station men to their positions. This caused an unfortunate delay in starting and clearly brought out the weak point of the problem. The time and space factors involved make it impossible for one man to do a smooth and efficient job.

The schedule was set up in the following manner:

En route to Media Inn the man at station 1 was to be shown his exact position.

Dinner served at the Inn at 6:00 PM.

At 6:45 PM I would take stations Nos. 3 and 4 out, place them, and return to the Inn by 7:30 PM.

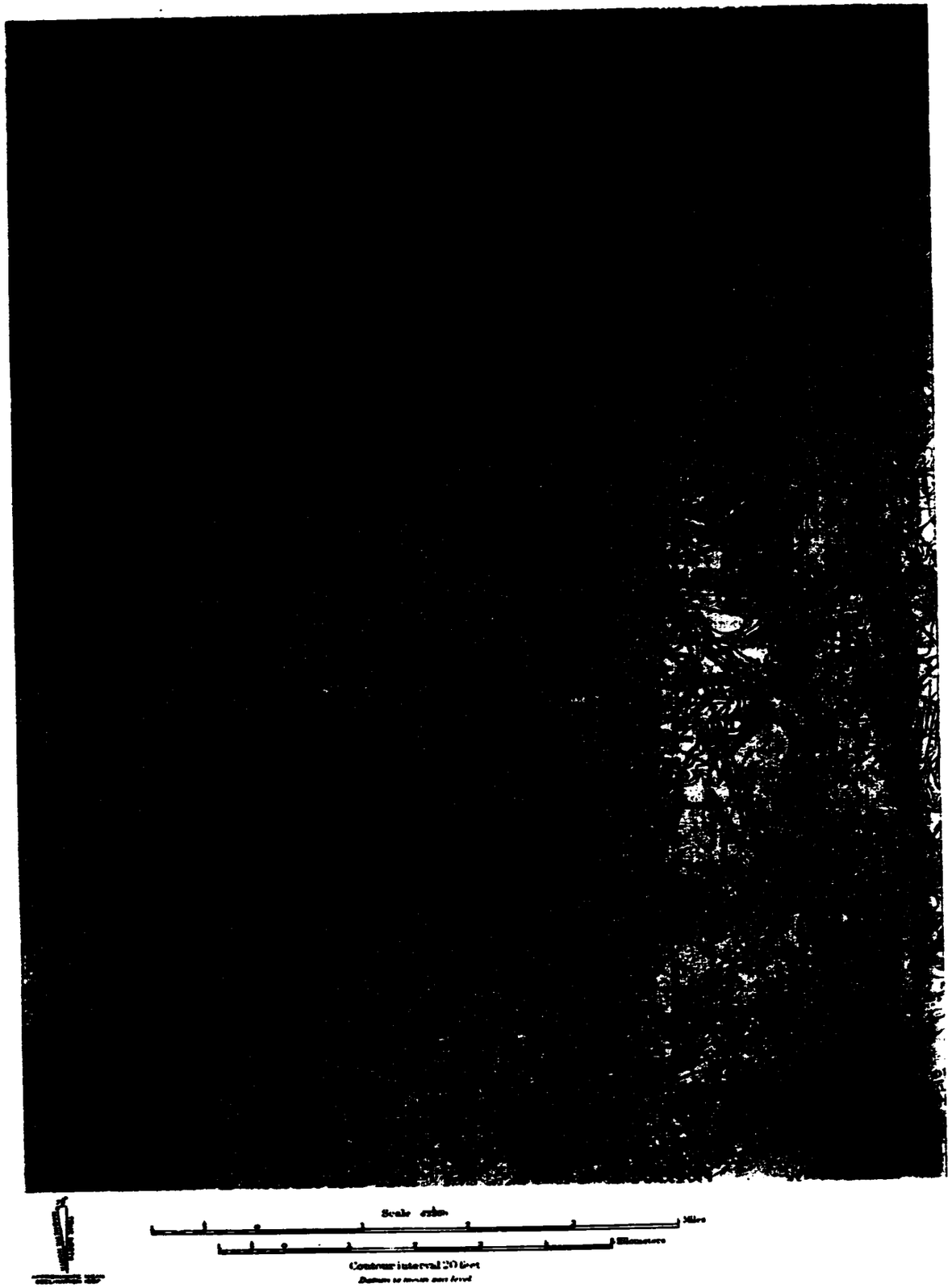
Maps would be issued at 7:35 PM and the teams started out one minute apart in reverse directions (order of stations 1-2-3-4 for even numbered teams and 4-3-2-1 for odd).

Station No. 2 would then be taken to its location.

All stations would close and return to the base of operations at 11:30 PM.

Each team was provided with a 3 x 5 card with spaces for their names and their official starting time, spaces for signatures of the station men and for the time at which each team reported. In order to prevent mistakes and misunderstandings, the station men had an 8 x 11 inch form pasted on heavy cardboard which was to be signed by one contestant of each team and on which the time that they reached the station was to be recorded. Everyone was required to wear uniform in order to forestall any trouble with the police due to actions which might appear suspicious.

The actual working of the problem varied somewhat from the plan. First, due to delay in getting away from the office and as every action was timed to the split second, I did not arrive for dinner until 6:20 PM and was unable to move out for the placing of Station Nos. 3 and 4 until 7:15 PM. Too little time had been allowed to place



these stations and further difficulty was caused by a road which the highway department had closed a few days previously, so the teams were not started until 8:50 PM. As a result it was decided not to place station No. 2 as there might not be time to complete all four stations. A glance at the results will show that the omission was needless and that of the five teams that finished in less than two hours, four of them could probably have covered No. 2 and completed the course before midnight. A further result of dropping Station No. 2 was that the course now slightly favored the teams traveling in the order 1-3-4, in that it was easier to go from No. 4 to the Inn than from the Inn to No. 4, while from the Inn to No. 1 and vice versa were about the same degree of difficulty. The analysis of the results brings out this point rather closely.

The event as a whole was highly successful and the current opinion is that it should be held annually as a part of our regimental training. The winners were awarded map measurers for their efforts and were elected to put on a similar show next fall.

Winning teams were:

1. Captain Morrow and Lieutenant Read. Elapsed time: 1 hour, 14 minutes.
2. Lieutenants Stretch and Davisson. Elapsed time: 1 hour, 35 minutes.
3. Lieutenant Renninger and Pvt. McGroarty. Elapsed time: 1 hour, 39 minutes.

The success of this type of problem depends on two basic principles. First, care must be taken that none of the contestants has any advance information as to the locations of the stations, and second, the stations must be as near as humanly possible to the locations given on the map. Of course, the selection of a good hostelry for the center of operations serves as an added inducement and attracts a larger crowd.

☆ ☆ ☆

Cavalry in Poland*

"The Polish Army is the only one in Europe that has retained a large number of cavalry. Its cavalry, called 'cavalry of the line,' has a strength of thirty-six regiments: twenty-seven of lancers, three of light cavalry, and six of mounted chasseurs, distinguished by the color of their cap-band. All this cavalry is permanently on a war footing; only the divisional cavalry mobilizes.

"If the cavalry wishes to remain cavalry, however, it must use both fire and movement as its weapons, fire being not an end but a means for executing its maneuvers. Armored cars, anti-tank guns, light tanks and anti-aircraft artillery are meant only to facilitate these maneuvers by covering against surprise on the ground or from the air. In the opinion of the Polish military chiefs, cavalry will tomorrow rediscover those qualities of decision which the great war took from it, provided always that it changes its method and field of action.

"The view expressed at staff headquarters and among the regiments was that aviation had released cavalry from its exhausting rôle of reconnaissance, which often made it incapable of playing its part as a shock weapon at the decisive moment. Kept informed in its turn from the air, it will be able to throw all its forces into battle active and fresh when the moment has arrived for forcing a decision.

"But it will only be able to obtain this decision if it maneuvers on a terrain different from that on which it has been used hitherto. Whereas formerly it looked for open territory suitable for making a charge, its object today is to maneuver in territory that is covered and difficult and will give it superiority over both infantry and mechanized forces.

"This Polish theory is no doubt suited to a particular kind of terrain lacking roads, intersected by woods and lakes, and sprinkled with marshes, and of a width which excludes a priori every possibility of establishing a continuous front. The doctrine is again conditioned by the wealth of the country in horses, a wealth which makes up for so poor a development of industrial resources as is not propitious to extensive mechanization. Poland possesses 3,950,000 horses classed as fit for military service. The remount commission's only requisition, on an average, five horses from each lot of 500 examined. All in all, the Polish cavalry has available a remount strength of eight horses per man."

*New York Times Dispatch, dated London, June 25, 1939, and written by Robert Leurquin, Belgian Military Expert, on the subject of the Polish Army.

Accompanying Aircraft

By R. G. KELLETT*

In the past, Army Coöperation work has been effected by one general, all purpose type aircraft, the Observation Plane.

Due largely to developments in the material and equipment used by the Ground Troops, as well as changes in tactics, increased mobility, etc., it is generally recognized today that to attain the full potential assistance which Aviation can give the Ground Elements this single type aircraft will not suffice.

In addition to the Observation Plane of the type noted above, there has arisen the need for an aircraft which can, to be of greatest benefit, live with the ground elements to which it is assigned. Its relationship might well be considered in the same light as that which an "Accompanying Gun" bears to the tactical infantry unit to which it is assigned.

It is the purpose of this article to outline some of the missions which such a craft would be expected to fill and the characteristics it should possess to best accomplish its job.

An ideal aircraft for this purpose would be one which could be assigned to the Tactical Unit, be capable of accompanying the unit while on the march and have the ability to land and take off beside the column during halts, or at any position that the accompanied elements may occupy. It should fulfill the maximum desired missions, irrespective of existing weather conditions, require minimum ground crew, and should lend itself to quick concealment under same type of cover as available for tractors, trucks, etc.

Since this aircraft is accompanying relatively slow-moving ground elements, its high speed is important only to provide protection from air attack (which maneuver will usually be a rapid descent to or near the ground), and to properly perform its mission against head winds.

Because it must operate from extreme advance areas, battery positions, etc., it must not require runways of any sort. This is essential not only because of the labor and time involved in their construction but also because this type of work shows up readily on aerial photographs.

In order to fulfill the above mentioned general characteristics, the following detailed requirements should be taken into consideration:

Take-off and Landing—In order to operate from any terrain (woods, of course excepted), the aircraft should be capable of landing and taking off without any roll whatever. The landing and take-off should preferably be nearly vertical up to a distance of at least a few feet above the ground and angle of climb thereafter ample to clear higher objects. In order to get out of a very steep ravine, etc., the machine should be capable of climbing in a tight spiral immediately after take-off.

Minimum Speed—For observation purposes, the aircraft should have a minimum speed sufficiently low to permit hovering at altitude under average wind conditions. In this condition of flight the aircraft should be stable and free from vibrations or sudden changes in altitude. For observation or reconnaissance close to the ground at altitudes of 100 feet or less, the aircraft should be capable of maintaining level flight with safety at not over 20 miles per hour.

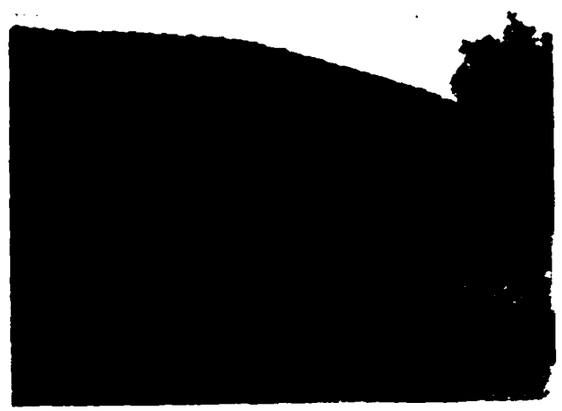
Climb—The rate of climb should be sufficient to attain the desired observation altitude in reasonable time.

Maneuverability—Because of its relatively low speed compared to that of a combat airplane, it should be extremely maneuverable.

Top Speed—The top speed should be sufficiently high to permit the aircraft to accomplish its missions within a reasonable time and return to its base under all wind conditions. It should have ample margin over the speed of the ground elements traveling on the road regardless of the wind direction or velocity, for example, it may be necessary for the aircraft to travel considerable distance from and return to a moving column in order to transmit messages or make observations. In these cases, it will be necessary for the aircraft to have a sufficiently high cruising speed to complete its mission under adverse high wind conditions in a minimum of time.

Concealment—Since entrances to available cover are likely to be narrow (forest lanes, etc.) it is necessary to fold the lifting surfaces very quickly in order to reduce the over-all width to a minimum.

Roadability—In order to always stay with the Tactical Unit, it must be so designed that it can move on the road with the column in heavy weather or in other cases where this is desirable. If it can do this under its *own power so much the better*, but its flight characteristics must not be handicapped by the inclusion of this feature. Here again the matter of folding the lifting surfaces is essential; the closer the width can approach that of a truck, the better.



Accompanying aircraft in march column under own power.

Dependability—Ground operations follow a predetermined schedule and are not subject to change with weather conditions. Therefore, this aircraft should be capable of operation in all weather conditions so far as possible in order to fulfill the greatest number of the desired missions. High wind conditions should not stop operations.

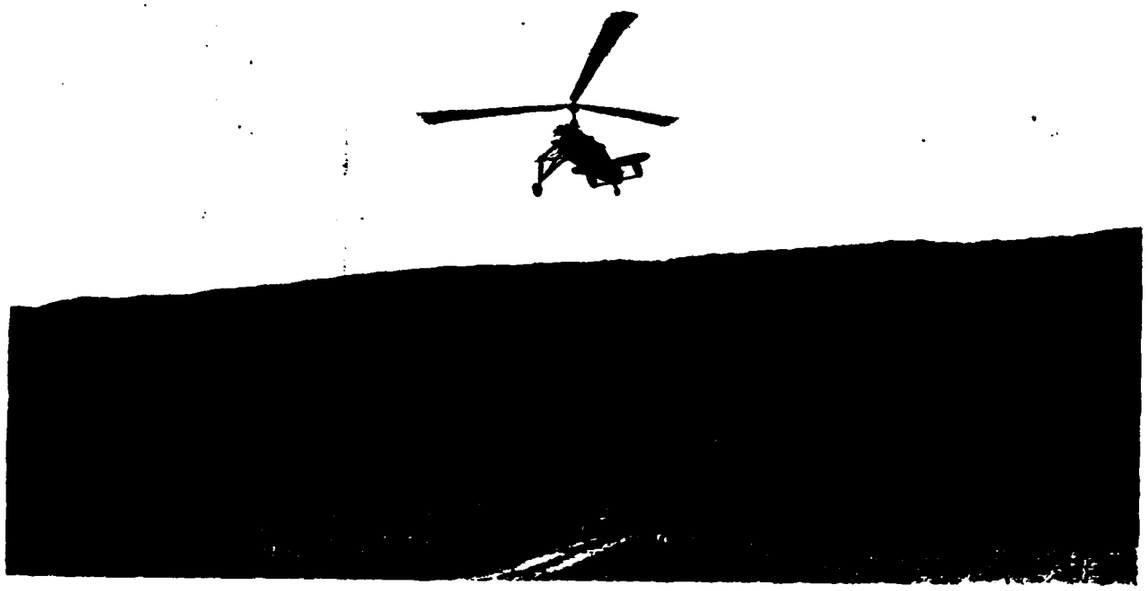
Crew—The aircraft should carry a *pilot and observer*. Since these two, together with the ground crew will base and live with the Tactical Element, the ground crew should be a minimum, preferably two, not more than three.

Visibility—The ideal visibility would be one in which the pilot and observer have 100% visibility of the terrain and sky in all directions in all altitudes of the aircraft.

Silhouette—Since this aircraft will operate at relatively low altitude and will possibly be susceptible to enemy ground fire under certain conditions, its visibility from the ground should be a minimum and it should offer a minimum target.

Endurance—This should be sufficient to permit the completion of the tactical missions to which the ship might be assigned without having to withdraw to refuel. Two and a half to three hours should normally suffice when at the front. Consideration could also be given to having reserve fuel capacity which might be utilized for cross-country work where some equipment would not be required and could be removed.

Reliability—The aircraft should be sufficiently rugged to operate from rough terrain and in normal operation require only the servicing which could be given by the minimum ground crew heretofore mentioned.



Preparing to land on a dime.

Communication Equipment—This aircraft would probably operate in close proximity to the unit to which it has been assigned. Therefore, a low capacity two-wave radio having a range of 25 miles or more should suffice. Supplementary signal equipment, which could be used in the event the radio equipment is made ineffective, is desired.

Pyrotechnics—In order to make the aircraft available for night operations, pyrotechnics should be included. Because of the low speed characteristics of the aircraft, landing flares of short duration should be sufficient.

Photographic—The scope of utility of the aircraft may be broadened, if it is provided with provisions for oblique photography. Since the aircraft is not primarily designed for map making, it need not be arranged for vertical pictures, *though of course, this would be beneficial*.

Armament—The normal operation of the aircraft at the front will generally be restricted to the area occupied by the accompanied Tactical Unit; therefore, its defense against enemy aircraft can normally be arranged by strategically located antiaircraft equipment on the ground. Additional protection can be provided and the field of utility broadened, if the aircraft *can carry a fixed gun*.

EDITOR'S NOTE: It would appear that the only aircraft, now available, embodying these characteristics is one involving the principles of the autogiro.

A complementary subject involves the source from which pilots and observers of this type aircraft should be drawn; that is, from the Air Service or the arm with which the aircraft serves.

*President, Kellett Autogiro Corporation.

The Modern Seat

By Lieutenant W. W. Culp, 4th Cavalry

Approximately five years ago, in the May-June, 1934 issue of The Cavalry Journal there appeared an article on the modern seat by the then Major Harry D. Chamberlin, 14th Cavalry, Captain of the 1932 United States Army Olympic Equestrian Team. This article was so clearly understandable and of such import that this writer saved it and penned in its margin, "possibly the best short article on the 'Modern Seat' ever written."

The present writer is attempting only a discussion and with no effort or attempt at plagiarism, is quoting sentences, thoughts, phrases and observations from the article of Colonel Chamberlin, a horseman of varied experience, "horse sagacity," and ability—as well as an author of a well earned and established reputation.

This article is occasioned by an extreme interest on the part of the author, by certain experiences in the past, observations of his own and others, by discussions with others, and certain teachings, observations and discussions garnered under the instruction of many capable officers and horsemen well known throughout the country—among them instructors at West Point, in the Cavalry Division at Ft. Bliss, Texas, in the Cavalry School at Ft. Riley, Kansas, and Captains and members of various United States Army Equestrian Teams. Acknowledgment should properly be given to many others, with and without reputation—which is but a poor thermometer or gauge of ability in horsemanship.

Note: It is not the intention of the author to maintain that all or *any* of the above-mentioned shall concur in all of the points of this article. It must be borne in mind that this is but a *discussion*, good, bad, or indifferent.

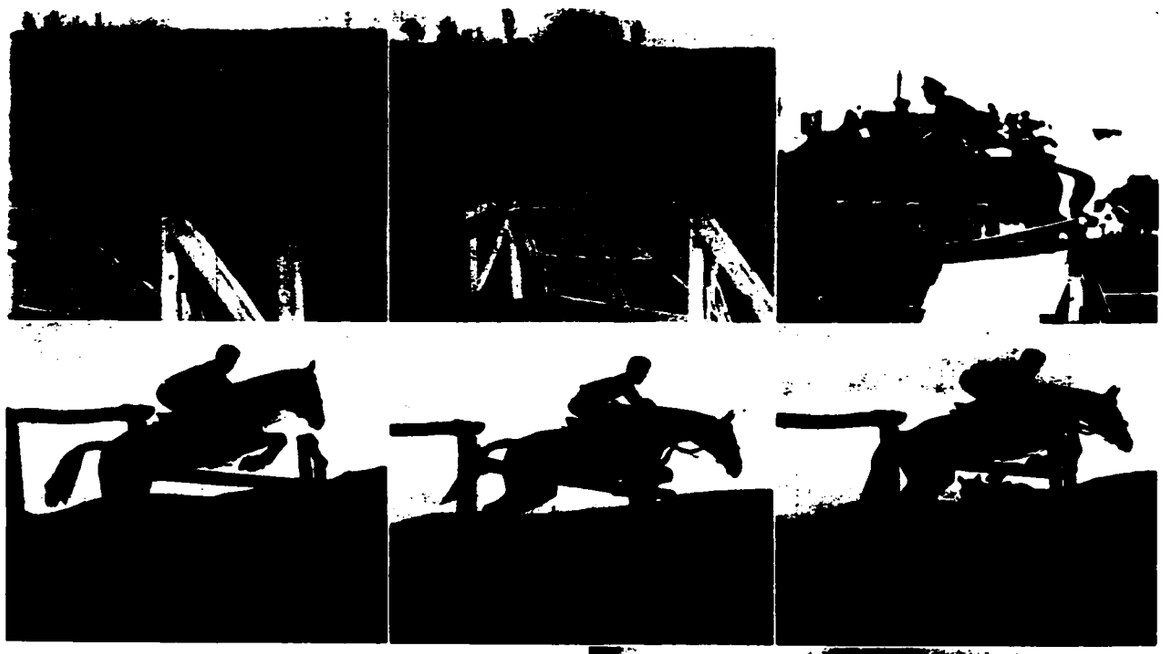
* * *

Form is *more* essential in riding than in any other branch of athletics, if a horseman expects or hopes to excel. In most athletics, from a standpoint of form, the contestant has but himself to consider, whereas in any horsemanship event—competitive or otherwise—the rider, in addition to himself, must consider that more important member of his *duet*, the horse. The *freedom* of the mount, the mount's ability, temperament, disposition, endurance and breaking point, are constantly in mind—otherwise the rider is no *horseman*. Many shattered records in all forms of sports—the height of obstacles easily negotiated by riders and horses in modern international jumping competitions—bear witness to the value of mechanical perfection of movement.

The "forward" seat, as properly taught by the Cavalry School, United States Army Horseshow Team, and Colonel Chamberlin—and exemplified by him—cannot be questioned. It has proven itself, and has for years been proven by many horsemen, both here and abroad. Destructive criticism of the seat is usually occasioned, not by any intrinsic fault of the position, but rather by a lack of a thorough understanding of its name, the seat itself, and its *many and varied* applications and *degrees*. In its varying degrees it is an *all purpose* seat, suitable and highly adaptable to all forms of riding: cross country, hacking, drill, "schooling," cross country and show jumping, hunting, and racing over obstacles.

Unfortunately, there exists in the United States a dearth of understanding of the "forward," or modern seat. Even the most accomplished horsemen—of which there are, sadly, too few (in spite of popular opinion to the contrary)—confuse almost any grotesque or bizarre attitude, where the rider is humped forward, with the well established and proven seat, of this and many other countries. The military riders of many nations are now proving, and for years in the past have proven and demonstrated it in local and international competitions; likewise, *many* civilian riders frequently use it in many forms of equestrian sport, possibly without actually realizing it. Many riders who use the above mentioned "humped" attitude would (and probably do!) experience great difficulty in controlling and guiding their horses while jumping were the jumps not enclosed by enormous wings and the arena by a fence; too frequently they "throw the reins slack," support, or balance themselves with their hands on the horse's crest, and at some stage of the jump "take up" the reins suddenly with a resultant "bump" on the mouth, and "flop" their weight almost resoundingly back into the saddle, thus delivering a blow to the horse's loins. Likewise, too frequently the rider humps forward and with a *short* rein fixes the hands on the animal's neck, thus denying him freedom of head, neck and shoulders. The shoulders are the horse's natural shock absorbers! The above faults produce many other results, too numerous for the scope of this article.

It is obvious—only reasonable—that a horse, after accustoming himself to the weight of man, can far more easily, smoothly, calmly and efficiently support that weight, and more easily and freely negotiate obstacles when allowed to carry his head and neck in the normal "outward" position, than when the rider draws in the head and neck with bits. Likewise, it is just as reasonable that the horse can perform with much greater ease if the rider maintains the center of his own mass directly over that of the mount at all times; this naturally entails a slight forward inclination of the rider's upper body, the degree of inclination varying directly with the speed of the horse. At this point, it is noteworthy that in jumping, obviously any sudden "lurch" or "thrust" of the rider's weight forward will upset and unbalance the horse, probably resulting in no jump (refusal) or a faulty or danger-



1—Horse has engaged haunches, has made the thrust, has impelled rider's upper body forward, and is about to leave the ground entirely. 2—Horse just beyond highest point of jump, in early stage of descent, upper body of rider still forward and inclined from hips. 3—The rider's position from the knee down should not vary, inclination is from the hips, weight down into heels; horse and rider relaxed. 4—Horse approaching highest point of the leap in good form; note rein contact controlling and steadying horse. 5—Horse in difficulty but in good form; note rein contact and line from rider's elbow to fit; also note extension of horse's head and neck. 6—Rider "standing" in stirrups resulting in loss of contact with saddle, excessive elevation of seat and inclination of upper body; note horse's head and neck, rider's hands. 7—Rider "behind his horse," seated too deeply in saddle, impeding freedom of horse's loins and maximum elevation of haunches. Compare pictures 6 and 7 with other pictures with respect to proximity of rider's seat to saddle.

ous one. The rider "with his horse," center of mass and equilibrium over that of the animal, sitting still, not "bothering" the mount, letting the horse "do the work" and permitting the engagement and thrust of the haunches to impel the rider's upper body smoothly and uniformly to the front, will more frequently than not, result in a jump, pleasant and comfortable for both. In this connection, it is very desirable and almost absolutely essential that the horse be "on the bit" to jump properly. A discussion of "on the bit" is beyond the purpose of this article. Suffice it to say, this condition implies that while "unafraid" of the bit (rider's hands!) the horse "respects it"—has confidence in it—is willing to go up to and against (not beyond!) it, and relies upon *support* from it without "taking it to town" in a runaway. The desirable extent or degree of this condition, "on the bit," naturally varies with different animals and the character of the riding. While jumping, the writer has, on occasions, found it desirable to have certain horses strongly on the bit, and certain others, lightly so; likewise, in exceptional cases it may be found advisable to have the horse strongly on the bit, the rider evenly and progressively *diminishing* but never *relinquishing* the intensity of rein contact with the approach of the horse to the obstacle. (Of course *maintaining* the smooth contact up *to, over,* and *beyond* the jump. Few riders really have "hands," for few possess sufficient balance, security and coördination to prevent harmful and unnecessary movement of their bodies while riding!) Suffice it to say that after negotiating the obstacle, contact with the saddle should be resumed smoothly, evenly, gently and without shock, *after* the horse has landed and is *beyond* the jump.

Many old horsemen have forgotten the "open mind," dislike to change methods, possibly through fear of their inability to grasp new ones! Many enterprising and enlightened horsemen know and apply the obvious advantages of the modern seat; they are glad to learn some-

thing, not now so new, which enhances their tact and skill, and improves their seat! "No one really learns to ride perfectly for there is always room for improvement."

A seat, which with but slight modifications, is an "all purpose" one:

Stirrups: Sit squarely in the middle of the saddle with feet out of the stirrups and let the legs hang down naturally. If the tread of the stirrup is from one to two inches below the point of the ankle bone, the length is in general correct for normal riding.

1. ***Sit squarely in the middle of the saddle.***—The fleshy part of the buttocks must not press against the cantle, but should be kept well to the rear; they must not in any manner be pushed forward underneath the body. The pelvis bones should rest lightly on the saddle; the weight of the rider is distributed from the point of the buttocks forward to the crotch and inner thighs, thence to knees and down into the heels.

2. ***The thighs, resting without constraint upon their flat sides extend downward and slightly forward.*** They must clasp (without constraint!) the horse evenly.

3. ***The knee joint is relaxed; the knees are bent without stiffness and rest snugly*** (without gripping!) ***against the horse.*** Under no circumstances should the knee change its place; the knee joint, supple and relaxed, acts as a free, well oiled hinge.

4. ***The calves or lower legs should extend downward and slightly to the rear.*** They should contact the horse ***without pressure,*** except of course when used to change pace, or when horse attempts refusal, etc.

5. ***The heels are well down with the broadest part of the ball of the foot resting on the tread of the stirrup.*** The toes should be turned out naturally, about 30 degrees from the horse's side. The ankle should be without stiffness; it should be flexed so that the heel is well below the toe, but no effort should be made to depress excessively the ankle bone inward, which stiffens the ankle and tends to turn the calf and flat side of thigh away from the horse. Force the weight down into the heels; stretch the tendon in rear of the ankle as much as possible; feel that with the whole foot steadied and supported by the stirrup, the weight comes *through* the ankles *down* into the heels. All the above is necessary, else the rider's seat and legs are weak due to inability to control or contract the calf and lower muscles.

6. ***The upper body with spinal column (especially the small of the back) easily erect and supple should be inclined forward from the hip joints.*** The degree of inclination will vary, depending upon the character of the riding, the speed of the horse and the length of stirrups, etc. Suffice it to say, the upper body should never be in rear of the vertical, the back should be straight without stiffness, the "shuttling" movement and shock (experienced by the rider while the horse is travelling) should be "absorbed" or "taken up" in the suppleness of the small of the back, and the forward inclination increases with increased gaits and with shorter stirrups. The proper inclination from the hip joints helps greatly to keep the heels, knees, and thighs properly placed. No attempt should be made to hollow out the loin or sway the back excessively; this exaggeration is not necessary as an end itself, though as a means to an end, i.e., a straight back, it is recommended for those who find that they are riding with rounded shoulders and a humped back.

7. ***The shoulders are squared without stiffness, arms free and elbows fall naturally by the side;*** under no conditions should the elbows be in rear of the body, for then the reins are too long. Preferably, they should be a little to the front, with a straight line from elbows to the bit.

8. ***The chest and head are raised—this tends to keep the back and upper body in the proper position.***

9. ***The eyes are up and looking to the front.*** Do not constantly look *down* at your horse, this lowers the chest and humps the back; if you desire to see some reaction of the horse, glance down with your eyes but not with your head, chest, shoulders and back. The poll will remain in position without watching!

10. ***Relax from head to heel and let nothing stiffen.***

The above seat is comfortable and easy to both man and horse, and is easy to acquire, though at first it may tire the loins of those unaccustomed to it. Once acquired, both rider and mount will last much longer than the man who leans to the rear and the horse which supports weight on his loin; the seat permits and lends itself to the free, easy and efficient use and application of the aids in the control of the mount. NOTE: Length of stirrup varies with conformation of rider and horse, as well as with character of riding. Suffice it to say, using an extremely long stirrup for high school work and riding a young colt, the length is progressively shortened in order for the following sports: hacking and normal riding, cross country and steeple chasing, show jumping, and flat racing. Many are the reasons for the above, such as, speed of the horse, stability of rider, ability to efficiently apply aids, etc., all of which are obvious to enlightened horsemen.

What's New in Marching?

By Major Harold E. Eastwood, 9th Cavalry*

This article appears solely because Ye Editor, from the safety of distance, asks the question, "What's new in marching?" knowing full well that there has been nothing really new in marching since Napoleon confounded the warlords of Europe by increasing the marching cadence of his armies from seventy to one hundred and twenty paces a minute. Since that time marching has been changing gradually, in small particulars from time to time, and these changes have been so infrequent and imperceptible that never have they created the impression there was something "new."

Such has been the manner of the changes in marching of cavalry, which have taken place as we have progressed in all those other matters of our development. There have been a number of changes in methods, of course, but none have been so revolutionary or startling in character that they were called "new." The stamina and endurance of our horses have been proved and improved, but over such a period of time that the fact that we expect them, under stress of necessity, to make, without difficulty, marches which a number of years ago we would have regarded as next to impossible, fails to impress us as anything "new."

Our final recognition of the fact that our horses trotted more easily at nine miles per hour than at eight may have at the time been considered as new, but was it? Wasn't it just a belated official recognition of a condition which we had been taking advantage of for some time? In any event, it is not new at the present time.

Oftentimes throughout the cavalry service we hear the remark "They are doing it this (or that) way at Riley now." And some of the things Riley is credited with doing would rival the imagination of Alice in Wonderland, whereas in reality there are very few things done differently at the Cavalry School than elsewhere in our army. I refer, of course, to methods taught students as being standard practice; there are many experiments conducted by the Cavalry Board, but changes are not accepted and adopted as standard practice without going through the necessary trial and scrutiny to determine their soundness, after which the Chief of Cavalry must give his approval of their adoption before the dissemination of the information by his office.

And so it is with marching. Nothing new or startling has been discovered. Marches are conducted by the school troops largely as by our other units. Paragraphs 294 to 316 of Volume III of the *Cavalry Field Manual* constitute the guide used in preparation of all march problems and exercises. If this guide were followed generally throughout the cavalry, we would hear fewer and fewer remarks such as "They do it so and so in the —th," "so and so" being generally a different method than that followed in any other regiment, and one which, if examined closely, will usually be found to be a method peculiar to the then commanding officer of the regiment. It is these "individual" methods which prevents the cavalry's having a standardized march procedure used in all units, but that is not as important as it may sound. Certainly if the general guide is followed, small differences in manner of performance or technique can have but little real importance.

With the idea that there may be some points in connection with marching as conducted by the Cavalry School which may be of interest to others as indicative of what they are doing at Riley, or for comparison with methods used by units elsewhere, we will discuss some of the different phases of marching.

First, why should we ever make a march, except in the most inclement weather or to condition and train recruits and remounts, without its being a tactical march? Just going down the road, from county fair to county fair, offers an opportunity for tactical training which should not be overlooked. Truly, it will require more work and imagination than is required in making "just a march," but it is worth it.

Planning our march in all its stages is the most important thing we have to do. This would not be the case were it not for the large special duty rosters, administrative use of transportation, and many other strength-sapping details of our ordinary garrison life. It all means that planning becomes the most important item of a march—planning to have the maximum number of men, planning to have sufficient and serviceable transportation, planning the system of supply to be used (the recognized system can rarely or never be used in peacetime training because the Quartermaster generally does not have the time, funds, personnel, nor equipment to do his stipulated part). The selection of routes, arranging for camp sites, and other such matters, once the march is under way are minor details compared with tearing a unit out by the roots to get it started on the march.

CONDUCT OF THE MARCH

Most important of all the single items contributing to the success or failure of a march is "march discipline." March discipline consists of so many different factors, all in themselves more or less insignificant but as a whole very important, that a full discussion of them would be interminable. One may find certain factors dealing with this subject discussed in *Cavalry Field Manual*, Volume

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Leading on the march.

III, paragraph 315. Consider the item of adjustment of equipment at the halts. For that matter, how often do you see men in pairs saddling horses when saddles are fully packed? Is there any one item of march discipline which has more bearing on the condition of animals after a march than this one of adjustment of saddle equipment? Yet we often see one man (small, perhaps) trying to lift a fully packed saddle to the back of a good-sized horse that frequently results in maladjustment of equipment that is not corrected until the damage is done.

Change of gaits is an important item of march discipline. Executed properly, all subdivisions of a marching column will change easily and without undue fatigue or injury to animals or men. Look at the column after three or four hours of marching. The chances are even that trots will be picked up largely as a stream of water first passes through a hose, but that is nothing to the contraction which will occur in the same unit when it next comes down to the walk. Then arises the danger of torn heels, or collisions with passing motor traffic due to uncovering by successive units.

The manner of giving commands, whether by voice or signal, has a great deal to do with the proper changing of gaits. Where signals are used correctly and exclusively, there generally will be found a quiet but alert organization executing their commands in unison. On the other hand, when the voice is used exclusively (in daylight marching) the giving of commands becomes, like the protection of Frederick the Great's convoys, the principal business. Execution is more or less left to the other fellow. Under this condition, opening and jamming of the column is usually well demonstrated.

Opening and jamming are not only dangerous, but fatiguing, and this in turn has a direct bearing on still another item of march discipline—slouching in the saddle. It is so much easier when tired (as one officer gave as his reason for prefering the McClellan saddle for officers in the field) "to rest for a minute against the cantle" than to sit squarely. But the trouble is that the minutes become long and frequent as that tired feeling increases. That is the period when the officers themselves must be more alert than usual, particularly if units are on a march of several days' duration.

Starting a march has a good deal to do with its running smoothly and finishing well. It is a common thing to see whole troops or squadrons completely saddled a half-hour or more before they can possibly move under the march hour published. This is tiring on the horses, and it is needless. On the other hand, we have seen the other extreme, where units have been forced to take up a trot, and in some cases the gallop, to arrive at an initial point on time. And the correct practice is so simple—just a small detail of time and space computation.

Shakedown periods at the start of a march are more necessary to a satisfactory condition of animals than some are willing to admit. Only the most urgent tactical situation should be allowed to prevent starting a march with a shakedown. Paragraph 311, C.F.M., Vol. III, in the examples covering timekeepers' records, indicates a shakedown in the first hour's march. It will be noted the record indicates a twenty-minute walk at the start of the hour, a longer period than necessary on ordinary terrain. The idea of the shakedown is exactly that—"shake down"—and any march which will accomplish that, with a reasonable halt period, is all that is necessary. A good one, and one which will permit getting on the regular rate earlier

is to walk ten, trot five, walk five and halt ten. This half-hour will do all in the nature of a shakedown that the full hour does, yet it does not start with a long and tiring walk period, and the shorter time devoted to it will prove a big help in maintaining the rate of six or six and a half miles per hour for the march.

Why are advance guards so often required to gain distance by increased gaits? Having them clear initial points a sufficient time before the head of the main body is due to pass that point will allow their larger sub-divisions to gain their required distance at a walk. From that time, on, the regulation of their march on that of the main body is accomplished with normal walk and trot periods. When required to gain distance at increased gaits, the first hour's march for elements of advance guards is generally quite hectic before all reach their proper places.

Paragraph 41 of Volume III, C.F.M. covers the matter of the body which is to regulate the rate of march. In most instances (in daylight marching), commanders seem to prefer that the main body regulate the rate of march and the advance guard maintain contact with the main body. Yet in practically every march made, the movement of the main body is dependent on the information gained by, and the actions of, the advance guard. Why not change the habit and relieve the advance guard commander, whenever possible under the situation, of the necessity of continuously "looking over his shoulder" to conduct his march? Make him responsible for the rate, route, and security of the march and his hands will generally be full. In this way, with command cars at the head of the column, it is easy for a column commander to get word to the advance guard commander to increase or decrease the rate of march, if desired.

On night marches the advance guard should always regulate the rate of march, the main body "following." Using the alternate method of the advance guard "preceding" the main body will produce a well-nigh impossible situation in the conduct of the advance guard. And the yelling and shouting which connecting groups must do to pass the word "UP" of changes in gaits would make a Comanche war dance sound like a peaceful evening at home.

Many seem to be in doubt as to who puts out the connecting groups—the main body or the advance guard. Generally speaking, it would seem that the main body should maintain contact, if for no other reason than to prevent dissipating the strength of the advance guard in the use of connecting groups. Paragraph 42 *c* (1), Volume III, C.F.M., prescribes, as a principal function of the support, that it "maintain contact with the advance party." It does not prescribe that any element of the advance guard shall maintain contact with the element next in rear, or the main body. Certainly, the only time the advance guard should be required to maintain contact would be those occasions when the march order prescribes that it "precede" the main body. When the main body is "following" the advance guard, the intervening distance from the tail of the advance guard is a responsibility of the main body. Based on this responsibility, its agencies —"connecting groups"—should be the only ones to operate in the interval.

It is hard to conceive of marching under any system which does not make use of the squadron as a march unit and the platoons as a regulating unit. If we consider comfort of men and animals (and it is essential that we do), how can we improve on this method except by further reducing the size of the regulating units—which would disperse the column beyond all reason? But there are some "die-hards" who still argue that the troop should be the regulating unit, and some who even maintain that the regiment should be the march unit. So let's be thankful that paragraph 314, C.F.M., Vol. III, is directive in its provisions.

The facilities of march schedules, timekeepers, and pace setters seem to be utilized in many different ways. Their proper use has so much to do with a successful march that we will discuss them briefly, in the hope that some obscure points may be cleared up.

The most general understanding of a march schedule is that it is a "time schedule" prescribing how many minutes the column will trot at each trot period and how many it will walk. Such an understanding is unfortunately more or less supported by the examples of timekeeper's records in paragraph 311 of C.F.M., Vol. III, wherein one hour's record is shown as a regular application of the seven- and three-minute periods. A march schedule, on the other hand, is, the rate of march having been determined by order or otherwise, simply a schedule of the number of minutes' trot, walk, lead, and halt there will be in each hour. The reduction of these total trot, walk, and lead periods into the number and length of periods for each during the hour will depend on the terrain principally. If it is level country with excellent roads, then the trot and walk periods can be divided regularly throughout the hour. If the route is over rough and hilly country, or other conditions make marching difficult, the periods will necessarily have to be broken up to conform to the suitability of the terrain for the walk or the trot and no two may be of the same length. But the march schedule will have been complied with, because the total trot time will have been used for that gait.

The application of the march schedule is the big reason for having the timekeeper, in addition to his available assistance on the map. Some regimental and squadron commanders do not like to use timekeepers and pace setters. They seem to feel that they are delegating to them some part of command functions and prerogatives. Nothing is further from the truth. A commander of a regiment or of a march unit within a regiment has many duties while on the march which prevent his setting the pace or keeping a time record of the march. The same is true of his regularly appointed staff officers. No function of command is delegated to the timekeeper when he is put out in front and informed what the rate of march is to be and what the unit commander's wishes are with regard to breaking up the requisite trot and walk time to main-

Routine administrative march.

tain the rate of march over normal terrain. And when the going gets tough because of hills or other reasons, it is the commander who directs the changes of gait to fit the going. Then it is the timekeeper's duty to keep the record straight, no matter how many changes there are, and to be able to tell his commander exactly how many more minutes of trot he must use in any hour in order to maintain the rate. But all of us have watched march units trot up or down steep grades and over rough going simply because the commander would not use a timekeeper and he, or a staff officer, was keeping the time on his watch, and if he were to deviate from the regular trot time all his calculations would be thrown out of gear.

The duties of a pace setter and a timekeeper *can* be combined in one individual. There are reasons why it should not be done, though—company of horses is one good one. Two horses sent out in front of the march unit will, being in company, go well. The pace setter will have an easier job and he will do it better; the timekeeper will be concerned with time and records only. It is true that a commander with a well-gaited horse can set the pace for his column more to his liking, perhaps, than can a pace setter. But what happens when some of his duties take him away from the head of the column? Someone else with a different horse has to take over the job, at least temporarily, and the change generally results in changes in pace noticeable throughout the column. The same reasons suffice for not using a regularly appointed staff officer as a pace setter.

Every troop should be required to have two men, noncommissioned officers or exceptionally good privates, trained thoroughly in the duties of timekeeper and pace setter. If this is done and those from the leading troop are used, we will avoid using the same men for this purpose day after day, and also we will eliminate any feeling on the part of "B" Troop that "A" Troop is always setting the pace, and what a pace it is! And incidentally, either of these duties performed by a junior officer constitute excellent training for him.

Keeping on the route of march may offer some difficulties when it lies through rough terrain or is unusually crooked. If the route has not been previously reconnoitered, by far the hardest job in the column falls to the commander of the advance guard. And this is another reason for not making him conduct his march by "looking over his shoulder." But even when he "goes right" at some difficult turn, there is still the possibility that some part of the following column may "go wrong." This statement has more than just a truthful ring to it—and if the march is being made at night the "go wrong" has long odds under ordinary circumstances. In daylight marching it would seem that the timekeepers record and a map of the route should serve to keep any march unit on the road, and if a difficult turn is encountered about which there is doubt, an unscheduled halt to check up is more desirable than to take the wrong road. In some units squadrons send small detachments forward to march at the tail of the next forward unit, dropping men in pairs at doubtful points along the route.

In night marching neither of the above-described measures is completely safe, particularly during a night march requiring secrecy. The small detachment sent forward by one squadron to the tail of another will care for the leading unit of the following squadron, but what of some regulating unit (platoon) which may for some reason have lost considerable distance? Should it go astray it will take all of the following units with it. Or what about some field artillery unit which may be in the column, or the medical and veterinary detachments which usually march at the tail? They should all feel that the route will be clear to them without any unusual pathfinding on their part.

A good measure which provides the maximum of certainty is to use what might well be termed "route guards." By consulting a map of the route in the event a reconnaissance has not been possible, a column commander can judge the approximate number of "key" turns which will be encountered during the march. Take a detachment such as a platoon or a troop if necessary, in charge of an officer, sufficient in number to provide at least two men for each "key" turn, from the last unit in the column, and march them at the tail of the advance guard. As this unit passes each road fork or other place where confusion may occur, the officer in charge drops off two men who remain at the point until the entire column has passed, joining the tail of the column as it passes. There is nothing "new" about this—simply an extension of the principle of each squadron using a small detachment which was generally from the leading unit of the squadron. That it serves to protect all of the column, even the head of the main body, is its best feature and one which by itself is enough to justify its use in preference to the other. This system was used for a night march under conditions of secrecy at the school this spring, and over a crooked route through rough terrain. There was no element of the column in doubt for so much as a moment concerning the right road.

Leading is another matter always productive of argument. Every one will agree with the idea of leading into a halt. But when it comes to leading out of a halt, or in the middle of the march hour, there is considerable basis for argument. Leading into a halt has all the advantages of resting man and horse while still gaining distance and permitting an adjustment of equipment at the end. Leading out of a halt, or in the middle of the march hour, however, is a horse of a different color. At the termination of these latter leads mounting is a hurried operation, because we must not lose time. The result, when marching with full packs, is disarrangement of equipment more often than not, and this disarrangement will continue until the next hourly halt before it can be corrected. At the school, leading out of the halt is no longer the usual practice, and leading in the middle of the hour has not been taught for many years. It would seem the reasons for discontinuing both of these leads are sound.

If we need a reminder, paragraph 312 of C.F.M., Vol. III, provides it in sub-paragraph *d*, when it tells us "the great weight carried by the cavalry horse is his worst enemy." And this is one of the vital reasons why we should always go on marches with our full complement of unit transportation. If we do and the supply system bears any reasonable semblance to the one prescribed, and our transportation is loaded with authorized equipment, there will be available room on the trucks for the cantle rolls. This room should be used for this purpose on every possible occasion. By so doing, the cavalry will be able to increase its mobility by increasing the length of the day's march, and when necessary the rate can be increased over greater distances. Means and methods of increasing mobility should be the object of constant search on our part. The loss of the light wagon, trailer type, without replacement, in the new cavalry tables of organization, may, because its load must be placed on trucks, serve to deprive us of this aid to our mobility, just as we were becoming accustomed to using it for that purpose.

The same paragraph, 312, warns us about long walks and excessive trot periods. A fifteen-minute walk is deadly on both man and animal. It tires the man unmercifully during a day's march, and it prolongs unduly the time a horse, riding or pack, must bear its burden. From long experience it has been found that a trot period in excess of seven minutes is harmful to the horse carrying a load. The statement that frequent changes in gaits freshen both man and horse, besides increasing the rate of march, is based on fact also. Still it was not so long ago that march schedules provided for five walk and five trot, or ten of each. But the change to short walk periods and double or longer trot periods, as in three and seven, is not new. We have been marching that way ever since we were boys. A former regimental commander of the writer put it very simply by citing the small boy going to a fire—he runs a couple of hundred yards, then walks for ten or twenty, and again starts to run, continuing this "frequent change in gaits" until he arrives at the blaze. The example is a good one, and our march schedules of today follow it in principle.

There is one phase of marching a cavalry unit which is generally passed over with very little thought or consideration: marching the trains. In practically all cases the march order will read that combat trains will march grouped under the supervision of the S-4. And that is the end of it with most of us. The next time we think of the trains will be when we see our tents up and waiting for us when we arrive in camp. Yet those trains and the way they march are a vital concern of ours. They normally carry some rations and grain besides equipment, all of which will be needed, but aside from that in tactical situations they represent a hazard to us.

The cavalry trains today have certain armament which will go far toward their protection in chance encounters with hostile detachments, but their capture and destruction would cause us discomfort, at least for a considerable time. The most significant thing about the trains, however, is that they are so easily distinguished by hostile observation, day or night, particularly air observation. Once observed they will, if kept under surveillance, provide the enemy with exact information of the location of bivouacs—which later can be bombed. If instead of being marched on different routes they follow the column they will attract observation and the column will suffer as a result. If they remain in bivouac throughout the day to follow by convoy at night they must operate without lights, or hold up a sign for all observation to read if operated with lights.

It does not seem to have occurred to most of us that there could be any way of marching trains other than the time-honored method of "grouped under S-4." Why have we not observed large civilian trucking concerns and taken a lesson from their operating methods? Operating several trucks over the same routes, civilian fleet owners do not operate them as convoys, but instead as individual trucks. But the army has always operated its trains in convoys and therefore it probably always will. In the old days convoys needed protection, they were slow and cumbersome, and we all know what protecting the trains did to the mobility of the armies of Frederick the Great. Today it is different. Our truck convoys are capable of many times the old convoy speeds, and are correspondingly

(Continued on page 337)

Special Activities

The Caloric Measure of a Man

By LIEUTENANT J. D. WILMETH, *Infantry*

"When do we eat!" is accepted by the world's historians as the credo of the AEF.

"Follow me," had been a motto of the feeding forces long before the fighting forces took it as a maxim.

A well disciplined soldier may leap to the fore when "Charge!" is sounded, but everyone leaps to the door when "Chow" is sounded.

"An Army moves on its stomach," has become as axiomatic as Napoleon's tenets of war. In fact it was Bonaparte who allowed a division to hang a civilian commissary who had not delivered food for twenty-four hours.

That the chow line is the Army's life line is an uncontested dictum. For the enlisted man, the officer, and the General Staff food is the base point.

If, instead of "When," I ask "How much do we eat?" a stentorian cry of "Not enough!" assails me. It was this answer to the question that set me on an investigation.

Telling you that Army messes daily produce a total of 990,000,000 calories won't glut your dissatisfaction, so let us bring the matter to home plate, gastronomically speaking. How many calories *should* the average soldier get (if you will play the part of the average soldier) and how many *does* he get? That is what we want to know. And right here before I place any more cards on the table, I will tell you I am *not* going to define a calorie, either physically or physiologically. Not even biologically. The feminine folk of embonpoint have so covered the term with connotations that it has been enlarged into an arcanum which I won't attempt to explode by introducing or defending a true definition. Let the matter rest in the pleonastic metaphor that a calorie is to you what gasoline is to an automobile—each is burnt in an internal combustion engine, does work, and the ash is exhausted out the tail pipe of each respectively, if I may make a homely comparison. So much for it. Let us return to the table.

A writer in the *American Medical Association Journal* gives as his opinion that a man doing sedentary occupations (bookkeeping and other office work) requires from 2,500 to 3,000 calories per day; a man living mostly in the open and doing medium hard labor (such as a farmer, ditch digger, etc.) requires from 3,500 to 4,000 calories per day; a man doing excessively hard labor in the open (lumberjack, stevedore) requires from 4,500 to 5,000 calories per day. These figures are based on an outside weather temperature of from 45 to 50 degrees, and a number of calories must be added or dropped for each 10 degree fall or rise in the thermometer.

A soldier falls in the second class mentioned, in my opinion, but if you're not willing to accept it, let us bring the matter into the mess hall with a g.i. opinion, offered by a medical officer, who contends that 4,000 calories per day takes care of any garrison soldier in the States. This amount should be lowered to 3,500 calories per day if on foreign service, and raised to 4,500 per day if in the field of campaign.

An Assistant Inspector General in the Panama Department who has written several treatises on Army nutrition and is considered one of the foremost Service dieticians asserted that 3,500 calories per day will suffice the energy requirements of soldiers on tropical service.

Now that we have the tape measured, let us see how the tape worm measures.

During the months of November and December the mess of a company of Infantry in eastern New York, investigated at this time, was supplying an average per person per day of 5,400 calories to men doing ordinary garrison duty. This is an excessage of 1,400 over the required 4,000.

At a CCC concentration center in northern New Jersey during the months of September and October the enrollees consume an average of 6,000 calories per man per day. (I admit the unfairness of this example since all men were recent candidates and were filling up vacuities existing prior to enlistment.)

A battalion of colored troops in a southern state averaged 6,200 calories per man per day during summer training. An oversupply of 2,200.

One investigated company in Panama averaged 5,000 calories, another company fed 5,100. The Army has declared 3,500 to be sufficient on tropical service.

(In all cases mentioned the number of calories are those actually consumed, refuse having been deducted.)

Well, now that we're caught pot-bellied with the guilt of over-consumption, what is the penalty for too many calories in the craw? Again from the AMA, "The consumption of more calories than are normally expended in one's particular occupation results in raised blood pressure, overwork of kidneys, pancreatic and other digestive glands, and overloads the entire alimentary, digestive, and evacuatory systems, consequently endangering good health and reducing life length."

If actions speak, then we must conclude that the health of a horse is of more concern to the Army than is the health of its men. A soldier, roughly valued at $10,000, hasn't the benefit of the scientific feeding a $160 horse receives. Careful observance of an animal's individual feed chart is imperative, and woe betide the careless hand who is caught giving Dobbin an extra dipper of oats. On Sundays, since work is decreased, stable diets are cut; but with men, for the same reason, holiday meals are doubled, often containing 9,000 calories. Beware, for the mess sergeant is feeding us to death.

But (you'll never believe it) the mess sergeant is not *the guy who done it*. What better criterion of the perfect daily diet could be chosen than the War Department Official Garrison Ration, each component item prescribed to the ten-thousandth of an ounce by weight. But if this ration were fed, measured on a pharmacist's scale, we would still be getting 2,300 calories overage. Aha!

My own opinion is that the ration was *intentionally* overstuffed—and for a very good purpose. There is nothing more thoroughly American than over-eating. It is a national habit of long sitting, and our Army should reflect the characteristics of the Nation. And also, it's a fine recruiting measure. The groaning board has done far more for enlistment than the niggardly monetary pittance entered on the payroll. It brings 'em in—and it keeps 'em. The size 48 web belt is an article of issue, and the garrison paunch is the legacy of the old-timer. Our ration is the richest of any Army, and exceeds by one-third the next best—the British. Compared to other nation's Services, ours is an over-sated, gluttonous, body of epicures. We *enjoy* eating. And knowledge of the harm resulting from calorie craving will no more drive us from the table than knowing that hyperbibulousness conduces cirrhosis of the liver has stemmed the bottle neck of Bacchus's tonic. Khayaman "Eat, drink, and be merry" has a legion of disciples still with us.

Having condoned the garrison ration in all its calories as no more than befitting men of our breadth, let us take the field and search for our closest approach to starvation. Do we get an increase of calories, for certainly we are producing more energy, or are our calories numbered? Regulations state, "Its components (the Field Ration) will correspond as nearly as practicable with the components of the garrison ration." But since, as pointed out, our needs can be supplied by 4,500 calories, the 6,300 of the garrison ration should be ample to support an expanded gut. Punningly, even in the field, the waste line still exceeds the waist line.

But, getting down to hardtacks, what dire threat to health and comfort is found in the Reserve Ration, or, the last extreme, in the *No* Ration? There are those who have withstood the hardship of stomachical emptiness.

A horned frog lived for 33 years encased behind the cornerstone of a Texas courthouse. But this is unfair competition.

Gandhi lived for six weeks on water.

The Japanese soldier lives on a ration of fish eyes and rice. (Literally. No tapioca pudding in this case.)

The Chinese soldier lives on and on.

Mohammed used to fast for thirty days at a time.

Socrates went for—but you see the fallacy of this. I have no *American* examples. The closest approach is the Arab marauder who can live for a week on a handful of dates. Some of our most proficient gigolos do as well.

So, despite one or two crackpots in this country who have gone on a water diet for the publicity, the No Ration remains a totally foreign practice and a despicable makeshift which no bread-and-butter soldier would endorse. It is alien to the taste, and such an un-American activity deserves no further consideration.

But what calories await the soldier who after nine hard innings of battle has nothing to eat but his Reserve Ration? His plight is sad, indeed, but that such an extremity should be of short duration is recognized by the Supply Section of the Infantry School, whose instructors feel that the soldier will never have to go longer than a day (two meals) on the canned ration. This is a beatific feeling, and I do not wish to dispossess it from the untroubled mind. But what do you suppose, just for the sake of hypothesizing, would happen to men who were forced to live on a reserve ration each day for a week—two weeks—three weeks? Certainly it would develop no belt stretchers, but would it call for stretcher bearers?

For guinea pigs, in answering this question, let us take a party of five Americans who made a trip along the Great Divide opposite Porto Bello in Panama. The land is above the banana and cocoanut belt, wild, uninhabited, capable of supplying no tropical foods. Travel in this country is a continuous process of cutting a way foot by foot through a tough, barbed mat of vines and jungle growth. No lumberjack could have labored more arduously than did these five, and certainly, if at any time, they were entitled to the 5,100 calories per diem they had been enjoying in the company mess. But full stomachs mean full packs, and full packs mean quicker fatigue, and so that loads might be as light as possible, only these foods were carried:

5	lb. slab of bacon
2½	lbs. of chocolate bars
1	lb. of oatmeal
3¾	lbs. of raisins
½	lb. of tea
3	lbs. powdered milk
2	lbs. onions
5	lbs. potatoes
5	lbs. hardtack

Light weight, food value, and ease of preparation governed the choice of menu. No meat except salt pork, which is rather unpalatable, has a higher calorie content than bacon. Chocolate has more value than any other food. Dried peaches beat raisins by a small margin, but are not as enjoyable a dish. (A handful of raisins and two squares of chocolate constituted a daily lunch.) Oatmeal has more calories than any other cereal. Tea is more

stimulating than coffee, easier to prepare, much lighter in weight, and the wet leaves can be used for a poultice. Powdered milk is light, easily prepared, relatively high in food value, and contains vitamins missing in most of the other foods. Onions were taken purely for flavor. Rice has a lower value than beans or peas, but the latter two require a lengthy preparation. Potatoes are heavy for the amount of food value, but were taken to fill in crevices in the packs and thus reduce rattling. The hardtack was a mistake. Most of it was thrown away.

The total weight of the food was 30½ lbs., giving each man a fraction more than 6 lbs. as his share for *eight days*. With 5 lbs. of wild turkey added during the trip, the daily allowance per man per diem was ⅞ lb. In barracks each man had been accustomed to 6 lbs. daily fare. Yet, strangely, no man on this trip suffered from hunger pangs. No one within a hundred miles had more to eat than we did, and so, I concluded with Einstein, hunger is relative. I have said "we." Yes, I was along, else I never would have believed that men could eat so little and still fell content, for no man save Henry VIII ever loved food more than I. Yet, even on this harshly reduced diet, I was never tempted to bite other members of the party.

Equally as strange, when we returned home we didn't have enormous appetites. We looked about the same, except for beards, and felt much better. I had lost three pounds, easily removed from the beer line. One other who had recorded his weight before leaving, had gained a pound (probably one of the three that I lost).

According to food experts we were entitled to about 5,500 calories per day. We lived, and well, on 960. Of course, our experiment was not of sufficient length to disprove the experts (I would be willing to continue if there's a future in it) but it was long enough to alleviate the chimera formerly produced by reflecting on the possibility of having to subsist for a week or week-end on the Army Field Ration. Why one could live in Gargantuan plenitude without even cheating his dyspepsia on its bountiful weight of 1.88 lbs. and 3,580 calories. War has lost its most frightful terror.

☆ ☆ ☆

Questions and Answers on Modern Cavalry

By LIEUTENANT COLONEL H. McE. PENDLETON, *Cavalry*

The following statement is noted in the January-February, 1939, issue of The CAVALRY JOURNAL: "The CAVALRY JOURNAL should furnish a free forum" for the discussion of Cavalry officers.

This has prompted me to present a list of questions most of which have been asked not only by National Guard and Reserve officers but by many Regular Army officers.

In order to have a premis or basis upon which to work, I have selected the regiment; based on the new Tables of Organization of the Cavalry Regiment Horse (war strength).

1. Why not increase the fire power of the Machine-gun troop by doing away with the water-cooled gun and substituting the air-cooled in greater numbers without increase of personnel or animals?

2. Assuming your regiment has been trained by you, as you want it trained, what do you consider should be the normal actions of the regiment in the event of a sudden (10 second warning) aviation attack?

3. Why not substitute a light mohair pad similar to that used with the pack saddle and wool blanket for the present saddle blanket?

4. When, if ever, is the commander justified in using his scout cars for any mission except that of reconnaissance?

5. In the average situation, is the regimental or smaller unit commander justified in marching with a covering force on a wide front instead of the normal advance guard formation?

6. Should the squadron commander either in regiment or acting alone, group his machine-guns (other than 50's) subject to his orders or leave them with the troops?

7. Assuming a simple situation with the regiment on the march, on one road through average rolling country, all the truck transportation left temporarily well in rear, and enemy mechanization active:

How would you as regimental commander place your .50 cal. guns?

8. *a*. What do you consider the normal use or uses of the 60-mm. mortars with the horse cavalry regiment?

b. Do you consider the additional weight, bulk and personnel warrants this highly specialized weapon in the regiment?

c. Why not replace the 60-mm. mortar with the equivalent in weight and ammunition bulk by the .50 cal. gun which must now be considered non-special, and available for habitual use?

9. The regiment is acting alone; assume your mission is to hold a piece of commanding terrain against enemy mechanization, what in general will be your dispositions, i.e., where will you put your antitank weapons? Supporting troops? Size and location of reserves, etc.?

In order to properly answer any of the above questions reasons should be given. For example, to merely say "Yes" or "No," in answer to questions 5 and 6, is not considered sufficient.

(For answers, see page 331)

Adoption and Supply of New Equipment

By MASTER SERGEANT JOHN J. REARDON, D.E.M.L.
(Office Chief of Cavalry)

This article is written in the hope that it may be of value to troops in the field. It may serve also to acquaint National Guard and Reserve officers as to the manner in which new equipment originates, how it is adopted, and how it is supplied to an arm or service. The writer has served in the Supply and Fiscal Section of the Office Chief of Cavalry since it was originated and may state that every Chief of Cavalry since General Holbrook has encouraged and welcomed ideas on new equipment or recommendations on the modification of existing equipment whereby the efficiency of the cavalry might be increased.

If you should have an idea on a new item of equipment, write direct to the Chief of Cavalry submitting full details, drawings, etc. Forward a sample, if practicable, for consideration. In this connection attention is invited to army regulations 850-50 covering inventions and patents.

The Chief of Cavalry is responsible for the actual initiation of requests for the development of new equipment pertaining to cavalry together with the military characteristics thereof. Army regulations 850-25 cover this phase.

Any idea on new equipment or a change in existing equipment should be received in the Office Chief of Cavalry. If, in the opinion of that office, it should merit further consideration it is forwarded to The Cavalry Board for review and recommendation before requesting the responsible supply service (Ordnance, Quartermaster, Signal, etc.) for funds to proceed with development or modification.

In most instances the findings of the testing agencies are final; i.e., the item will be either rejected, approved, or recommendation made for some further modification with the request perhaps that it be resubmitted to the Board for further tests.

Each of the supply services has set up in its own office a technical committee which includes a member representing each of the using branches (Cavalry, Infantry, etc.) as well as the other supply services and general staff. The first step is to take the matter before the technical committee concerned to determine its merits and also to find whether or not there exists a similar requirement by other branches of the service. If approved, funds are then set up or authority is granted to purchase or manufacture a certain quantity of the item concerned for tests by the various interested service boards.

A test lasts from several days to several months and in some instances over a period of a year or more, depending on the item. The Board is also charged with making recommendations for the basis of issue and the proper use of any new item of equipment. Therefore, before any new item of equipment is finally adopted, the following points must be assured:

(1) A definite requirement must exist.

(2) The Military Characteristics assure that it meets every phase of the requirement.

(3) The Technical Committe assures that there is no duplication between using Arms in similar items and that the needs of all Arms are met.

(4) The Assistant Secretary of War and the Chief of Supply Service assure that it can be procured.

(5) The General Staff assures that it fits into the picture and is essential.

The Chief of Arm is the prime mover in the initiation of a project and follows it through from beginning to end with the assistance of his Board and his representative on the Technical Committee.

Upon conclusion of the tests the reports of the various Service Boards are referred to the Technical Committee concerned. The committee then renders a full report of their findings, together with recommendations on the reports of the testing Boards, to the Secretary of War for final action. If approved by the Secretary of War, the item is then classified as Standard, Limited Standard, or approved for Limited Procurement. What are the meanings of these terms?

"Standard" items are the most advanced and satisfactory which have been approved by the Secretary of War and are preferred for procurement to meet supply demands.

"Limited Standard" are those items which do not have as satisfactory military characteristics as "standard" items, and are either in actual use or available for issue to meet supply demands. Complete major units will not be produced under this classification. Component parts and complementary items, however, even though they may be "limited standard" items, may be procured if necessary to maintain complete units in serviceable condition.

"Limited Procurement" items comprise articles of equipment which have passed service tests favorably but are not ready for classification as an adopted type and which before such classification should be subjected to an extended service test. The approval as to limited procurement type signifies that the item is probably suited for service use but requires refinement in design or further use in hands of troops to determine definitely its suitability.

Newly adopted items of equipment are then incorporated in Tables of Basic Allowances whereby they become authorized for requisition and supply. In most instances funds must be secured for their manufacture and procurement in the annual appropriations approved by Congress, and in such case it may take a period of from one year to eighteen months before such funds become available.

In some cases requisitions submitted in the field and received by Supply Services are referred to the Chief of Cavalry for recommendation as to whether or not the equipment should be supplied. These cases arise when requisitions are made for items listed in the Table of Basic

Allowances but where the actual supply is so limited as to have been placed on a priority list by the Supply Service concerned. This situation is the result of equipment having been approved and authorized but procurement delayed through lack of available funds. It is suggested, therefore, that close attention be paid to pages 1 and 2 of the Table of Basic Allowances which give general and special instructions on important factors covering the issue of equipment.

When the Phillips pack saddle was originally approved for issue, it may be recalled that funds were set up over a period of several years to provide our total requirement. As the funds became available and saddles were manufactured, a priority was established by the Chief of Cavalry, and the saddles were automatically supplied by direction of the Quartermaster General in order of such recommended priority without requisition from the field. Such was the case for the light machine gun, caliber .50 machine gun, scout cars, etc. It will be noted from the latest approved Table of Basic Allowances, where such items were incorporated, the substitute item or the item existing at the time of adoption of the new item is also included. Therefore, requisitions should be worded exactly as the items appear in the Table of Basic Allowances, and if the latest model is not available for issue, the substitute or existing issue item will be furnished to make up any shortages.

Shortly, a limited number of M-1 Rifles will be supplied to organizations in order of priority over a period of time. This rifle is supplied by the Ordnance Department, whereas, the scabbard is supplied by the Quartermaster General. This statement is presented here in order to explain why requisitions for scabbards should not be initiated merely because the M-1 rifle is on hand; or, vice versa. The Quartermaster General is modifying all scabbards now on hand in order to take care of the total number of M-1 rifles to be issued in the present order of priority. It may be readily seen that rifles will come from one destination and the scabbards from another, and in many instances one may precede the other by a short period or even a lengthy period of time. The Quartermaster General has been furnished an established priority for the issue of scabbards to coincide with the priority established by the Adjutant General for the issue of the M-1 rifle to the Army. Close coördination between the Office of the Quartermaster General and Ordnance will be necessary if delivery of one is to be followed closely by the other.

If, in the judgment of the Commanding Officer, some uncalled for delay appears in receiving the scabbards after receipt of the rifles, an informal note direct to the Chief of Cavalry or to the Supply and Fiscal Section of the Chief of Cavalry's Office will promote quicker coördination towards receipt of same, or an explanation of reasons for undue delay which may have arisen.

* * *

There are listed for your information and guidance, some of the items now contained in Table of Basic Allowances that cannot be filled on requisition, due to budgetary limitations. Until such time as these items are completely furnished to the entire service, the limited standard items will be issued or used:

Supply Branch	*Item*
Engineer	Demolition kits, Cavalry
Ordnance	Helmets, tank
Vehicles	Scout cars
	Combat cars
	Mortar Motor carriage
Weapons	Gun, Mach., Cal. .30, M1919A4, with mount, tripod M2.
	Gun, machine, cal. .50, Browning, M2 HB, with Mount tripod M3.
	Gun, sub-machine cal. .45, Thompson, M1928A1.
	Mortar, 60-mm. M1.
	Rifle, U. S. Cal. .30, M1.
Q.M.	
Individual Equipment	Bags, canvas, M1936
	Belt, cartridge, cal. .30, M1.
Organization Equipment	Bags, cantle, M1936
	Cans, milk
	Cans, nesting
	Goggles, M1938
	Pockets, Pommel, M1936
	Saddle, Military, Phillips', M1936
	Set, picket line, M1933
Vehicles	All listed in T/BA.
Signal Corps	Radio Sets:
	SCR-193
	SCR-245

Answers to Questions on Modern Cavalry

1 Herewith, ideas of one Lieutenant Colonel of Cavalry who has served with the Cavalry Division and umpired with the mechanized force in the 1936 maneuvers, as answers to the foregoing questions:

Answer to Question 1: It is my firm belief that the air-cooled gun should be substituted for the heavier, bulkier water-cooled gun, for a number of reasons. I do not believe that the difference in the ability of these two guns, except in the case of a highly organized position defense, is enough to consider seriously. It is my belief that you could increase the number of guns by at least one-third; increase the ammunition by more than one-half; triple the number of spare barrels and still not increase the personnel or animals.

Answer to Question 2: I do not believe the Regiment should hold, or in any way delay its march by dispersion for any attack by enemy aviation. When the command halts or by dispersion, causes any appreciable delay, it presents the enemy airplane with a better target or helps to accomplish the enemy mission without much work on their part. However, this does not mean that certain highly trained machine gunners should not take offensive action by fire or that the command itself should do nothing other than continue the march. By a slight dispersion, increased gaits, or both, together with fire from .45 cal. automatic pistols, the enemy planes may be scattered or brought down.

Answer to Question 3: Experience has proven that the mohair pad furnished with the Phillips pack saddle has been one of the finest pieces of equipment furnished in recent years. It is durable, easy to keep clean and easy on the horse's back. A light pad of this type, together with a wool blanket, seems more satisfactory for the following reasons: it offers a greater pad thickness without the accompanying wrinkles and stiffness of the present saddle blanket; it is easier to keep soft and clean, and during the greater part of the year, obviates the using of a bed blanket in the cantle roll.

Answer to Question 4: I would say emphatically that the Commander is never justified in using his scout cars for any reason other than that of reconnaissance. I believe that every officer knows that in an emergency, any and every means is justified, but to permit the use of the scout cars for other reasons except in that drastic emergency will result in a Commander finding himself without sufficient scout cars, when they are most needed.

Answer to Question 5: I believe that in most situations, the Commander should use a covering force in preference to the normal advanced guard formation. With the increased speed and mobility of Cavalry marches and action, together with the rapidity of movement of mechanization, the normal bulky and somewhat complicated advanced guard formation is normally not good. We must realize that in any country in time of war, fences will be cut, cultivated fields will be marched over, thus doing away with the necessity of sticking to roads. Also, a much smaller command may be used in the covering force than in the old advance guard formation, thus permitting more frequent changes on this arduous duty.

Answer to Question 6: I realize that many Cavalry officers are not in agreement on this subject. However, I believe that it is so much easier to attach than to detach, that while the training of the light machine gun platoons may be left with the Troop Commander, the Squadron Commander, especially when acting alone, should group all of his machine guns, other than 50's, under one officer subject to his orders.

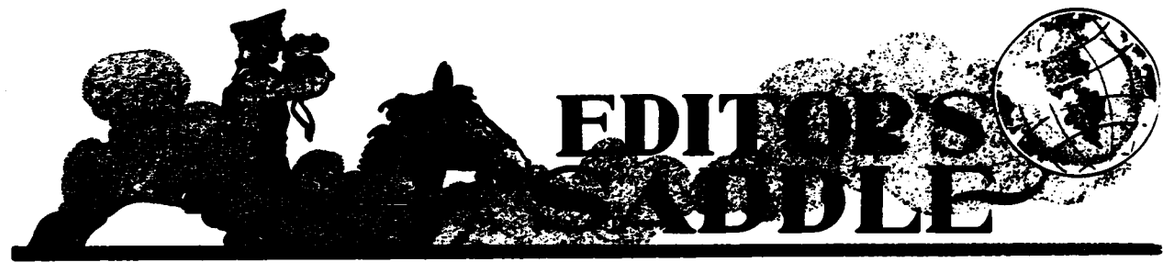
Answer to Question 7: Since I have but eight .50 caliber guns in my regiment, I can see but one solution and that is to place the eight in groups of two; one group forward, one group on each flank and one group in the rear. To my mind, this leaves me very inadequately protected in any place against active mechanization. However, I must assume that the enemy's observation is as good as mine and that they are most likely to attack me in my weakest point, which would normally be in flank or rear. Therefore, I can not see my way clear to placing any guns other than as mentioned above.

Answer to Question 8: a. To my mind, the 60-mm. mortars would normally only be used in two situations: one, to support the holding or dismounted attack; and two, in an organized defense to assist that part of the command that was most likely to be subject to attack.

b. The use, as mentioned above, seems so unusual that I do not believe the additional weight and bulk is warranted for these few guns. They are not sufficient in number to lay smoke in the event of attack; they are not sufficient in number to assist the regiment as a whole in organized defense and according to Infantry principles of two per company, they are hardly sufficient to assist an average holding or dismounted attack.

c. Assuming that the answer to Question 7 is correct, and I believe it is, it seems to me that it would be much more advantageous to replace the 60-mm. mortars with the equivalent in weight and ammunition bulk by the .50 caliber gun which appears to be more and more essential every day as an anti-mechanization weapon.

Answer to Question 9: I would place at least a part of my anti-mechanized weapons on the commanding piece of terrain or covering the probable enemy approaches to the terrain, giving to these weapons only sufficient supporting troops for close-in defense. These supporting troops would not consist of more than one rifle troop at the most. I would then hold the remainder of my force with the remaining anti-mechanized weapons on one flank. This would permit me to attack enemy mechanization after they had committed themselves. If, however, they decided to avoid the terrain and move entirely around, I would still not be committed to one position. In defense, I have very little except my anti-mechanization. However, after the enemy mechanization has committed itself; attack and maneuver ability, I am at least as good as he is. By avoiding taking up a position, I force him to commit himself, thus leaving me freedom of movement and action.



Mobile Forces

It is to be trusted that most readers of this issue of The CAVALRY JOURNAL will have read the article dealing with Polish Cavalry Doctrine before they have occasion to turn to this part of the JOURNAL. Although that very amplified treatise on the "Training of Modern Cavalry for War" may appear to some as dull reading, it is recommended to the more alert readers as being extremely important. The entire article is replete with gems of thought and analysis which can stand the study of reading and re-reading. This one sentence is worthy of considerable reflection, "Cavalry training for action against mobile forces is so complicated in itself as to require nearly all available (training) time."

It is frequently a matter of speculation as to whether the avereage individual responsible for the training of cavalry operations appreciates the difference between the factors which are important in operations against infantry as compared to those which involve action against hostile forces of equal or superior mobility. Perhaps this difference is so fundamental that it is evident to all. It is actually believed, however, that this fundamental proposition is given far too little consideration.

Not only is the foregoing feature sometimes overlooked by cavalrymen but on too many occasions unappreciated by commanders of larger units. A recent Chief of Staff has stated that any military man should realize without hesitation that in conflict between two equal forces the force which incorporates a mobile unit such as cavalry and takes advantage of its presence should be successful every time.

Flanks and rear areas are so vitally sensitive under modern conditions where replacements in ammunition and supplies run into hundreds of tons rather than tons that no move can be safely contemplated unless flanks and lines of communication are secure.

On the part of cavalry leaders themselves, is it genuinely realized that the employment of their own force must primarily be directed toward hostile mobile forces before combat with slower echelons can be a matter of possibility?

Where one has the advantage in mobility in the ratio of two and three to one, many actions are possible that must be discarded in the face of equal mobility. That basic doctrine must be understood thoroughly by every cavalry leader.

* * *

What Are You Going To Do When You Get There?

During post-war years, especially recent years, every major power has given intense study to the creation and organization of highly mobile elements of warfare. That this course of action is fundamentally sound no one will deny, particularly if they adhere to the fundamental principle that decisive results in war come only from a war of movement. There is some risk, however, in the possibility of wishful thinking toward achievements in this realm that are entirely beyond reasonable capabilities. There are missions and operations peculiar to the capabilities of each member of the great combat team. Military leaders of the past have come to grief through faulty evaluation of these factors in assigning objectives far beyond the capabilities of the tool involved.

It is believed that there is a growing conception which visualizes actual warfare under map problem conditions of roads, obstacles, weather and other allied factors. Detailed information covering the rapid movement of an unopposed German force southward in March, 1938, should give military students grounds for further thought in this field.

The mental visualization of tactical feasibility in hurling large masses of highly mobile units should come closer to actual practicability in these operations. The coordination of highly mobile elements under the most advantageous conditions strains the facilities which we now possess. More thought should be given to the increased difficulty of control and coördination under the fog of the battlefield.

It is assumed that because administrative movements are negotiated with little difficulty and because various operations under maneuver conditions have been adequately handled, combat doctrines can be based on such activities.

It is believed, perhaps, by too many that great columns of mechanized and motorized elements will assemble, entruck, and move out with no question as to their ability in arriving at objectives where ordered. In a movement toward a distant objective it is not the first 10, 20, nor 50 miles which ultimately will count, but more those last difficult 4, 6 or 10 miles which will be accomplished through combat and combat only. Therefore, it is not so much where are you going or how are you going, but what you will do and how you will do it when you get there.

* * *

Cavalry in China*

Horse cavalry is of vital importance in a theater of war like China, where terrain difficulties often preclude the employment of mechanized units. Aerial reconnaissance over wooded and mountainous terrain is frequently impossible. Here, too, horse cavalry must be depended upon. Although both the Japanese and the Chinese have been using cavalry, there have been no important engagements between cavalry units, except during operations in Inner Mongolia, where the open terrain required the use of highly mobile units. The experience in China demonstrates that cavalry units must command greater independent strength than that of the Japanes cavalry, which lacks sufficient machine guns, artillery and motorized equipment.

*Reprinted from *The Command and General Staff School Military Review*, June, 1939.

* * *

Honor Roll

The following organizations occupy a place on the Cavalry Honor Roll by maintaining 100% membership in the Cavalry Association:

National Guard:

103rd Cavalry
104th Cavalry
106th Cavalry (Michigan Component)
112th Cavalry
113th Cavalry
114th Cavalry

Cavalry Reserves:

308th Cavalry (61% Membership, highest in that component).

The United States Cavalry Association

Organized November 9, 1885

The aim and purpose of the Association shall be to disseminate knowledge of the military art and science, to promote the professional improvement of its members, and to preserve and foster the spirit, the traditions, and the solidarity of the Cavalry of the Army of the United States.—Article III of the Constitution.

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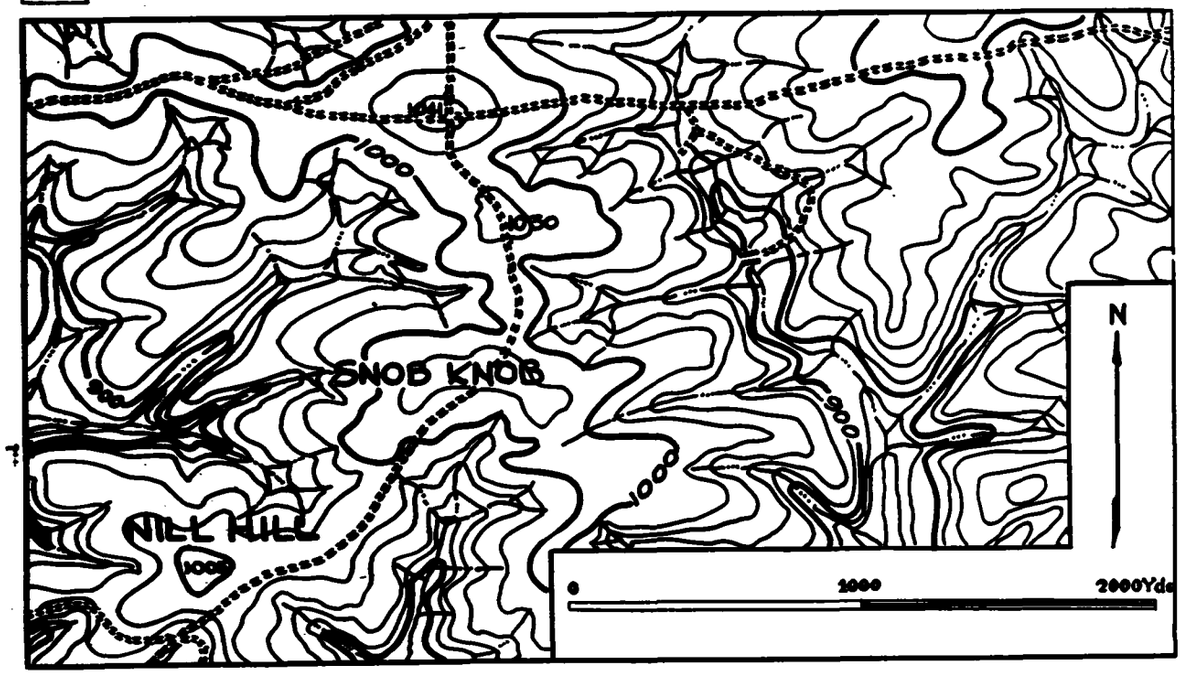
NOTES from the CHIEF of CAVALRY



What Would You Do?

By the fate of war and graces of the regimental commander, he even commanded I Troop, this Captain Ego Istick I'm speaking of. One of those dudes who placed the big "I" before everything. Sort of an obnoxious bird. His squadron commander tells me that he always knew the answers—always knew a better way to do things than the way they were done—always making suggestions when suggestions weren't needed or wanted. But at that from what I hear, except for the capital letter "I" he used in every sentence of every remark, he probably knew his stuff. Wonder what he'd have done in tactics at Mr. Riley's *école de jeunes hommes?*

His cavalry regiment, with a battery of right and left handed cannon ball shooting associates attached, was, as a good old horse regiment should be, in a tight place. On the south end of the main line of battle protecting the Blue right against a brigade of doughboys already deployed for attack. Tight? You bet your life. Scout cars on each flank, 1st and 2d Squadrons in the line, dismounted. The 3d Squadron, renforced by a platoon of 30's and a section of 50's, in regimental reserve. As Captain Ego Istick commented later: "Knowing what was to happen, I think the colonel displayed good judgment in placing the 3d Squadron in reserve."

Comes the order to withdraw to the west to another delaying position. Scout cars on reconnaissance on the flanks. The 3d Squadron to protect the withdrawal of the regiment by covering from a position on the south flank. But let Captain Ego Istick tell the story:

"My troop—I Troop—one platoon of 30's (from Machine-Gun Troop) and one section of 50's (from Special Weapons Troop), attached, was ordered to occupy a covering position in the vicinity of SNOB KNOB (see map) to delay the advance of Red infantry from the east until ordered to withdraw and to protect the south flank of the regiment and establish liaison with the 1st Squadron on my left. . . . But they knew when they ordered that, that my troop—I Troop—could do it, and do it well.

"I issued instructions to my second-in-command to conduct the troop to SNOB KNOB. I then left immediately for SNOB KNOB on reconnaissance. I was accompanied by my platoon leaders and machine-gun commanders. You will notice that my reconnaissance was prompt. I always saw to that. I immediately recognized that there was not great time for a long and detailed reconnaissance. I then issued oral orders, upon completion of my personal reconnaissance, for the occupation of the position. I kept my subordinate commanders well under cover and I pointed out terrain features. I always did that.

"I (by this time the I's had it) I—I—I—drew on the map the dispositions I wanted of the three rifle platoons, the light-machine-gun platoon, the attached machine-gun units, and the led horses in the vicinity of SNOB KNOB, and I made arrangements to protect my south flank—"

But, gentle reader, reference these dispositions, were you Captain Ego Istick, the I in command of Troop I—

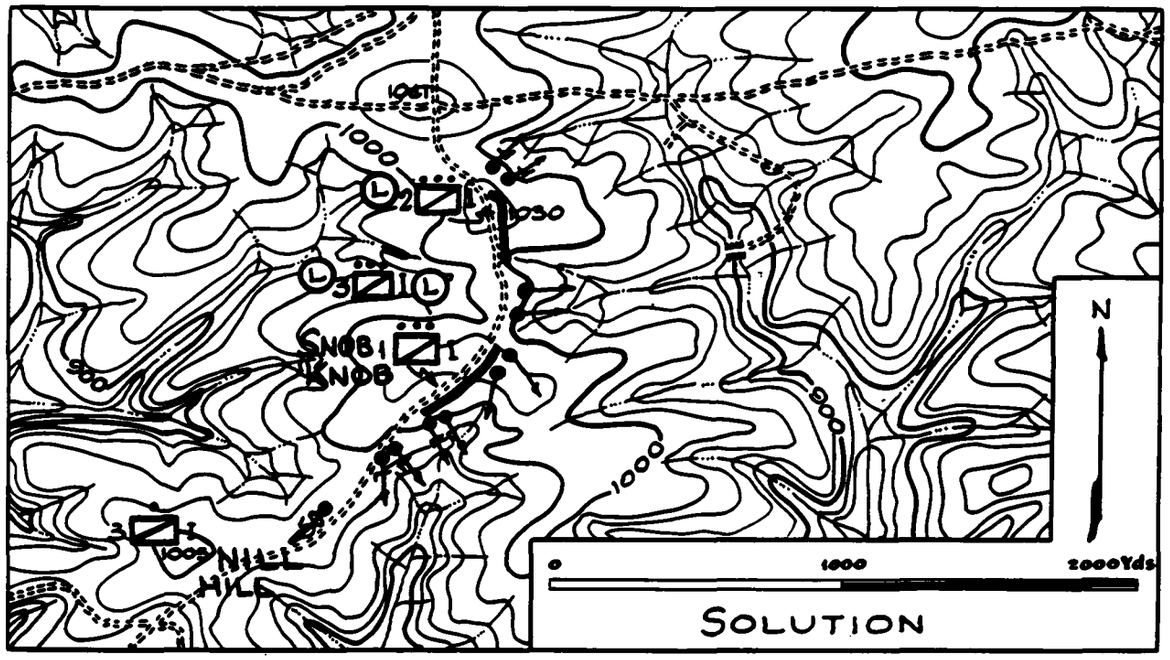
WHAT WOULD YOU DO?

(For solution see below.)

M-Day Cavalry

But then, cavalry simply cannot be improvised in a hurry, nor trained to efficiency by any save a lengthy process. And although Franco possessed a fair number of reasonably good native mounted troops, timidity invariably marked his employment of them; while the Reds, being an almost entirely extemporized force, suffered from an absence of anything like an adequate and properly trained body of cavalry throughout the entire campaign.

NOTE: This is an extract from the leading article of this issue of The CAVALRY JOURNAL. The entire article is commended to the attention of all cavalrymen.



What Would You Do?

A Solution

(See solution map.)

"I drew a sketch for the official record of the action—I always did that, and I made this one for my personal file," Captain Ego Istick explained. "You see I always considered everything. The positions I selected had good fields of fire at mid and long ranges with cover close at hand for the led animals. I held the four caliber .30's under troop control and I had them emplaced immediately on commanding ground where they could use long-range fire. I placed one platoon on SNOB KNOB and the others as shown. I attached light machine-guns to the front-line platoons. I had the caliber 50's sited to fire on the road leading southwest from SNOB KNOB. I had all the machine guns actually placed in position. I put a combat patrol of one squad of the 3d Platoon, which I held out as my reserve, on NILL HILL.

"That was all there was to it. I'd do it exactly the same if I had it to do over again.

"I could go on with what I did the rest of that day and days, weeks, and months to follow. Modesty forbids, but I have asked quite a number of people and I see no harm in saying that they agree with me that I won the war."

General Hawkins' Notes

The Training of Patrols

The most practical method for a troop commander to teach his squads the principles of patrolling is to divide the instruction into two parts or phases.

First, the squad leader should take his squad out onto varied terrain and practice it in the "drill" of the patrol. He must have his squad so drilled that he can control it under all circumstances. He puts the squad into the ordinary patrol formation. Column of twos with five to ten yards distance between twos and intervals of five or more yards, depending on the terrain, between the troopers of each pair of twos. The patrol leader and one trooper is in front of the patrol by a distance of twenty, fifty or more yards according to the nature of the ground, visibility, weather, darkness or daylight, and the situation in regard to the enemy and last but not least, the mission of the patrol. But for drill purposes, assume any distance that might be applicable to the terrain. The squad leader is never so far forward that he cannot see his patrol behind him. The second in command is in the rear pair of twos.

Having taken a patrol formation, the leader puts his squad through various exercises which he orders by means of signals supplemented by verbal commands when necessary. These exercises should be made up of movements which the squad might be called upon to make in the performance of patrol duty. They are movements which may have to be made so suddenly and so quickly that the squad leader would not have time to ride back and explain them to his men. The squad must, therefore, be drilled to execute such a movement at a signal or word of command. The men should understand these movements and what they are for. They thus become equipped with a bag of tricks out of which they may draw a play to meet each necessity. Some of the exercises should be as follows:

a. ***Pistol Attack, Follow Me.*** He leads the squad in this attack in any direction, forward, to the right, to the left, or to the rear. In the latter case, the second in command leads the attack. The order must be obeyed without question and with the utmost celerity.

b. ***Dash to the Rear.*** The second in command leads the retreat at speed, and the troopers separate widely to the right and left so as not to offer a good target to the pursuing fire of an enemy who may have been encountered suddenly and to the surprise of the patrol. The second in command rallies the patrol when he has got it into cover, and the leader himself, with the one trooper who always accompanies him, overtakes the patrol as best he can.

c. ***Take Cover, to the Right (Left) (Front) (or Rear).*** The men dash to cover in the indicated direction and halt when they are in it, keeping separated as they were in the formation of the patrol if this is possible.

d. ***Halt, to Fight on Foot, As Skirmishers in an Indicated Direction.*** Usually, this should mean that the troopers link in couples and leave their horses immobile. When a patrol halts to fight on foot the horses should not be sent away. All the men are needed on the firing line which moves a convenient distance away from the horses. For these reasons it should be understood that the horses are habitually, and unless other directions are given, linked in couples as the quickest method and left immobile.

e. (For crossing open spaces, and when considered necessary) ***Deploy at Ten (or more) Yards Intervals and Follow Me, at (indication gait).*** This procedure is wise when the open space is very wide (more than 100 yards) and there is doubt as to what is on the other side of the open space.

f. ***Signals for Marching Gaits, Leading, or Halts*** for rest, must be closely understood and not confused with emergency signals. Halts for rest are usually made in the same formation as that of the patrol when marching.

When these simple drill exercises have been practiced so that the leader, from his advanced position in front, can control instantly his patrol on all sorts of ground to meet any emergency, the patrol is ready for the *second phase* of its training. The Platoon Commander takes the patrol out with a given mission and certain prepared situations to present to the squad leader on varied ground.

The following situations can be simulated:

The Patrol is fired on by the enemy of unknown strength from a concealed position. The action of the squad leader now depends on what kind of patrol the squad is. In any event, the first thing the squad leader does is to signal *Take Cover*. Then he takes a look to observe what he can. If the patrol is merely a point of an advance guard, it must deploy widely or advance through the best cover and find out what is opposing them. If it is an independent reconnoitering patrol it would probably attempt to go around the enemy and examine the situation from the flank and rear and proceed on its mission. If it is a combat patrol, it remains in cover and keeps the enemy under observation until satisfied that no flank attack by any important hostile force is under way. It then must deploy and move forward to maintain its position as a combat patrol to guard its main body from flank attack. Or, it may have to fight in position while notifying the main body of the situation. In any case, the squad leader is able to do what is necessary because he has a squad that has been drilled to obey his orders promptly and properly.

Another situation may be an encounter with an armored car or tank and the only thing to do is to give way in deployed formation so as to seek rough ground and keep the enemy under observation and report his movements.

Another situation may be a sudden encounter with an enemy cavalry patrol which attacks and must be met by a pistol attack. Or, an ambush from a flank may require a pistol attack to the right or left.

Another situation is where the patrol runs unexpectedly into a very heavy fire and must dash to the rear scattering or deploying as it goes, and then rallying under the second in command.

Other situations can be devised by the Platoon Commander and presented to the patrol leader so as to require him to use one out of his "bag of tricks" to meet each of these situations.

In this way the Platoon Commander can train his separate squads, first in patrol drill and second in applying that drill to various situations.

The training of the squads for *combat patrol* duty is very important because it is a special and peculiar duty. It is one thing to put out a combat patrol to guard your flank and quite another thing to have that flank properly guarded. If the command is moving, the combat patrol must know how to keep itself in proper position and how to scout the country by observation from high points or, in thick woods or brush, by sending out a pair of troopers from time to time to make short excursions into the surrounding country and then return to join the patrol.

If the command is stationary, as in a defensive position, a combat patrol must be posted in a convenient position under cover. Then it must send out pairs of troopers to make short scouts to the front, to the rear, and out farther to the flank, and return to the patrol. Many a combat patrol has permitted the enemy to move around to the rear unobserved, or to come in close to the flank before reporting the movement to the commander who sent the patrol out. Constant vigilance and constant activity is required.

It may seem unnecessary to "drill" the squad as a patrol as explained. But when it is considered that the leader must be stationed well out in front of his patrol and, therefore, must be able to signal his orders back and not have to ride all the way back before he can get his orders executed, it becomes apparent that the leader and his squad must talk the same language and that the squad must be able to execute speedily the will of the leader upon his signal or command. This requires training and an understanding by the men in the squad as to the different plays that they may be required to execute. Otherwise, there will be loss of time and confusion in trying to understand what the squad leader wants.

The "drill" is essential and should be taught before any patrol missions are given to the squad either in practice or in maneuvers.

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What's New in Marching?

(Continued from page 325)

harder to hit by hostile marching columns. But the very fact that it is a convoy attracts hostile air observation and makes it a worthy target for attack aviation. If, on the other hand, we take to heart the lesson our civilian operators teach us and operate our trucks singly over routes protected from ground attack by the presence of friendly troops, we do not advertise where we are going to the hostile observation, and the target we present to him in the event he does discover the movement will not warrant bringing the attack aviation into the picture.

During the recent spring march at the school the trains were marched differently on the night march previously referred to when conditions required secrecy. Instead of being "grouped," trucks were operated singly, with lights, over three routes—all protected by the presence of troops on parallel roads toward the enemy. S-4 dispatched individual trucks from the old bivouac at irregular intervals of not less than three minutes (one mile time-distance) between trucks. Each truck driver was given his route and directed to make no effort to gain on the truck in front of him. Traffic control posts were established at points where routes diverged. Each driver had a map, and a truck driver today who is provided with a map and a working speedometer can find his route. The hostile aviation in the problem had a mission to observe for and report all convoys, but none were discovered or reported. Asked if the observers had noted the movement of the vehicles over that part of the route used by all trucks, they reported that the movement had not been observed. Certain designated trucks, about one-third proceeded to the bivouac and entered the bivouac proper without lights. The troop column arrived later and the whole command was so well concealed that the location of the bivouac had not been discovered one hour after daylight when problem conditions ceased. Had these trucks moved as a convoy with lights, there would have been no chance of avoiding discovery, and if without lights the aviation flares would have enabled observers to pick them up on the road, with the same result.

It would appear, then, that in answer to the editor's question the only thing in marching that might possibly be considered as "new" would be this method of marching the trains. And is it new or simply an adaptation of our civilian friends' method? I think it is the latter, and prefer to stick to the old saying, "There is nothing new under the sun."

NOTES FROM THE CAVALRY BOARD

"The Cavalry Board invites any individual, whether or not a cavalryman, to submit for consideration constructive suggestions or ideas relating to new equipment, improvement of standard equipment, or to any problem or project under study by the Board. The Board will also welcome suggestions as to new problems that may properly be considered. Communications should be addressed to the Director, Cavalry Board, Fort Riley, Kansas."

60-mm. Mortar: One 60-mm. Mortar with a limited amount of ammunition of French manufacture was received by the Cavalry Board during June, for further test of its suitability for use by the cavalry as a supporting weapon, particularly for antimachine gun fire. Another mortar with pack accessories is expected to be sent here in the near future.

Browning automatic rifle, M1918A2: Tests of the Browning Automatic Rifle with bipod and butt rest as modified by the Infantry are nearing completion. This weapon is being considered as a possible replacement for the present light machine gun.

81-mm. Mortar: Tests of pack accessories for the 81-mm. mortar have been completed. The hangers which were fabricated by local ordnance personnel under direction of the Cavalry Board are designed to carry the tube, bipod, and base plate comprise the total load for one animal. The weight of the load including the cavalry pack saddle and hangers is approximately 206 pounds. Tests included packing a mortar during The Cavalry School spring march and it was found that the load was well balanced and stable. It rides well at all cavalry gaits. Preliminary investigation of a suitable pack for ammunition for this weapon is under way at this time.

Containers for machine-gun ammunition and water: A number of new type metal ammunition chests for machine-gun ammunition together with carrying cases and two water chests of new design have been received by the Cavalry Board for test to determine the desirability of replacing the standard wooden chests and present standard water chest. The new chests are much lighter in weight than the present standard.

Stirrups for McClelland Saddles: One of the horse cavalry regiments has requested authority from the Chief of Cavalry to modify the stirrup of the McClellan saddle by removing the hood and cutting down the wooden tread until it is about three inches in width. The principal arguments in favor of this modification are:

It reduces the weight of the saddle.

It provides a more comfortable tread in that a rider can shove his foot into the stirrup until the proper position is attained which is impossible, particularly in the case of a man with a large foot, with the hooded stirrups.

Arguments against the modification are:

The hood protects the foot of the rider from rain, cold, and possible injury going through brushy country.

The hood protects the foot of the soldier from possible injury due to jostling in ranks.

Investigation conducted thus far by the Cavalry Board seems to indicate that the majority of the experienced horsemen in the cavalry are in favor of the modification.

Sponges, cellulose: The Cavalry Board has recently conducted tests of a synthetic cellulose sponge, manufactured by the DuPont Company. This sponge comes in several convenient sizes and the tests were for the purpose of determining whether they might be used to replace the natural sponge for cleaning harness and saddlery in the Cavalry. Tests conducted thus far seem to indicate that they will be very satisfactory for this purpose.

Lexol leather conditioner: A compound called Lexol leather conditioner was recently tested to determine whether it could be substituted for issue saddle soap and neatsfoot oil in cleaning and conditioning leather equipment. This compound appears to be unsuitable as a cleaner but does seem to be very satisfactory for the purpose of adding the correct amount of oil and restoring "life" and pliability to leather.

Light reconnaissance vehicle: Mobility tests of the light reconnaissance car previously described in this column have been continuing as warranted by road and weather conditions. The most recent test was a comparison of the operation of the light car and the M-3 scout car in deep mud, wet slippery clay road conditions, and in deep sand. These experiments proved that the light car is superior in mobility to the M-3 scout car in the following respects:

a. Ability to negotiate wet, clay surfaced roads.

b. Ability to negotiate deep mud. Due to its light weight this car moves under its own power or can be pushed out by hand, while the heavy scout car sinks in to the axles and stops.

c. Ability to move through heavy sand.

Tests previously conducted also demonstrated that the light car has superior hill climbing ability. It also accelerates much faster than does the heavy scout car and, in general, can be said to be superior to the scout car in all around mobility.

Some observers have suggested that it might be advisable to armor some of the vital parts of this light car and to put a shield of armor in front of the driver. In short this idea represents a compromise between the experimental car and the standard scout car. It is impossible, however, to add any more weight to this car as to do so would necessitate a heavier chassis and then in turn a more powerful motor and in a short time we would find ourselves back where we started from with a standard M-3 scout car.

Book Reviews

LORD KITCHENER, by Lt. Col. H. de Watteville. Blackie & Son, Ltd. London and Glasgow. 192 pp. Price, $1.50.

The author, with bare mention of Lord Kitchener's family background and early youth, plunges at once into the military career of this noted soldier.

In reflecting on the early career of Kitchener one is impressed with one fact: the knowledge of languages is a great professional asset to the individual military man. There is no doubt that considering two men of equal attainments and capacities the one who is master of two or three languages will encounter opportunity much more frequently than the other. After all, opportunity is essential in the carving of a military career.

As Kitchener swung from one activity to another, frequently on short notice, it moves one to ponder on the old adage that he travels farther and faster who travels alone.

It is interesting to note in this volume that when assuming important duties of an administrative or organizational character, Lord Kitchener's primary objective was the development of discipline.

When taking charge of military affairs in India, he enumerated four principles on army reform which could be studied with profit by others under current conditions:

"1. That the main function of the army was to defend the North-West Frontier against an aggressive enemy.

"2. That the army in peace should be organized, distributed and trained in units and formations similar to those in which it would take the field in war.

"3. That the maintenance of Internal Security was a means to an end; namely to set free the field army to carry out its functions.

"4. That all fighting units, in their several spheres, should be equally capable of carrying out all the rôles of an army in the field, and that all should be given an equal chance in experience and training to bear these rôles."

From correspondence written several years prior to the World War, Lord Kitchener demonstrated a reluctance to assume duties in the War Office even as Chief of the General Staff, due to his belief that at that time he was personally unqualified for such affairs. His contention was that although he could exercise leadership and organize affairs in the direct capacity of actual command, in the War Office he felt that he would be compelled to compromise on many important questions through political expediency.

When war broke, Lord Kitchener was taken into the Cabinet as Secretary of State for War.

He was practically alone in his insistent views that the war would last for years rather than culminate in a few months. His great talent for organization was directed towards the transcendent expansion of the army in the face of great professional and political opposition on the ground that such elements were purposeless without available supplies and competent leadership.

The first two years of the war found French public opinion solidly confident behind the policies of Kitchener. It was on the personal invitation of the Czar of Russia to visit that country with the view of making recommendations regarding the reorganization of the Russian Army that Kitchener set off on the ill-fated voyage on HMS *Hampshire*. A hidden submarine mine in uncharted waters west of the Orkney and Shetland Islands brought this illustrious military man to an unmarked grave.

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THE ARMY OFFICER'S ANNUAL REFERENCE BOOK AND 1939-40 CALENDAR. First Edition. By Captain Peter Rodvenko. Published by the author. Price, $1.00.

This reference book is essentially intended for Reserve officers, ROTC and CMTC students, while engaged in active duty. The calendar, which includes pages respectively for each month from June, 1939 through May, 1940, merely provides convenient means of recording scheduled meetings, progress in extension courses, etc.

The book is full of useful data such as the personnel of the War Department, Congressional Committees, references to Tables of Organization, and other items of equal interest. It is suitably illustrated, covering insignia of rank, uniforms, saber manual, field fortifications, and conventional signs. It contains useful references pertinent to army regulations on reserve affairs, customs of the service, inside dope on army extension school work, execution of commands, a check list for equipment to be taken to camp, data on mileage, etc.

So long as the author confines himself to factual data and the inclusion of reference data the book serves a very useful purpose. In going into more intangible subjects, many of which are supported by the author's opinion, the volume has been weakened rather than strengthened. There is a portion under the title of "Officer and Gentleman" which is about as bad as anything written on this subject which this reviewer has encountered. Comments on customs and courtesies of the service, going on active duty, and on giving commands, create a similar impression. It is believed that the author would do well in future editions to omit such portions or cover them in a fashion more in accord with the atmosphere of actuality insofar as contact with the regular army is concerned. Should data of this character be included the author might do well in adopting the style and content of Moss's accepted "Officers Manual."

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JAPAN: GOVERNMENT—POLITICS. By Robert Karl Reischauer. New York: Thomas Nelson and Sons. 1939. 221 pages; map; charts; glossary. $2.00.

It takes years of study to understand the Japanese language. It would probably take just as long to thoroughly

comprehend Japanese government and politics, and the ideology and traditions behind them. Yet the student of world affairs who seeks only a general idea of Japanese institutions and the successive oligarchies that have been responsible for the evolution of these institutions, may learn all he desires from Mr. Reischauer's compact little book.

Unfortunately its very compactness causes certain parts of the book to seem "too statistical."

Having read from cover to cover and become slightly acquainted with *shoguns, daimyos, samurai, genro,* and other unique individuals and ruling classes that have entered so largely into the growth of the Japanese state, one feels that a re-reading is necessary to absorb more of the facts packed into this posthumous study.

The author was born in Japan and resided there for some twenty years. At the time of his death during an aerial bombardment of Shanghai in 1937, Mr. Reischauer was a brilliant young political scientist at Princeton University. His widow, using notes already prepared, completed his manuscript. She is to be complimented for her contribution to this valuable little work. W. G. J.

THE RISE OF AMERICAN NAVAL POWER. By Harold and Margaret Sprout. Princeton University Press, 1939. 398 pages; illustrated; documented; analytical index; $3.75.

This book is not a technical study. It can be read as easily by a landlubber as by a seafarer. It is not a chronology of naval exploits, history of naval technology, or description of naval organization; these topics are mentioned only incidentally and briefly. Essentially this excellent work might be called an exposition, in historical form, of the conditions, institutions, events, ideas, motives, personalities, and politics which have shaped the development of American naval policy, strategy, and evolution from 1776 to 1918. Studies of this nature frequently are dull, uninteresting collections of facts and figures. This one is different. It is fascinating.

Specifically, the authors go into: (1) the problem of naval defense as envisaged by different persons, groups, and sections at each stage in the expansion of the United States; (2) the continuing historic debate over the nature and scope of the Navy's functions in peace as well as in war; (3) the arguments of successive generations as to the size and kind of navy required to perform these functions; (4) the evolution of ideas as to the principles of naval strategy and warfare; (5) the strategic and political implications of advances in naval architecture and technology; (6) the similar implications of changing ideas as to the organization, disposition, and management of the forces afloat; (7) the like implications of the problems of Navy-Department and navy-yard administration; (8) the process of formulating and enacting naval legislation within our governmental system; (9) the respective rôles of organized groups and of unorganized public opinion; and (10) the international repercussions and consequences of the rise of American naval power.

The Rise of American Naval Power is a valuable contribution to American history that can be enjoyed by everyone. This book is recommended as something that should be read, and for those interested in a military-naval library, something that should be owned. W. G. J.

UNION NOW. By Clarence K. Streit. New York: Harper & Brothers, 1939. $3.00.

This book has, in two short months, created international attention. And small wonder, for it proposes nothing less than a federal union of the democracies of the North Atlantic *now* as a prelude to an eventual world government. The purposes of this union are to prevent war by opposing to the Fascintern and the Comintern an International of Democracy, 280,000,000 strong and possessing 60% to 95% of practically every essential war material as well as overpowering military and naval forces; to end the depression through the economic advantages offered by a union free-trade area, single currency, and single communications systems; to save our liberties by constructing a superstate too powerful to be attacked and dedicated to the proposition that the state is made for man, not man for the state. This idea is developed by Mr. Streit as a sound and practical project with no obstacle to its consummation except that of overcoming national prejudices and selfishness for the general good. That this sort of obstacle has been overcome he proves by the example of the final acceptance of the American constitution by the thirteen original American colonies, and says that trends of American opinion as shown in the recent Gallup and *Fortune* polls must be studied closely before saying too hastily that it could not be overcome again. The interest of this book to Army officers, whether students of the international situation or not, lies in the author's suggestion that all defense forces be combined under a single head and general staff that would be subject to the orders of the Union government. Mr. Streit's proposal offers a basis for peace and the orderly development of civilization as we know it. Visionary? Yes; but there have been many visions in the history of man.

D. S. B.

FROM VERSAILLES TO MUNICH, 1918-1938. By Bernadotte E. Schmitt. (Public Policy Pamphlet No. 28). Chicago: University of Chicago Press, 1938. 57 pages. $.50.

For the reader who has seen the headlines jump during the past few years from one part of Europe to another, and therefore needs a sensible, accurate, and not too long review to set him straight, this pamphlet will serve admirably. Doctor Schmitt, its author, Professor of Modern History in the University of Chicago, wrote also *The Coming of the War, 1914*, which some fifteen years ago went far to set the record straight on the origins of the World War and still shares honors here and abroad with Fay's *Origins of the World War* as a standard work on the subject. The present pamphlet covers the two decades since Versailles not only concisely but clearly and readably.

L. M.

ORGANIZATION ACTIVITIES

1st Cavalry—Fort Knox, Ky.

COLONEL HENRY W. BAIRD, *Commanding*

Many problems face the First Cavalry in its preparation for the coming First Army Maneuvers. Some have been solved, others are in the process of solution. R.S.O. has completed his stock of over 300 chocks and blocks sawed out of green oak timber and weighing about 20 pounds each. The blocks are designed to restrain the more coltishly inclined combat vehicles from leaping off the flat cars en route to Plattsburg. Our overhauled Diesel engines are coming home from Texas and remain to be installed. All echelons of maintenance are working hard to put every vehicle in shape for the gruelling days ahead of us.

The regiment is unusually short of officers. Lieutenant Colonel Davis, Majors Andrus and Higgins, Captains Tompkins and Ballantyne, and Lieutenant Dodge have been transferred. The Post Staff has taken Lieutenant Colonel Imboden and Major Boon. Of the officers under orders to join, Captain Greiner and Lieutenant Teller have arrived. Lieutenant Colonel Wales and Major Harmon are expected prior to maneuvers.

The First Cavalry Band is one of the busiest organizations at Fort Knox. Being the only band at this station, its services are constantly in demand. The recent addition of a bell lyre to its instruments has proven a popular innovation.

Our armored car element, Troop "A," participated in a celebration by the V.E.W. in Owensboro, Kentucky, on June 9th and was well acclaimed. All organizations took an active part in the program for General Pedro Aurelio de Goes Monteiro, Chief of Staff of the Brazilian Army.

In addition to a keen professional interest in the coming maneuvers, all ranks are anticipating the cooling breezes from Lake Champlain as a great relief from the torrid weather we have been experiencing lately in Kentucky.

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2d Cavalry—Fort Riley, Kansas

COLONEL H. D. CHAMBERLIN, *Commanding*

On April 12th the regiment held a mounted review for Colonel Arthur Holderness, who left the regiment after having commanded it for the past two years.

Under command of Lieutenant Colonel T. K. Brown, the regiment participated in the Annual Spring March and Maneuvers of the Cavalry School, during the period May 5th to 13th. The march covered a distance of approximately 145 miles. There were three night marches the last one ending on the Fort Riley Reservation, in an attack at dawn. Ideal weather conditions and a fortunate combination of team work and leadership resulted in the march being a happy experience for the men and horses of the regiment.

On May 19th the Second Cavalry celebrated its 103d anniversary, having been organized as the Second Regiment of Dragoons May 23, 1836. The occasion was fittingly marked by a simple ceremony at the Second Cavalry Monument after which the regiment gathered near Camp Whitside for a rousing picnic.

The Second Cavalry Horseshow Team composed of Captains V. S. Shaw, A. A. Frierson and Lieutenant F. C. Bridgewater, competed in the Fort Leavenworth Horseshow, May 19, 20, and 21, 1939, with the following horses: *Yokel, Time Set, Tarzan, Eagle, Broadway Bill, Coin Collector, Dos Estrellas, Moro,* and *Blackie*.

In the Inter Unit Team Class competing against teams from Fort Bliss, Fort Clark, Fort Sill, Fort Leavenworth, and the Cavalry Equestrian Team, and the Field Artillery Equestrian Team, the 2d Cavalry finished third.

Moro, ridden by Captain Frierson, won the Equestrian Team Fund Sweepstake, and the Open Jumping for Classification "B," "C," and "D" horses. *Moro* was also a member of the Fort Riley Team in the Interpost Team Championship which won this class.

Coin Collector, ridden by Lieutenant Bridgewater, was second in the Open Jumping for Classification "A" horses in which class eighty-one horses were entered.

The last night of the Cavalry School Horseshow was notable in that the Second Cavalry contributed twice in the highlights of the show. The Second Dragoon Ride was a picture of rhythmic color. The horses and men of Troop A, who under the command of Captain John T. Ward, put on the Musical Ride, were groomed to a glistening luster. The cadenced horses and the handsome dragoons drew much applause and admiration. The last class in the show was "Barrien springen," *Dos Estrellas,* ridden by her owner Captain A. A. Frierson, furnished stimulating competition for the Equestrian Team's famous jumper *Dakota. Dos Estrellas* bowed to *Dakota* when the barriers reached the height of five feet six inches.

The following officers have been newly assigned to the regiment: Colonel Harry D. Chamberlin, Majors Alfred L. Baylies, Wilkie C. Burt, Edward M. Fickett, Harry Knight, First Lieutenants Joseph R. Ranck, James C. Blanning, Carl D. Womack, Richard A. Smith, Joseph A. Cleary.

The following officers have been relieved from assignment to the regiment: Majors Guy D. Thompson, Perry E. Taylor, Captains Virgial F. Shaw, John T. Ward, First Lieutenants Loren B. Hillsinger, James E. Glattly, F. Clay Bridgewater, Lawrence E. Schlanser, Albert A. Matyas.

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1st Squadron, 3d Cavalry—Fort Ethan Allen, Vt.

LIEUTENANT COLONEL THOMAS H. REES, JR., *Commanding*

There was a great deal of interest displayed during the winter in small bore rifle and pistol matches. First Sergeant Blazejevski, Troop A, won first place for the "old rifle and old pistol" shot, and Corporal Fay, Troop B, won first place for the "new" pistol shot in the 3d Cavalry Inter-Troop Small Bore Rifle and Pistol Matches held during January and February.

Troop A, under Captain Jadwin won first place in the N.R.A. Military Company Matches for the Pistol and won thirteenth place in the rifle competition. The team was composed of First Sergeant Blazejevski, Sergeant Wood, Corporal Hazel, Privates First Class Gormley and Pouliot, and was coached by Staff Sergeant Fardy.

In the Cavalry Inter-Regimental Rifle and Pistol Matches, Private First Class DeMello of Troop A won the Individual Rifle Championship and First Sergeant Blazejevski, also of Troop A won second place.

First Sergeant Blazejevski, Corporal Hazel and Private First Class DeMello, all of Troop A, have gone to participate in the National Matches to be held at Camp Perry, Ohio.

The Squadron Horseshow Team carried on its winning streak of last fall at the Montreal and Boston Horseshows by making an excellent record at the 1st Company, Governor's Horse Guard Show in Hartford, Conn., on May 4th, 5th, and 6th, taking one or more ribbons in every class entered. The Squadron horses won a total of twelve trophies and twenty-four ribbons.

High score performances were made by *High Time,* ridden by Lieutenant Colonel S. V. Constant, and *Black Beauty,* ridden by Lieutenant R. E. McCabe, each winning five ribbons. In the classes for enlisted men, the high scores were made by *Black Beauty,* ridden by Sergeant Wood, and *Blue Bell,* ridden by Private First Class Miscik, each winning two ribbons.

The Squadron marched to its summer camp near Underhill, Vermont, on June 5th where it was engaged in its own field training and the training of the 315th Cavalry.

On July 4th the Squadron held its annual Outdoor Horse Show at the outdoor horseshow ring. Lieutenant Colonel Rees was the winner of a trophy given the Squadron by the 17th Duke of York's Royal Canadian Hussars for annual competition by the officers of the Squadron, as well as the Colonel Hopkins trophy. The officers' scores on being totaled, showed Colonel Rees the winner of the officers' classes for the show; Lieutenant Colonel S. V. Constant finished second; and Captain T. C. Wenzlaff and Lieutenant T. B. Harrington finished third and fourth respectively. Music was furnished by the Seventh Field Artillery Band.

Event No. 1. Musical Chairs: 1st—Private Zeleski, Troop B. 2d—Private Smith, Troop A. 3d—LaBombard, Troop A. 4th—Derosiers, Troop B.

Event No. 2. ROTC Jumping: This was a jumping event for cadets from Norwich University and Massachusetts State College: 1st—Cadet Foster, Massachusetts State, on *Masterpiece.* 2d—Cadet Slater, Massachusetts State, on *Romeyn.* 3d—Cadet Smith, Norwich, on *Reid.* 4th—Cadet Tobey, Massachusetts State, on *Bush.*

Event No. 3. Machine Gun Contest: This event was a machine gun contest between two machine gun crews from each troop. With the guns on the packs, the gun crews raced from one end of the ring to the other, going over a jump on the way; dismounted, set up the gun on a firing line, fired five rounds of blank ammunition, repacked and raced back, jumping the hurdle on the way: 1st—Gun Crew Troop A—Pfefferkuch, Daniels, and Fortuna. 2nd—Gun Crew Troop B—Cummings, Dufresne, and Couturier.

Event No. 4. Privates Jumping: 1st—Private Mallows, Troop A, on *Lady.* 2d—Private Gormley, Troop A, on *Blue Boy.* 3d—Private Drowne, Troop B, on *Ploughboy.* 4th—Private Ross, J. N., Troop A, on *Lee.*

Event No. 5. Mile Race: 1st Private Sprano, Troop B. 2d—Private Kenty, Troop B. 3d—Private Potty, Troop A.

Event No. 6. N.C.O. Jumping: 1st—Corporal Regnier, Troop A, on *Banjo.* 2d—Corporal DiPalma, Troop B, on *Beatrice.* 3d—Sergeant Wood, Troop A, on *Come On.* 4th—Corporal Scott, Troop B, on *Chubby.*

Event No. 7. Tandem Ride: A squad from Troop B demonstrated a musical ride with pairs of horses in tandem. The men showed their complete control and mastery of their mounts.

Event No. 8. Officers' Chargers: 1st—Lieutenant Colonel Rees on *High Time.* 2d—Lieutenant Colonel Constant, on *Chien Lung.* 3d—Captain Wenzlaff, on *Millie Russell.* 4th—Lieutenant Harrington, on *Reckless.*

Event No. 9. Broom Polo: Won by Troop B over Troop A. Score 2 to 0.

Event No. 10. Officers' Jumping: 1st—Lieutenant Colonel Rees, on *High Time.* 2d—Lieutenant Colonel Constant, on *Razor Back.* 3d—Captain Wenzlaff, on *Millie Russell.* 4th—Lieutenant Harrington, on *Reckless.*

Event No. 11. Musical Ride: Troop A with lances flashing and pennants and plumes fluttering, rode through an intricate and beautiful series of maneuvers.

The Squadron is at present engaged in the training of CMTC students and on July 11th a detail from Troop B, commanded by Captain J. K. Mitchell will leave for Schuyler Falls, New York, where they will set up a camp

for the Squadron in preparation for the First Army Maneuver.

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7th Cavalry—Fort Bliss, Texas

COLONEL WILLIAM W. WEST, *Commanding*

During the past two months the regiment has been busy training the ROTC and the Organized Reserves as well as conducting its own target season.

On August 12th, the command less a small housekeeping detachment, moved to the Fort Bliss Target Range, New Mexico, to conduct known distance firing which we expect to complete on or before September 9th.

The Regimental Commander was highly pleased to receive a commendation from the Division Commander for the splendid appearance and excellent performance of the regiment during the review and demonstration held for General Monteiro, Chief of Staff of the Brazilian Army, who paid a visit to this post during the latter part of June. Commendable comments were received from several other sources which show that the regiment is ready for any mission.

Fifty-one (51) remounts have just recently been received from a shipment of six car lots to the Second Cavalry Brigade. These remounts are purchased animals and are uniformly of good quality and type, having more than an average amount of breeding. A training program covering the fall and winter seasons, is contemplated with the animals to be assigned to troops at its conclusion sometime early next spring. Several of the more outstanding remounts have been assigned to noncommissioned officers for individual training and a squad of twenty selected men, under the supervision of Captain Ladue, is working the remainder daily. Progress to date is most gratifying.

Due to changes in assigned personnel, several changes will be made in our polo team but we are looking forward to an active (and we hope) successful season.

The regiment returned on May 27th from its annual practice march in the Sacramento Mountains. After leaving the west Texas desert behind on the third day, the entire command enjoyed the cool breeze, green grass, and tall pine trees which are rarely encountered by members of the garrison.

Very shortly after our return from the Annual Practice March, representatives of the regiment participated in the Post Horseshow, with most satisfactory results. In Class I, for Novice Riders, Private Frye, Troop B, riding the veteran *Hank*, took the blue, and Corporal Wise, Troop E, on *Show Baby*, took third, jumping off at 4 feet three inches. First Sergeant Shrout, of the Machine Gun Troop took second in the Green Polo Class with *Gussie*, and Major Haydon took fourth with his chestnut mare, *Solitaire*. Incidentally, *Solitaire* had never seen a polo stick before, but behaved like a veteran of a dozen tournaments. Lieutenant Grubb placed second in the Fault-and-Out for lieutenants, and Private Taber, Troop B, took second in a large field in Horsemanship for privates.

Captain Finnegan and a squad of five (5) enlisted men left June 2d to join the Cavalry Rifle and Pistol Team for the National Matches at Camp Perry.

The entire regiment was grieved to hear of the death of Lieutenant William M. Lewis at Tucson, Arizona, on July 3, 1939. Lieutenant Lewis had just finished a year of active training with the regiment. He was one of the most popular and outstanding Thomason Act officers that had ever been with the regiment.

The past two months has seen many changes in the officer personnel of the regiment. We have lost the following: Lieutenant Colonel Wagner, Major Williamson Captains Knudsen, Bixel, Pegg, and DePew, First Lieutenants Growdon, Murdoch, Fiore, Boyle, and Heckemeyer; and gained Lieutenant Colonel "Terry" Allen and Old "Garry," who joins us from the Cavalry School. Captain Mudgett has joined from Maxwell Field, Ala.

The regiment was glad to welcome the first Thomason Act officer to gain a regular commission in the Cavalry from Fort Bliss. Lieutenant Joe Ahee who was with us last year, reported for duty again on July 1st, as a brand new permanent second lieutenant.

Due to the stress of training and getting ready for General Monteiro's visit, celebration of Regimental Day was postponed from June 25th to July 29th. Telegrams from General Herr and other friends of the regiment was one of the highlights of the day.

* * *

8th Cavalry—Fort Bliss, Texas

COLONEL INNIS P. SWIFT, *Commanding*

On May 23d the 2d Squadron was turned out to escort Major General Brees, Corps Area Commander, Attorney General Murphy, and J. Edgar Hoover, FBI, who were touring the country by plane, inspecting various army posts.

A dismounted retreat parade was held on May 26th honoring Major Carl B. Byrd, who departed on leave of absence June 7th, to await retirement from active service. Major Byrd will make his home in Montana.

At 7:15 AM on the morning of May 29th, the Alert Alarm was sounded, and the entire garrison was turned out under the provisions of Alert Plan for immediate field service. The regiment performed all the duties incident to departure, and was formed on the review field, ready to move in one and one-half hours after the sounding of the alarm.

On May 30th, troops of the regiment turned out four firing squads with buglers, who attended memorial services at various cemeteries in El Paso. Troop "E" furnished a platoon and with the standards of all units of the post, attended services at the Post Cemetery.

The regiment left the post for the Fort Bliss Target Range in Dona Ana County, New Mexico, on June 1st, for the Regular Target Practice Season, returning to the post on June 20th. Following are the results of Regular Practice Season, with the rifle:

TROOPS	"A"	"B"	"E"	"F"	Hq. & Serv.	TOTALS
Experts	6	9	11	16	9	51
SS	26	23	8	23	12	92
MM	16	24	27	9	18	94
Unqual.	0	5	3	0	6	14
Total Firing	48	61	49	48	45	251
Pct. Qual.	100.	91.8	93.9	100.	86.7	94.4
Average Score	209.7	204.2	203.8	215.0	202.6	206.9

High score was 235, made by Private First Class Frank T. Bean, Troop "E." Score of 232 was made by Private R. Moore, Troop "A"; Corporal H. G. Newpher, Jr., Troop "B"; Corporal S. S. Osowski, Troop "E," and Private J. E. Noble, Troop "F."

This is an improvement of 3.1 in the percentage qualified over the previous year.

In firing of the heavy machine gun, the Machine Gun Troop obtained the following results:

Expert Gunners, 14; First Class Gunners, 18; Second Class Gunners, 5; Unqualified, 3; Total Firing, 40; Percentage Qualified, 92.5; Average Score, 177.7.

Light machine gun platoons did not have sufficient time to complete the Field Firing Course, and will return to the Range on July 5-8 inclusive to complete their firing.

During the week June 5-10, the following Thomason Act Reserve officers who had been on duty with the regiment since July 5, 1938, departed on terminal leave of absence: Second Lieutenant Bert M. Ruud, Irwin, Idaho; Second Lieutenant Lawrence M. Crow, Waco, Texas; Second Lieutenant William A. Thompson, Dallas, Texas; Second Lieutenant Charles F. Dibrell, San Antonio, Texas, and Second Lieutenant Walter H. Boyd, Jr., Long Beach, California.

The regiment announces with great regret the departure of the following officers to new stations, as indicated, on termination of leave of absence:

Major Horace W. Forster, having served with the regiment since October 16, 1936, detailed to duty with the ROTC at Mattoon, Illinois.

Major William B. Bradford, having served with the regiment since January 6, 1937, detailed to Staff and Faculty, The Cavalry School, Fort Riley, Kansas.

First Lieutenant William V. Martz, having served with the regiment since September 30, 1935, detailed to Pentathlon Try-outs, West Point, New York.

Second Lieutenant John C. F. Tillson, III, having served with the regiment since September 14, 1938, detailed to Pentathlon Try-outs, West Point, New York.

The regiment also regrets to announce that Captain William J. Reardon was relieved from command of Troop "A" and assigned to Headquarters Troop, 1st Cavalry Division, on June 30th. Captain Reardon has been with the regiment since August 28, 1937, this being his second tour of duty with the 8th Cavalry.

Captain Charles G. Meehan is assigned to the regiment as of July 1, having been relieved from command of Headquarters Troop, 1st Cavalry Division, which he has commanded for the past two years. Captain Meehan takes over command of Troop "A."

On June 12th Lieutenants Bruce Palmer, Jr., Roy W. Cole, Jr., and Robert E. O'Brien, Jr. were promoted to the grade of First Lieutenant.

The Chief of Staff, Brazilian Army, accompanied by Major General Brees, Corps Area Commander visited the post on June 26th. On the occasion the entire division passed in review. After the review the 2d Squadron gave a demonstration of dismounted attack, followed by hasty action on the part of the Provisional Machine Gun Squadron, composed of the machine gun troops of the 7th and 8th Cavalry.

A reception was held at the Officers' Mess, after which the 1st Squadron, Captain William J. Reardon commanding, with massed buglers of the 7th and 8th Cavalry and the 82d Field Artillery formed a Guard of Honor at the Officers' Mess, and from there escorted the Brazilian Chief of Staff and his party to Pershing Gate on his departure from the post.

After ten years of faithful service, and continuous effort, *Fritz* (German shepherd) has been appointed to the grade of Regimental Sergeant Major. *Sergeant Major Fritz* has been a member of Headquarters and Service Troop for the past ten years, during which time he has never missed a formation of his own accord. As he is not permitted to attend reviews, it is necessary to put him on leash.

During the time he is on leash he goes into deep mourning. It is creditable to note that *Sergeant Major Fritz* has never taken a furlough, or been on sick report during his service.

Sergeant Major Fritz has made all practice marches and maneuvers, always hiking along with the head of the horse column. Upon becoming tired, he is placed in the command car, but with the first halt of the car, he is out with a bound, and again ready to fall in with the mounted element.

For the past few years *Sergeant Major Fritz* has been a regular attendant at First Sergeants' Call, and makes it his duty to check up on all the Regimental Headquarters offices daily, to see that all office personnel is on the job.

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11th Cavalry—Presidio of Monterey, California

COLONEL HOMER M. GRONINGER, *Commanding*

The Seventh Annual Presidio of Monterey Horse Show was held April 28, 29 and 30, 1939. All the classes were held on Soldier Field except the Working Hunter Classes which were shown over the Del Monte Hunter Course. Both are ideal for the purpose and these splendid locations helped materially in making the show a success.

A total of 31 classes were held. Hunters, jumpers, dressage, chargers, troopers mounts, artillery, polo, pack and road hacks, all had a chance to prove their worth.

Many civilian horses competed. Some of the finest horses in California and Nevada were entered and competition was keen from start to finish.

Three exhibitions were given: a musical ride and a

monkey drill exhibition by a selected group from the 2nd Squadron, and an acrobatic act by Corporal Karr, Troop "E" and his dog Trooper.

Lieutenant Colonel William H. Dean, V. C. and Major Frank L. Carr, Q.M.C. were the judges and needless to say did an excellent job.

The weather was ideal and record crowds were in attendance each morning and afternoon.

The 11th Cavalry took the field for its annual practice march on May 12th. It camped in the vicinity of Watsonville, Salinas, San Juan Bautista and Soledad, arriving at Camp Ord on May 17th. The period May 18th to June 2nd was devoted to tactical exercises and the Corps Area Commander's tactical inspection. The tactical inspection of the 11th Cavalry and the 2nd Bn., 76th Field Artillery took the form of a wide envelopment, as part of a larger force, of an enemy Infantry Division's Flank. The success of this operation, against an outlined enemy, resulted in satisfactory training ratings for the two units involved.

The exhibition platoon of the 11th Cavalry, Commanded by Captain Alexander George, participated in the Rose Festival, late in May, in Portland, Oregon and in the California Rodeo at Salinas in July. It is scheduled to perform in Oakland, California, in August during the American Legion Convention and during the Monterey County Fair in September.

This exhibition team, composed of selected men of the 2nd Squadron, 11th Cavalry, has received universal praise for its presentation of a Musical Drill, Monkey Drill and Military Demonstration and has resulted in a flood of requests from many other towns on the West Coast, and even in Montana, for its appearance in local fairs, rodeos and celebrations.

The movement of this platoon to Portland was accomplished by rail, as will be done when it goes to Oakland. The movement to Salinas was effected by marching (20 miles).

The regiment has been very busy with Summer Camps since June 3rd when 150 Reserve Officers reported at Camp Ord for 2 weeks training. 340 ROTC Students arrived June 15th for their Annual Training. The CMTC opened on July 1st with 1,200 trainees and 1,200 Reserve Officers are expected at Camp Ord on August 12th for the main Reserve Officers Camp. In addition to the above Summer Training Camp duties, a number of officers of the regiment have been detailed to participate in the Fourth Army CPX to be held in San Francisco, in August.

The U.S.S. ***Philadelphia***, flagship of Admiral Forde A. Todd, Commander of Cruiser Division Eight, visited Monterey from July 1st to 5th. Troops of the 11th Cavalry participated, with detachments of sailors and marines and patriotic and civilian organizations in the Fourth of July parade through the streets of historic Monterey. The parade was reviewed by Admiral Todd, Captain Jules James, U.S.N., in Command of the Cruiser *Philadelphia*, Colonel Groninger and the three local mayors.

During the stay of the *Philadelphia* in port over 100 sailors were taken on a horseback ride by enlisted men of the post and the crew was invited to attend two enlisted men's dances at the Presidio Recreation Center. The 11th Cavalry Baseball Team defeated the Navy Team in an interesting game at the Monterey Ball Park. Most friendly relations existed between the two brother services during the entire visit of the Navy; each interested in learning of the life and duties of the other.

The members of the Officers Club entertained the officers of the U.S.S. *Philadelphia* and their wives on July 3rd with a horseback ride and barbecue lunch in De Monte Forest and were in turn received aboard the cruiser on July 4th for a tea dance, which culminated a very busy and extended week-end.

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12th Cavalry (Less Second Squadron), Fort Brown, Texas

COLONEL ARTHUR E. WILBOURN, *Commanding*

Since the last publication of Fort Brown activities in THE CAVALRY JOURNAL, there have been a number of changes in the personnel of the post. Colonel Donald A. Robinson has been relieved as Regimental Commander and assigned to Fort Bliss as Chief of Staff of 1st Cavalry Division. Colonel Arthur E. Wilbourn has arrived from duty as Chief of Staff, Cavalry District, San Antonio, Texas, to take command of the regiment.

Lieutenant Colonel Wilson T. Bals has been detailed on General Staff duty, 7th Corps Area, and departed May 11, 1939; Major Otto R. Stillinger to Detroit for duty with the National Guard; Captain James H. Walker was ordered to Washington to the War Department General Staff; First Lieutenant Ewing C. Johnson to Camp Perry for the National Rifle Matches then detailed in the Signal Corps with station at Fort Monmouth for duty as student; Major Lois C. Dill will be leaving the last of July for the Quartermaster School.

The following officers have been assigned to Fort Brown but have not yet arrived: Lieutenant Colonel Eustis L. Hubbard, Cavalry; Lieutenant Colonel Ralph I. Sasse, Cavalry; Captain Clarence K. Darling, Cavalry; Major Ernest C. Adkins, QMC.

During the third week of April, the troops of the post made a five-day practice march within a 30-mile radius of Fort Brown. Although, the hike seemed like a picnic to the veterans of the Toyahvale maneuvers and the Army maneuvers of last year, all of the men did get valuable training in preparation for the Cavalry Division Maneuvers to he held this fall.

During June, Troops "A" and "B" each had a week's vacation from military duties and thoroughly enjoyed the fishing and swimming at Del Mar Beach. Headquarters and Service Troop has just returned from their rest camp on Padre Island.

The target season is in full swing now. Machine Gun Troop fires daily on the range near the Post. Troops "A" and "B" are out at the Boca Chica target range engaged in rifle and light machine gun firing. Mounted and dismounted pistol firing was completed in May.

Troop "B" won the Post baseball championship from Headquarters and Service Troop early in June. Then a Post Team was organized which has won every game played with civilian teams from the valley towns. Fort Clark, Fort Ringgold, and Fort McIntosh have sent their baseball clubs to Fort Brown for visiting games which will be returned.

Along with the baseball, we have been holding a boxing tournament which has now reached the final stage. Every two weeks bouts are held to determine the winners of the various weights, both by troop teams and for individual championships. The caliber of the fighters is indeed high now that the preliminaries are finished, and good sized crowds cheer the men, win or lose.

On June 30, Master Sergeant Charles O. Doepel, Headquarters and Service Troop retired after completing 30 years' service.

13th Cavalry—Fort Knox, Kentucky

COLONEL CHARLES L. SCOTT, *Commanding*

The regiment wishes to congratulate Lieutenant Markle and the 13th Cavalry Rifle and Pistol Team for winning first place with the pistol and second place with the rifle in the 1939 Cavalry Rifle and Pistol Matches. The regiment is proud of this performance.

The annual tactical inspection by the Corps Area Commander was held on May 25th and 26th. The inspection consisted of a series of tactical exercises involving Infantry and Mechanized Cavalry, with supporting Artillery. The exercise between the 10th Infantry and the 13th Cavalry was particularly instructive and demonstrated methods of attacking Infantry marching columns and dispositions of Infantry and Mechanization weapons to protect the marching column.

All troops of the regiment completed the target season

13th CAVALRY RIFLE AND PISTOL TEAM

Left to right, top row: Private First Class Tom Bobannon, Troop C, 13th Cavalry. Private First Class Woodrow W. Cunningham, Headquarters Troop, 13th Cavalry. Private First Class Ezra L. Wilson, Troop A, 13th Cavalry. Private First Class Harmon W. Tusten, Troop A, 13th Cavalry. Private First Class Stanley Collins, Troop E, 13th Cavalry. Corporal Burley C. Clark, Troop C, 13th Cavalry.

Lower row: Corporal F. Green, Troop B, 13th Cavalry. Sergeant William G. Betts, Troop B, 13th Cavalry. First Lieutenant Norman K. Markle, 13th Cavalry. Corporal Harvey P. Watson, Troop A, 13th Cavalry. Sergeant Albert F. Stank, Troop E, 13th Cavalry.

during the month of June. The new qualification machine gun course for mechanized Cavalry was fired for the first time and much interesting data gathered for use in possible subsequent modification of the course.

On the night of June 22-23, the regiment enjoyed an interesting maneuver against the 107th Cavalry, Ohio National Guard. The horse and mechanized soldiers had a mutual respect for each other and the training resulting from this exercise was extremely beneficial to both sides.

The visit of the Brazilian Chief of Staff, Major General Monteiro, was an occasion for a mounted review in which the regiment participated. This was followed by a tactical exercise in which the 13th Cavalry fired all its weapons, 50 caliber, 30 caliber, Thompson Sub-machine guns, and mortars—all using live ammunition.

The regiment welcomes Lieutenant Colonel A. D. Surles, Captain R. L. Land, Lieutenant D. L. Hollingsworth, and regrets the departure of Captain John H. Claybrook, Jr.

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26th Cavalry—Fort Stotsenburg, P. I.

COLONEL ROBERT BLAINE, *Commanding*

In May the regiment completed annual target practice with the following results:

Rifle	98.64%
Pistol Mounted	99.62%
Pistol Dismounted	96.89%
MG (Heavy)	90.00%
MG (LMG)	99.15%

The highest score with the rifle, 244, was made by Private First Class Quintin deOcampo, Troop "A." Private Roque Alejo, Troop "B," made 228 for the highest score in the regiment for men firing course "A" for the first year. The first squadron qualified 100% with the rifle and the second squadron had one man who failed to qualify.

The antiaircraft range in Second Crater and the light machine gun range in Pistol Gulch are new installations at Fort Stotsenburg. We are very fortunate in having these new and up-to-date training facilities.

Early in May, Captain Clyde A. Burcham with Machine Gun Troop and the Pack Train of Headquarters Troop completed a new pack trail from Camp Sanchez via Santa Fe, Maguisguis—Botolan—O'Donnell, returning to Stotsenburg via Camp 4 and the Spanish Cut Trail. They also completed another trail from Fort Stotsenburg via Artillery Crossing—Storm King—3d River to Camp 5. This new trail shortens the marching time from Stotsenburg to Camp 5 by more than one hour.

The Manila Polo Club held their annual Horse Show on May 20th in Manila. A large number of entries from the regiment participated in the show. Captain Disney, Lieutenant Lichirie, Miss Sally Wilson, and Captain Forde garnered more than their share of honors. To Captain Disney went the honor and trophy for the best horseman participating in the show.

The 26th Cavalry has completed a very enjoyable polo season, although scores were not always favorable. The teams, senior and junior, are now composed mostly of green (but enthusiastic) players, since the departure of Captains Barnes and Ridge. The roster now reads: Lieutenant H. H. Howze (Team Captain), Captain Paul Disney, Lieutenants Haines, Alger, Lichirie, Rhoades Bartlett, Arnette, and Barker. The post was host to the Sports' Week tournaments of eight competing teams the senior division (all about ten goals handicap) furnishing top-flight matches. The Los Tamaraos Club White team won. Visiting players of note: Lewis Brown, Peter Perkins, Bill Andrews, Angel, Juan and Manolo Elizalde all handicapped at three goals or better.

Other results:

Christmas Tournament (vs. 24th FA): won by 26th Cavalry, three games to none.

February 20-26, Round Robin Tournament: At Manila Polo Club; 26th Cavalry defeated Department Headquarters, lost to Manila Polo Club.

April 1: 26th Cavalry defeated Los Tamaraos 6 goal team, 8 to 3 at Los Tamaraos Club.

April 8: 26th Cavalry lost to Los Tamaraos 10 goal team, 9 to 3.

April 27: 26th Cavalry defeated British 26th Royal Artillery from Singapore, 11 to 2.

The regimental teams managed airplane transportation to Manila and return for each game of the Leonard Wood High Goal, Kenneth Day Low Goal, and Selph Cups played from May 2d through May 16th.

The senior team was eliminated immediately from the high goal; the junior team, after two wins (from Los Tamaraos and Department Headquarters) was eliminated in the final of the low goal by Manila Polo Club: Stotsenburg (with Lieutenant Hunter Harris, A.C., added to the 26th Cavalry players) won the Selph Cup.

The injuries of Captain Barnes (broken collar bone) and Lieutenant Howze (sprained knee) seriously hampered the teams in this last group of tournaments. Next year, with luck in bringing along new ponies, it is expected that the 26th Cavalry can place first class low-handicapped teams on the field that will give a better account of themselves than before. We have young, willing and aggressive players coming up and that's what it takes.

The Ancient and Aromatic Order of Balugas of Pinatubo has received forty-two new members. Early in May the 26th Cavalry were hosts to a party of enthusiastic explorers and mountain climbers. For four days these intrepid explorers hiked and explored to their heart's content. All of them climbed to the top of Mount Pinatubo and some made side trips including the one to Dalanaoan and the China Sea.

Colonel Edward H. DeArmond, Chief of Staff, Philippine Department and Lieutenant Colonel Henry C. McLean, Department G-2, were among the guests from Manila.

On May 29th, the Scout Car Platoon escorted the Honorable Manuel Quezon, President of the Commonwealth of the Philippines to a post review in his honor. After the review a number of the officers of the garrison were entertained at a luncheon at the Philippine Army Training Camp at Camp Dau. President Quezon and General Douglas MacArthur were guests of honor.

The development of a new horseshow and jumping area is well under way. The planting of hedges and trees has been started and by the end of the rainy season this installation will be one of which any cavalry post should be proud.

The regiment is pleased to have Majors Frank Nelson and Heywood S. Dodd and Captain H. W. Stevenson as new members. We regret the loss of Captains Ridge, Farwick, Heacock, and Taylor, whose tours of foreign service terminate with the July sailing of the USAT *Grant*.

Our regimental commander for the past two years, Colonel Clarence A. Dougherty, leaves the regiment in July for duty at Headquarters, Second Corps Area. It is with sincere feelings of regret that we shall soon bid him adieu.

Colonel Robert Blaine, Captains Vance and Trapnell, First Lieutenant "Bill" Chandler and Second Lieutenant R. B. Praeger will be arriving on the July transport. We are pleased to welcome them into the 26th Cavalry.

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111th Cavalry—New Mexico National Guard

COLONEL CLYDE E. ELY, *Commanding*

All troops of the regiment recently participated in a five-man team, shoulder to shoulder, rifle match at Camp Luna. The teams were assembled there for the purpose of selecting the state team to attend the National Matches at Camp Perry this fall. Teams were also present from the various units of the 120th Engineers and when the smoke—and dust—cleared away it was found that the winning team was from Troop E of Deming with a score of 728. Two, and perhaps three, of the members of this team will be selected for the state team.

The annual rifle and machine gun firing has been nearly completed and the results so far have been gratifying. It is hoped that the 111th Cavalry can step up one notch this year to first place instead of second, and win the coveted Pershing Trophy awarded annually by the National Guard Association to the Cavalry Regiment having the highest score for the entire target practice season.

The forty-odd remounts received in January of this year have turned out exceptionally well. Their condition upon arrival was excellent, most of them were gentle and all have taken their training in a satisfactory manner. They were badly needed in the regiment and have proved to be a distinct asset.

With the field training period nearly at hand all members of the regiment are looking forward to being assembled again at Camp Luna for two weeks in August.

112th Cavalry—Dallas, Texas

COLONEL CLARENCE E. PARKER, *Commanding*

"Hurrah! for Troop F at Tyler, Texas." The platoon from that troop was recently announced the winner, in Regimental orders, of the Cavalry Leadership Test For Small Units that has been conducted in this regiment since October 16, 1938. This platoon (see cut), commanded by Lieutenant Manley E. Hood, deserves great credit for winning this keenly contested competition. The race was very close from start to finish, as the ratings show, but Lieutenant Hood and his troopers were able to nose out the other platoons by a very close margin. The Machine Gun Troop Platoon, commanded by Lieutenant Lloyd L. Leonard, stood second, and since there is a prize for the privates of the runner up platoon, it will receive second money.

This Platoon Test was patterned after the Drapher Trophy Test, conducted in the Regular Cavalry, but covered a much longer period of time and was so arranged that every squad in every troop had a chance to win a place on the composite platoon that competed in the final phase for the big money.

Colonel Parker, who was keenly interested in the test was very much gratified at the training results it produced. Many times during the progress of the test he drove 300 miles by automobile to be present at the test of a platoon.

All the lieutenants, who competed, state that they derived a world of benefit from the test, especially in leadership and the basics of cavalry, which were the objectives. Lieutenant Phillip L. Hooper, Troop E, states: "I received more training from commanding a platoon in the test than from all the correspondence courses I have completed to date."

The Final Phase of the Squad Test, that has been conducted, in the Medical Detachment, during the past Armory Training Period, was completed on 24th and 25th of June. The Final Test consisted of a march, a camp, and an Individual Phase.

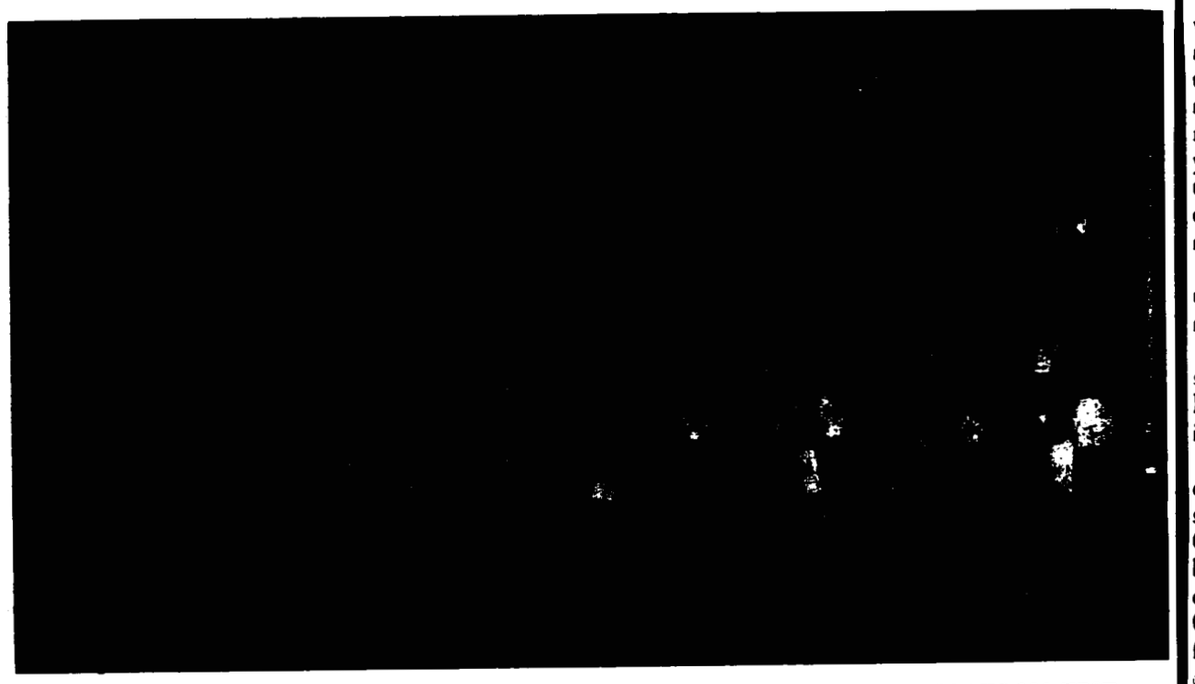
Sergeant Jesse E. Williams and his 2d Squad won over the other squads of detachment by a close margin.

Major Waldo B. Lasater, Commanding Officer, of the Medical Detachment was much gratified at the initiative this test developed in his noncommissioned officers and he made the camp and march with one of the squads during the final phase.

The Individual Test, to determine the best all around bandsman in the Band, 112th Cavalry, during this Armory Training Period, was completed as scheduled on June 19th.

This competition produced great results from a training standpoint and despite the fact that the Band Leader thinks his musicians are too "temperamental" for competitions, this test proved that some of his men, even though "temperamental," can be excellent soldiers as well as musicians.

The final ratings show that Sergeant Louis McDaniels and Sergeant H. J. Sory, Band, 112th Cavalry, tied for



COMPOSITE PLATOON OF TROOP F, 112th CAVALRY, WINNER 1938-1939 PLATOON TEST

Left to right, sitting: Pfc. Joseph E. Kelly, Pfc. Charles M. Yancy, First Lieutenant Manley E. Hood, Sgt. Joseph W. Leggette, Cpl. John C. Denboney, Cpl. Weldon Willis, Pfc. Henry J. Grant, and Pfc. Wilbert Willis.

Left to right, standing: Pvt. Billy Burke, Pfc. Joe B. Knight, Pfc. John C. Kelly, Jr., Pvt. George W. Rolston, Pvt. Thomas F. Caldwell, Pfc. Moses H. Knight, Pfc. Fred Smith, Pfc. J. C. Fielder, Pvt. Thomas J. Hawkins, and Pvt. Desmond D. Hitt.

first place with total scores of 172 points out of a possible 200.

The cash prizes to the winners of the above mentioned competitions will be presented at a special regimental parade, to be held at Camp Wolters, Texas, on July 15, 1939.

Colonel Parker was tickled to death to see the regiment on the Honor Roll of regiments with 100% membership in the Cavalry Association, published in the last issue of the "Cavalry Journal." The old man correctly demands that all his officers be active members of the association, and has stated many times that he feels it is the duty of every Colonel to have his regiment 100%. A troop commander was heard to remark the other day in giving instructions to his new lieutenant: "If you want to please the old man, join the Cavalry Association at once."

On June 11th, the Regimental Command and Staff and the Headquarters of all Squadrons and troops participated in a Command Post Exercise. Through the kindness of Lieutenant Colonel Albert S. Johnson, Regimental Executive, the entire top floor of the Southern Union Gas Company Building, with its air-cooled offices, telephones, etc., were turned over to the regiment for the exercise. "Many thanks, Colonel Johnson."

The subject of the CPX was Training Management and the war time situations of the problem were so drawn as to require the preparations of Programs, Schedules and Field Exercises.

The procedure was as follows: The regimental command and staff, commencing in the wee early hours of the morning, had the regimental training program and schedule completed by the time the squadron and troop headquarters arrived. Based on the regimental program and schedule the squadrons and troops prepared their programs, schedules, and field problems.

The regiment had 100% attendance at this CPX and as a result much valuable training in Training Management was received, and also the regiment goes to camp this year with all of its programs, schedules, and field exercises prepared and complete, down to include the platoon.

* * *

62d Cavalry Division
305th Cavalry—Philadelphia, Pa.

COLONEL VINCENT A. CARROLL, Cav.-Res., *Commanding*

Under the National Defense Act of 1921 there were to be six reserve divisions of cavalry. The 62d was assigned to the Third Corps Area and the 305th Cavalry embraces eastern Pennsylvania, including the city of Philadelphia.

Colonel John C. Groome, who will be remembered as the man who organized the Pennsylvania State Police, was the first regimental commander. It was due to Colonel Groome's efforts that relations were established with the First City Troop of Philadelphia and that the regiment was granted the privilege of using their armory and mounts. These cordial relations have increased with the years and have never been stronger than at the present time. Captain John C. Groome, Jr., formerly a member of our regiment and son of first commanding officer, is now Captain of the First City Troop.

The 305th owes its present high degree of efficiency to the fact that the First City Troop has extended it so many favors and privileges in the past.

Started on the right course by Colonel Groome, the inspiring leadership of Colonel William Innes Forbes, Matthew F. James, and Vincent A. Carroll has further increased the prestige and development of the regiment.

The five regular army unit instructors have been exceptional men of diversified talents and each has left the stamp of his personality on the regiment. Lieutenant Colonel Howard Smalley was the first and was followed by Major John M. Thompson, whose untiring activities considerably broadened the activities. Major Charles L. Clifford especially encouraged self expression of the officers themselves. Major Norman E. Fiske's detail was cut short owing to his being called to Ethiopia as military observer. Under the aegis of our present instructor, Colonel Arthur H. Wilson, the quality of horsemanship and the general caliber of training have attained even greater heights.

The annual activities of the regiment include a noon luncheon and conference once a week, a two-hour period of mounted drill, equitation and pistol and rifle marksmanship at the armory each week, and open horse show every spring, two tactical rides over a week-end every year, not to mention dances, formal dinners, and other varied social activities. All of the foregoing are planned and executed by the officers of the regiment assisted by the unit instructor.

Each year the regiment sends its full quota of officers to active duty with the Third Cavalry at Fort Belvoir, Virginia. The performance at these camps is the real test of the value of the inactive duty training, and every man in the 305th looks forward to that test. Visit us at Fort Belvoir, Virginia—August 27 to September 9.

* * *

306th Cavalry—Baltimore, Maryland

COLONEL MATTHEW F. JAMES, *Commanding*

On May 3d, the Baltimore officers heard a lecture by Lieutenant Colonel Willis D. Crittenberger, of the Chief of Cavalry's Office, on "The Rôle of Cavalry." In this lecture a brief organization of Cavalry units was given as well as the weapons assigned to the units, which was followed by a typical example of each of the missions which could be assigned to Cavalry and ending with a comparison of the strength of American Cavalry with that of various European nations. Major C. H. Keck, Assistant Corps Area Ordnance Officer, lectured on "Mobilization." This lecture covered briefly the Corps Area Mobilization Plan and the various phases of Mobilization. Officers of the regiment gave the following conferences: Lieutenant Graham Dukehart on "Mounted Drill—Platoon"; Major Vernon J. Blondell and Lieutenant Dukehart on "Mounted Drill—Troop," and Lieutenant Colonel Wm. H. Skinner showed movies of previous CMTC duty, lecturing throughout the showing pointing out the corrections that should be made at this summer's training.

Washington officers conducted the following conferences: Lieutenant James G. Daniel instructed on "Ceremonies"; Lieutenant Ford E. Young, Jr., on "Manual of Arms and Dismounted Drill"; Lieutenant Paul E. Mitchler had "Physical Training"; Lieutenant Gilbert B. Layton on "Military Sanitation and First Aid," and Lieutenant George E. Monk had the subject of "Camps."

Recent assignments to the regiment were: First Lieutenants Lawrence L. Long and Carl W. Mumm; Second Lieutenants William P. Cassedy, Lloyd M. Griffin, John S. Higgins, Jr., James M. Woolf, and John G. Pickrell; Privates Vachel H. Davis, Jr., William T. Gordon, and Joseph V. Riggs. Relieved from assignment by Division orders were Second Lieutenants Daniel J. Anderson and Frederick P. Knoll.

At the May convention of the Department of Maryland, R.O.A., Major Vernon J. Blondell was elected First Vice President of the Department.

* * *

308th Cavalry—Pittsburgh, Pa.

COLONEL GEORGE H. CHERRINGTON, Cav. Res., *Commanding*

Colonel Bruce Palmer, Chief of Staff, 62d Cavalry Division, honored the regiment with a visit Wednesday, June 21, at which time he inspected the stables and club house at the Training Center and had an opportunity to observe mounted instruction on the regimental drill field which is well lighted with floodlights, making it possible for officers of the regiment to ride and drill during darkness.

Captain Jean T. Ross, Regimental S-3, graduated in June from the Reserve Officers' course at Fort Leavenworth, has returned to Pittsburgh and is taking an active part in regimental affairs.

Lieutenant J. Roy Degenhardt graduated in June from the Fort Riley Reserve Officers' course, has returned to Pittsburgh and is taking an active part in regimental affairs.

On Memorial Day the members of the regiment participated in a Gymkhana held at the Training Center. Winners of the events were as follows:

Open jumping, Captain Stanley W. Rosenbaum, on *Daybreak*.

Dismounted pistol, Lieutenant Jos. McG. Michaelson.

Pair jumping, Captain Elliott E. Perritt, on *Daybreak* and Lieutenant William H. Pfahl, on *Lago*.

Equipment race, Lieutenant Timothy Ruane, on *Sergeant Flannigan*.

Potato race, Captain Elliott E. Perritt, on *Daybreak*.

Free-for-all, teams of three, Major Stanley H. Scott, on *Skipper*, Lieutenant William H. Pfahl, on *Lago*, and Private George H. Cherrington, Jr., on *Tyrant*.

Cavalry Stakes, Private George H. Cherrington, Jr., on *Tyrant*.

Highest score for Regimental Commander's trophy, Captain Elliott E. Perritt.

At the conclusion of the sports events a buffet supper for fifty was provided by the ladies of the regiment.

Major L. G. Gibney, Cavalry, has completed his four-year detail as Unit Instructor and is on his way to Fort Bliss, Texas. The members of the regiment are unanimous in their praise of Major Gibney for the efficient manner in which he administered the affairs of the regiment and for his assistance in preparing and conducting theoretical and practical training.

A farewell party in honor of Major and Mrs. Gibney was held at the club house Sunday afternoon and evening, June 25, at which time Major Gibney was presented with a 308th Cavalry Regimental Insignia and Major and Mrs. Gibney were presented a beautiful chair-side model combination victrola-radio. The party was attended by members of the regiment and their ladies, members of the Regular Army and their ladies, and civilian friends.

The regiment concluded its inactive duty training schedule on June 30 and it is believed that the records will show the past year to be the best since the organization of the regiment.

A special course of practical training is being carried on at the Training Center during the months of July and August and if any officer of the regiment, ordered to active duty, is not in good physical condition, it will be because he is not taking advantage of the training facilities available at the Training Center.

* * *

316th Cavalry (3d Squadron), Montpelier, Vermont

MAJOR JOHN BRAINERD, Cav.-Res., *Commanding*

As the Green Mountains of Vermont shed their white of winter the officers of the 3d Squadron of the 316th Cavalry turn their attention to winding up the inactive training period and their thoughts to active training of the summer. The Cavalry camp for the First Corps Area will be held on the Artillery Range of Fort Ethan Allen, with the 1st Squadron of the 3d Cavalry playing host. In June, but from the point of view of Vermont cavalry officers it is unfortunately a camp of the 315th Cavalry from Massachusetts. However, ten officers of the 3d Squadron have applied for vacancies that may exist. The CMTC Cavalry Camp at Fort Ethan Allen will be officered by three officers from the 3d Squadron, 316th Cavalry.

As the inactive training period draws to a close it is interesting to note that the squadron which in its present form only came into existence in the fall of 1938 has shown an increasing interest in required work. Through extension course work, troop schools and one contact camp at Norwich University, a total of approximately 1,235 hours have been acquired by the squadron officers.

Close coöperation between the National Guard and the Reserve Corps is being developed in the First Corps Area and a policy has been established to fill vacancies in the war time strength of the National Guard with reserve officers. Army maneuvers will be held in August for the troops of the 1st and 2d Corps Areas. Three officers of the 3d Squadron, 316th Cavalry, will be on the staff of Brigadier General Leonard F. Wing, commanding the 86th Infantry Brigade, made up of National Guard from Vermont and Maine.

Nearly 90% of the officers of the 3d Squadron, 316th Cavalry, are graduates of Norwich University at Northfield, Vermont. Norwich is the only purely cavalry military college in the country and the squadron is proud of its close affiliation with the university. The squadron is looking forward to a forthcoming order which will assign many of the Norwich Cadets graduating in June to its rolls. After the order is published the squadron commander and the captains of the squadron are planning some fitting welcome for these officers into the squadron.

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Fourth Annual 100-Mile Trail Ride of the Green Mountain Horse Association

The Green Mountain Horse Association will hold its Fourth Annual 100-Mile Ride, August 31st, September 1st and 2d, from Woodstock, Vermont. Each year finds the average horse and rider, in better condition than those in the previous year's ride. Each year finds new faces and new horses entered although three riders and their mounts have participated in, and completed all three preceding rides.

The Vermont ride is the "grandfather" of all the other 100-mile endurance rides which are held throughout the country at the present time. It might be interesting to note that no less than twelve 100-mile rides are planned for this year, which shows, to some extent, how much interest in trail riding has increased.

The ride is not a race, for no one is allowed to finish in less than 17 hours. When the ride is over the judges will be interested only in the condition of the horses. The horse that is in the best condition—if his time record is perfect—will be the winner even though the rider has to eat from the mantel for the following week. The horse may look like an old "plug" but here is a contest in which he is judged on what he can do and not on his looks.

The primary object of the ride is to stimulate greater interest in the breeding and use of good saddle horses possessed of stamina and hardiness, and qualified to make good mounts for the trail, and secondly to encourage a better class of horsemanship in long distance riding

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MOULDING MEN FOR BATTLE

By Major General Hanson E. Ely
U. S. Army, Retired

In comparing our own with the armies of other nations that may one day become our enemies, it is easy enough to count our regiments, brigades, and divisions, our airplanes, tanks, and ships, our progress in modernization, mechanization and motorization, and to use these as our basis for comparison. Yet one thing seldom receives enough consideration in such comparisons: that is the element of morale.

High morale is the state of mind that makes the soldier—and the units made up of soldiers—exhibit the highest of courage, moral and physical; makes them withstand the toughest of hardships and privations and endure the heaviest fatigue—enables them, despite all adverse circumstances, to force their will upon the enemy.

You will find it recounted in history how some organizations attacked without hesitancy an enemy three times their size, with the idea firmly in their minds that they were going to win. And they did win. Why was it—why *is* it—we often wonder. Yet the answer is simple. It is because the winner had morale in the fullest sense and a corps of leaders that inculcated and used it. We must remember that always morale and leadership are inseparable. They are military twins.

The waging of war is most complicated and comprehensive. True, warfare is both an art and a science. But the science—despite our scientific age—is only ten per cent. The art is the ninety per cent that carries the power—puts over the punch. The big part of this art is morale and the building of morale.

Yet there is so little written about this thing we call morale that we are at a loss when it comes to studying it. There is nothing definite to study. True, there are a lot of surmises and a lot of well-known, cut-and-dried "prin-

Battles are won or lost by remnants

ciples" laid down—such as, the one to the effect that a leader must be unselfish, must have courage, energy, loyalty, and the confidence of his men. But all that is simple. It is the application of impalpable human qualities—dozens perhaps—all focused on a definite decision. Yet it is this very dealing with intangibles of the human mind that we find nowhere explained. We can study reports and histories of armies, corps, and divisions, and read the recorded successes—though often the mistakes and failures are passed over—in full detail. From these records of actual warfare, though they may contain no clear key to what morale is and how it is produced, we can find incidents in which morale was plainly all-important, and examples of good and bad leadership in building or lowering morale.

The incidents and examples recounted in this article are things that came under my personal observation or came to me as first-hand information, mainly during the period of the World War.

It is basic to an understanding of morale to know what it counteracts. It is necessary to have at least an elementary knowledge of the psychology of the battlefield. It must be recognized that man in battle is a being in whom the instinct of self-preservation dominates, at certain moments, all other sentiments. Thus, discipline has for its aim the fullest possible control of that instinct. At the same time, discipline cannot dominate it completely nor

continually. I do not deny the glorious examples of discipline and devotion that have elevated man above himself. But if these examples are glorious, it is mainly because they are rare; if they are admired, it is because they are exceptions.

Whatever the science of the superior commander, the genius of his strategic combinations, the precision of his concentrations, whatever numerical superiority he may have, however rigid his discipline, victory will escape him if his soldiers do not properly conduct themselves without being watched, and have not the resolution to conquer—in short, morale. In the armies of today the tide of battle is in the hands of the fighting soldier, and never has his individual steadfastness—his morale—been of more fundamental importance. For today the soldier no longer has the intoxication of ancient attacks *en masse* to sustain him. Once, the terrible anxiety of waiting made the soldier wish for the violent blow, dangerous but soon passed. Now, his mental and physical powers are tried for long hours and days, and in such a test, he has but the resoluteness of his own heart to sustain him. For man is incapable of withstanding more than a given degree of fear without giving way. Today he must swallow in five minutes the dose that he took in an hour in the time, let us say, of Turenne. Firearms, tanks, airplanes, gas, long-range cannon, all have increased the distances of mutual aid and support between the various arms, and between the fighting men of those arms. The more men think of themselves as isolated, the more they need a high morale to bolster them. If they don't have it, all is lost.

Soldiers are mainly abnormal during battle. Strong as the soul often is, it cannot dominate the body to the point where the flesh will not revolt and the mind will not waver in the face of destruction. Man has the weakness of flesh and blood.

Man is abnormal in war because the conditions of war are abnormal. The abnormal, it can be said, is the military normal. Wise commanders have concluded that it is normal for orders to miscarry or arrive too late, or for them to be misinterpreted, or not to be fully executed; that it is normal for information to be delayed or to be insufficient; for units to be late, or to lose their sense of direction, or to become mingled with neighboring units; that it is normal for material means to be inadequate, for a worthy enemy to do the unexpected, for troops to be exhausted, staffs overworked, commanders harassed, roads congested, and traffic interrupted, and for supply to

"You will find it recounted in history how some organizations attacked without hesitancy an enemy three times their size."

falter at critical moments. Yet those who enter combat for the first time—no matter what their studies or observations may have told them about it—are astonished to find how troops get out of hand; to find that you seldom know where they all are, or where to put your artillery down, and are otherwise at a loss. In war all things are different—including men.

In the World War even in our best outfits, hundreds would try to avoid action. Some would say they got lost, some would give other reasons. It is a thing always to be expected. It has been said that about one man out of ten has little fear of death; if they get killed or not, it is fate, luck. Perhaps about eight in ten are what we might call normal men; to them we can apply the principles of building morale. But there is at least another tenth who will run away or never reach the fight, if they possibly can. They want to run no chances of getting hurt. Thus, in war it is this human material that we must take and make the most of. Good leadership here takes on a great rôle.

The Quality of the Leaders

It made very little difference in the quality of troops, in the World War, what part of the country they came from, though different divisions were often spoken of as made up of splendid personnel, or the opposite. From observation of at least half of the AEF fighting divisions, it is my conclusion that in some cases there may have been a five per cent difference. But the great difference between success and failure lay not in the supposed quality or lack of quality of the troops but in the quality of their leadership and of the morale that flows from that leadership.

Napoleon said, "Morale is to the physical as three is to one," and Foch said, "Execution is to all planning as nine to one." They are both correct, surely; for the best-laid plans, unless there is somebody up front to give punch to those plans and put them through, are of little value. With the poorest-made plan—other things being about equal—you can generally win, if only you have company and battalion commanders you know will carry out orders and command their men—command them with such ability that they will all have supreme confidence in one another. Then they will get their objectives!

But subordinate units of a large command are seldom all of such quality. You may say that this regiment or battalion, or that division, can always be depended on to reach its objective—other ones seldom. In France, whenever certain divisions were to attack, it was said, "They will go until they get fifteen per cent losses and then they will want to be relieved and that will be the end of them"—and it was. Of a few other divisions it was said, "They will get what they go after, even if it costs half of the command, and they will keep what they get." Of course, a certain amount of experience and baptism of fire makes a difference, for when troops are used to shells and bullets they are more liable to stick when they go in. But with anything like the same amount of training and experience, you can be sure that a "good" fighting unit, as compared to a "poor" one, has a leader in command who made the difference. Again, Napoleon truly said, "It isn't the men; it is the man."

In modern warfare where staffs have been so largely increased, where command has become so scientific, where coördination and communications are so necessary because of dispersion, it is still "the man" who wins battles. Staff officers have their importance, and must themselves have certain qualities of command, because the commander must delegate in battle a certain amount of command. Nevertheless, the personality of the commander must be felt clear down to the last man in line. This necessity for leadership and the morale that springs from it makes us realize that in this machine age machines cannot win alone. Their direction and control must be human. As always, it will be the army with the best leaders, and therefore with the most courageous, loyal, and devoted men, that will be victorious.

It is the Morale of the Group More than of the Individual

The mass may and always will cower at the sight of the phantom Death. But the discipline of the leader dominates that horror by creating a still greater horror—of disgrace. For it is the morale of the group—of the company, the battalion, and even of the higher units—that is the real morale. In the group you can inculcate an *esprit de corps*, a dash, that you cannot in the individuals. A man will do more for Company A than he will for himself; he will do more for the group that knows and banks on him, for those who will know him for a brave man or a coward, than he will as a lone fighter or as a fighter among a group of strangers. That is why it takes time to reconstitute a command to anything like its former efficiency after heavy losses. When a unit receives thirty or forty per cent replacements, it takes quite a while for it to get back anything like its old group feeling.

But once morale is strong within a unit it will carry it far. When they have been in battle for days and nights, when the enemy has dealt out heavy casualties, men, if only they have morale, will yet go on again when the signal comes. They will go to the very limit of their endurance.

And that is another thing that should be writ in large letters on the walls of our schools: It is the last five per cent of exertion that often wins the battle. In France, it was not the first attack, or the second, or the third, but that last straggling fourth attack which did the work. True, that last push made only two or three hundred yards and it was only made by a tenth of the command. But it made the enemy believe we still had a punch left and he withdrew. It was thus at Blanc Mont when the 2d Division attacked the Germans east of Reims. It was the last effort of all that did the work. Most men thought it uncalled for and impossible to make but they drove forward just the same.

We must remember what was known ages ago. It is this: *Battles are won or lost by remnants—remnants of units, remnants of material, remnants of intellectual effort—and victory goes to the side whose remnants have the will to hold out one gasp longer than the remnants of the other side.* It takes a genuine morale to produce such remnants.

Morale Runs Through all Grades

Some have thought that this thing we call "morale," and the ablity of a leader to instil it in his troops, goes no higher than the battalion. To be sure, when the corporal or the lieutenant or the captain can get his men together and talk to them, they become impressed with the things that constitute morale, and morale is ingrained in them and the unit becomes efficient. But personal leadership does not stop with the battalion commander. Before the 1st Division made its first attack, General Pershing came down and called its officers together. In his fine talk, he transmitted the spirit with which he was himself imbued. The regimental commanders then talked to their field officers, the field officers to their battalion commanders, the battalion commanders to their company officers, on down the line. General Pershing, in his account of the war, says:

"It is never difficult to discover the attitude of a commander, as it is almost certain to be reflected in his unit. If the commander lacks aggressiveness or is disloyal, there will be grumbling and criticism of orders from higher authority among his officers and men. If he is aggressive and loyal his command will show it.

"I recall one incident which illustrates the point. In conversation with one division commander he was asked the condition of his unit, to which he replied that the men were very tired. Whereupon I remarked that there could be no reason for that, as they had been in the line only a short time. I added with some emphasis that it was probably the division commander who was tired.

"Not long afterward his division lost its cohesion in battle and became much disorganized and he was relieved. Another commander was appointed who was tireless and efficient, and under him the division served with exceptional distinction."

The truth of this I can best bring out by recounting a few actual occurrences among American troops in France. They will not only illustrate the point, but may also somewhat surprise many readers.

One of the best divisions we had was repulsed again and again until its troops became discouraged. But the whole thing came from topside. Early in the game, this division had lost many men taking an objective. Then it was pulled back, by order, and lost as many men or more falling back over the same ground as in taking it originally. After that, what could be expected?

The soldier is the one who finally advances or not, who wins fights or not, and unless he feels that he gets a square deal and has leaders who know their jobs, there is no use expecting much from him. If you do, you won't get it. The following is an excellent illustration of this:

In a division near Bantheville, a flank patrol was being sent out under a sergeant from a battalion attack into a woods. The battalion had failed twice to take the woods. The colonel said to the sergeant, "You're going to take it this time."

"No," replied the sergeant, "the men will quit."

"What do you mean by that, sergeant?"

"Well, sir, this battalion has been in twice, they have suffered heavy casualties, they haven't had much sleep, they haven't had enough food. Those things don't matter so much, but back there a ways is a battalion that hasn't been in at all, and our battalion thinks the reserve battalion should do its part."

Those men had practically agreed among themselves, perhaps even without talking about it, that they weren't going to stay in that woods, and within half an hour they began to come back. That wasn't mutiny. It was probably not even a concerted action. It was just a feeling among the men that they had stood all they could stand, at least compared with other organizations in that particular outfit; and they simply quit. They had lost confidence in their superiors. And as soon as troops do that, they are done. They should have been told clearly that the reserve battalion would have its full share of fighting to do later on.

About that same time, a brigade commander ordered one of his regiments to attack the next morning. Along in the evening about ten o'clock all the field officers of that regiment came to the CP to see the brigade commander. They said their men were tired and used up, that they had been in battle about four days without much sleep and with a good many casualties. They had not had many casualties, as an actual matter of fact. Casualties are a comparative thing; some think that ten or fifteen per cent is high, while others go up to fifty per cent.

These particular officers said, "The regiment is in no condition to fight; but we, the field officers of the regiment, in order to show that we are not afraid, will follow the barrage when it is laid down." "I know something about your regiment"; said the brigade commander, "it is not so badly off; our casualties have only been about twelve per cent—small compared to what some have stood. Your troops haven't had much sleep, but there are a lot of others who haven't had much sleep. The regiment will go in tomorrow notwithstanding what you gentlemen say. You have said it because you are tired or perhaps because you are over-sympathetic for the men under you. Think it over and come back in about an hour. The regiment is going in. There are enough captains in it who can act as field officers, and if they act as such in one battle they will probably act as such in all the rest. So you come back in a while and tell me what you think."

In an hour they had decided to make the try. They led their battalions next morning and the regiment did very well.

Here, a knowing leader read his battalion commanders aright, saw that their sympathies had outrun their judgment of what their men were still capable of doing. All good leaders take care of their men, but at the crisis of a

"In France, it was not the first attack, or the second, or third, but the last struggling fourth attack which did the work."

battle the sympathy of a man for himself and everybody under him has to be put aside, unless conditions actually are so bad that his unit is incapable of the job it is ordered to do.

But when the troops have given all that you could expect of them and more, they should be relieved if it can possibly be done. And here we have the other side: At Cantigny, half the officers of one regiment were killed or wounded, and about one-third of the men. The available enemy opposing us was many times our number. We had the wounded and dying among us and there was little to eat or drink. The men were getting shaky from fighting and fatigue. The colonel told the brigade commander that the regiment should be relieved that night because there were three other regiments that had suffered comparatively small losses. Things had become normal and the men needed sleep, food, and rest. They had accomplished what they went after, they had been in three days and nights, and there were those three other regiments that could go in. The general sent a staff officer down to look around.

"How many men have you?" he asked.

"About sixteen hundred," said the colonel. "My losses are eight hundred or so."

"You are pretty well off," said the staff officer.

"What do you mean, I'm pretty well off! Let me tell you one thing, and you put it right down in your notebook! These men have been fighting three days and three nights and they have been successful. But five of them are not worth now what one was worth when we came in. There are three other regiments that have had their sleep right along and almost no losses. It is an injustice not to relieve my men tonight."

They were relieved that night.

Morale Means Building Solidarity and Confidence

Solidarity and confidence, essential to morale, cannot be improvised. They are born of mutual trust between leader and led, which makes for pride and unity in an organization. And from unity comes in turn the feeling of force, the force that gives to the attacking men the courage and confidence, the domination of the will over instinct, even

in the greatest danger. It is this which finally leads to victory.

Confidence means just that. Hannibal, to inspire his troops with confidence, explained to them before each battle as much of his plan of action as he could without making it possible for treachery to injure him. All commanders should do that: give enough of the plan of action so that the troops can appreciate what the whole idea is. If you tell your men what you are going to do, that the job is going to be a hard one with many losses, but that nevertheless the job is going to be done, then, when gas comes down or perhaps some airplane bombs, your men will realize that you foresaw these difficulties. So they keep on in spite of them. But if you just give them fragmentary orders without any explanation at all, their confidence will be much less and they will be much more surprised when things go hard. This is especially true if subordinate commanders are afraid to go beyond the wording of their orders.

It is also well for a commander to give some warning to his troops of what may happen in a defense. In fact, it is the best protection against infiltration and surprise. The Germans infiltrated by finding some little place more or less unguarded and sending in a company, a regiment, or maybe a brigade, often secretly during the night, to get behind our elements. Then, when fire suddenly came from the rear of the American, French, or British forces, they were inclined to escape in a hurry. In their imaginations they would often think that ten times their own numbers were in their rear. At Blanc Mont, however, we expected infiltration and it came. But the troops were told about it ahead of time, and told, too, that we would pinch the enemy out because they could not infiltrate as many men as we had. Then infiltration didn't worry anybody particularly. The division was well organized and disciplined with high morale, and we simply placed two or three organizations on the flank or rear to hold off the infiltrating enemy.

Another time, after forcing the crossing of the Meuse River near Dun-sur-Meuse, a battalion attacked up a hill. The hill was shaped something like a shoe bottom up. Three companies had a hard time getting up the main hill in the fog. The fourth company, acting as a combat patrol, got farther out than it was intended to go and went up against the heel of the hill, which was a little higher than the rest of it. This company got clear to the top of the heel against light resistance, and found itself somewhat in rear of the main German position. In the main position, the Germans facing the other three American companies heard the fighting back on the heel and immediately retreated. As a matter of fact, they had a superiority of two to one and a splendid defensive position. Here was a case of surprise by accidental infiltration, but the enemy troops lacked the morale to stand a threatened envelopment. It takes "The Xth Legion" or some other finely disciplined organization to hold its morale in such situations. Such units have confidence in each other.

All such warning orders should be issued in plenty of time for subordinates to be prepared for their parts. Failure to do this was frequent in the AEF. Troops often saw rolling barrages move off toward the enemy before they knew anything about the hour of attack or their objective. Such failures kill morale. Troops have little confidence in their so-called leaders after these things happen a few times.

Another main morale destroyer is orders to do the impossible. What could be more disheartening than to be ordered to take an objective twenty kilometers back of the enemy's line when you and your whole command know that a gain of even five kilometers will take every ounce of energy left in your troops. A leader must be reasonable in his expectations and give objectives reasonably obtainable. It is best to say, "We hope to get So-and-So [the objective twenty kilometers away]; but by tonight we will get to that ridge. You can do that, and you will do it." And they probably will. But if you say "twenty kilometers" instead of "that ridge," knowing all the time there isn't a chance of getting there in a week, or perhaps in the whole war, don't blame anyone but yourself if most of your troops are satisfied to clamber into the first big shell hole and stay there. Every front line is largely composed of individuals or groups of two or three who can get into a hole and stay there if morale fails. There aren't any second lieutenants waving their swords and urging them on in modern warfare. If your troops don't want to advance, they won't. What you have to do is to get them in an attitude of mind of wanting to advance. That attitude must be there, in their minds, beforehand. And ordering the impossible is no way to put it there.

Building Morale by Direct Contact with Men

The ways of building morale available to a leader are manifold. Some I have already indicated; many are too well known to need comment. One or two, however, stand out in my mind.

For one thing, the commander who is also a genuine leader will be certain to mingle often with his men so that he may be known to them. He must be in the front lines frequently, and particularly when there is hard fighting. He must also see that hot food and supplies reach the troops whenever possible; and he must make the most thorough preparation for every contingency he can foresee. He must continually show an interest in and sympathy for his men and for their well-being. That is the only way to build up loyalty and confidence—morale—so that his command may be proud of its reputation.

A leader must also exhibit knowledge, energy, and resolution. He must punish those who deserve it as examples, but never in anger. And he must reward those that merit reward. If he does these things, then, when the signal for an attack goes up, and later when his command is more than wearied and more than decimated, his troops will keep on attacking and the number of those who try to avoid battle will be small.

In combat itself the leader must be where he is most

needed, and this place common sense will dictate. It is always best, however, to err on the side of being well up among the troops and taking personal command in emergencies rather than staying too far back with the idea of keeping in touch with the higher command. Only by such forward contact can the commander be of any real use as a leader. This keeps morale at its highest.

One particular morale builder sadly neglected in the early stages of the World War was the value of immediate recognition after any heroic action by an organization or an individual. I had once a very nasty order to give, as commander of a regiment. We had made two or three raids but all had come back empty-handed—the Germans had been pulling back at night and putting out intelligence posts in the daytime. But down from the French Army commander came the same old order again: "Must have prisoners." High command thought the Germans were shifting troops to the British front for a drive.

So I had to tell the major in command of the advance battalion, "We are going to get prisoners tonight. You will send an officer, with not less than five nor more than fifty men, who will go into the enemy's line and not come back without prisoners."

That was a pretty hard order. The major asked for volunteers and an intelligence officer, Lieutenant George B. Redwood, volunteered. He took five men and went nearly to the enemy's third line, got four prisoners and brought them back. Within three days the French had paraded the whole division and given the raiding group the Croix de Guerre. Recommendation was immediately made for the Distinguished Service Cross. Redwood was killed at Cantigny about two months afterward, but he hadn't received his DSC. It was awarded after his death, but it was of no good to him then nor did such delay add to the morale of his organization.

These are a few of the things that leaders can do to build morale. It is also possible, though not always, to restore morale in a unit that from one cause or another has lost it. Perhaps I can best use another World War example to show this.

During the Meuse-Argonne attack progress was halted for a time. In some organizations the men were in a pretty low state and it looked as if they might have to be taken out for the rest of the war—as some whole divisions were. But it was announced instead that if they captured a certain objective they would be reinforced and that none of the units would be withdrawn. After a man has been beaten three or four times, you have to give him a taste of victory. So these troops were given a few easy jobs to restore their morale and put the idea in their minds that they weren't completely downed. One night, soon afterward, they took Aincreville and took it with bayonets and without artillery preparation. They seemed astonished that they could do it. The next day they took Doulcon, more or less by surprise, and then a few other little towns. We knew they could take them if they had the confidence—if they knew they were going to be backed up. Soon they began to feel they could win for sure, and you saw quite a different air about them, even within a few days. When it came time for them to get orders to cross the Meuse River, they *knew* they could do it and they did do it remarkably well.

The attempt to restore confidence must be made through a succession of little steps. As Foch says, you have to "play a new tune." If you get licked at one thing two or three times, don't try it again. At Blanc Mont, General Gouraud said, "I am going to order the AA and BB Corps to attack on the right and left of the American 2d

"Now, his mental and physical powers are tried for long hours and days, and in such a test, he has but the resoluteness of his own heart to sustain him."

Division, but it is my impression that since they have been three times repulsed on the same terrain by the same enemy and are themselves unchanged, the chances are that they will not go far."

Morale of the Leader Himself

Up to this point I have written mainly of the morale of troops and not so much of the morale of the leader himself. As a general thing, of course, if an organization has high morale there is little question but that the leader has it too. The troops get it mainly from their commander. But there are a good many things that can adversely affect the morale of even high commanders, and some that can destroy it completely. Approaching or actual physical or mental breakdown is naturally a most important item in this regard.

You will find in general that when commanders were relieved in the AEF they were not relieved after the first day's attack, but after the second or third day, when they were suffering from fatigue, lack of sleep, and perhaps nervousness as to what the enemy would do next, or lack of confidence in their own troops. One division commander, talking to a corps commander, pounded on the table and said his division was not going to make an attack the next day. But it did attack the next day and did good work. The division commander had lost confidence. He didn't know how much his troops could still do or even what their condition was.

Another regimental commander was down in the mouth because he had not been made a brigadier when he had good reason to expect it. I happened to take over the brigade he was in, and the division commander called my attention to him. So I told him, "Higher authority has warned me you are in a depressed condition and that it is affecting your regiment. We are going into battle in two days and if you can't brace up and get a little more spirit into your regiment, I will relieve you and you will never get another command. But if you can buck up and put the spirit into your regiment that should be there, if I can do it, I will have you made a brigadier." That man came to himself and his regiment did splendid work. It lost nearly forty per cent in killed and wounded at Soissons. A few days later he was made a brigadier.

In the AEF commanders from corps down to regiments were relieved for various causes. Some assumed authority that belonged to higher commanders, or were improperly critical of them, or even disloyal. Others reported their commands unfit for combat because they were tired or discouraged themselves. Still others kept to their dugouts when critical conditions demanded that they be up with their troops in order to take immediate and effective action against panic or defeat. *Fearing what higher authority might think instead of using the proper common sense and initiative of a leader probably wrecked more commanders than any other one thing.*

Higher authority generally gave plenty of latitude to subordinates—but they often failed to use it. The principle to go by here is that considerable latitude should be given to commanders on the spot, according to their rank and experience, and that commanders should be perfectly willing to assume the responsibility of asking themselves (and acting in accordance with the answer): What would my superior do if he were here and knew the circumstances that I know? Of course, for not complying or delaying compliance with orders the subordinate has the burden of proof that ordinary judgment and reason dictated it. Sometimes this is a hazardous thing to do, but there are frequent cases where proper leadership requires it. Always, however, the superior issuing the orders should be at once advised. Any officer receiving an order that he believes to be given under misapprehension as to conditions with which he is himself cognizant, must immediately inform his superior of these conditions. If he is afraid to do so, he either lacks confidence in himself or in the true leadership of his superior.

A division commander in France was ordered at about 1:00 p.m. to cross the Meuse River and the Canal de l'Est at 4:00 p.m. on the same day. He had been on the spot for some time, and informed the staff officer who was issuing the instructions in the presence of the corps commander, that he had reconnoitered the crossing of the Meuse for fords and crossing places and for enemy positions with forces up to two companies in size; that the ravine was full of enemy machine guns and that the enemy's artillery was in force behind the heights of the Meuse within two kilometers of the river; that he believed the crossing might be accomplished at 7:00 p.m. after dusk; but that from his experience on the spot, he thought an attack at 4:00 p.m. would not only lack surprise but would probably fail. The staff officer, however, stated it was so important to cut the Mézières-Metz railroad that the daylight attack should be made. The time was so short that only fragmentary orders could be given. One brigade did not receive its orders because the messengers to it were killed, and did not move at all. The other brigade attacked. The commander of the leading battalion was killed and some two or three hundred officers and men were casualties by the time the troops took cover.

At 7:00 p.m. the attack was resumed as the division commander originally recommended, and it was successful. In this case, the commander on the spot was overruled by the judgment of a staff officer unfamiliar with local conditions but authorized by a higher commander—very properly—to give any necessary orders. Though this was a splendid staff officer, I do not believe, had the higher commander himself been present, that he would have taken the same action.

It does the morale of leaders great harm to be constantly feeling that the axe may fall at any time for no good reason. Mature judgment should be used in relieving commanders for inefficiency. Every commander is bound to have under him a certain number of mediocre officers who will improve reasonably under proper instruction and guidance. Besides, trading one mediocre officer for another, as may often happen, is a bad trade. Nothing is gained, much is lost.

Conclusion

Because of our slow system of promotion and the lack of real selection in our army, we will go into any future war with the higher command filled with men as a whole too old. The command of armies and even corps, and some higher staff positions, may be efficiently held by older officers—General Pershing told me he would prefer division commanders not over fifty.

Time is a vital element in war, and war is a ruthless thing. Individuals may have to be sacrificed. The sorting out to obtain the best leaders in our next war must be done early, and without fear, favor, or affection. The younger officers, both line and staff, should be selected for higher command according to their success in battle—without waiting too long. These are the men who have the confidence of their subordinates, who know how to keep their troops supplied, bring them into battle under the most favorable conditions, direct them well in battle, take greatest advantage of success, and minimize the effects of setbacks; men not afraid to take the initiative due in their position, always loyal to their superiors but not afraid of them either. Watch should be kept also for the leader who may never have had a military education but is nevertheless a natural leader. Only thus can we find the leaders that will instil a high morale.

Never for a second should it be forgotten that combat is the objective, the cause of being and the supreme manifestation of armies. Every measure that departs from that thought—that relegates it to the middle ground—is fatal. All the resources accumulated in time of peace, all the tactical evolutions, all the strategical calculations are but conveniences, reference marks to lead up to it. Fundamentally, man is the potent force. He is the incomparable instrument whose elements, character, energies, sentiments, fears, desires, and instincts, are stronger than all abstract rules; than all bookish theories. The inspirations that reveal and mark the great strategists, the leaders of men, form the imponderable element, the divine part.

It is the mind that wins battles, that will always win them, that always has won them throughout the world's history. The spirituality, the moral quality of war, has not changed. Mechanics, modern arms, all the artillery, gas, tanks, aircraft, etc., invented by man and his science, will not make an end to this thing, so lightly considered at the moment and called the human soul.

No calling other than the true military profession so excites brain activity. It is preëminently the calling of action, at the same time diverse in its combinations and changing according to the time and locality in which it is put to practice. No other profession is more complex or more difficult, since our own has for its aim and reason the instruction of men to overcome by training and endurance the fatigue and perils against which the voice of self-preservation is raised in fear—in other words, to draw from nature what is most opposed to this nature.

Our army school system is most excellent and gives all the technical and theoretical knowledge needed for a higher commander or a higher staff officer. The right kind of tactics is not improvised. It asserts itself on the battlefield in the presence of the enemy, but it is learned before the enemy is encountered. But studies of the causes of success or failure in battle, other things being approximately equal, show that true leadership was present or absent, and that resolution—not easy to teach in schools—often failed just too soon.

We must also learn to distrust mathematics and material dynamics as applied to battle principles. We must learn to beware of illusions drawn from the target range and the maneuver field. For there we deal with the calm, settled, unfatigued, attentive, obedient soldier; in short with an intelligent and tractable man-instrument, and not with the nervous, easily swayed, moved, troubled, distrait, excited, restless being, who is the fighting man from general to private in war. It is this difference that requires morale, and the true leadership that creates it. This is the thing of highest importance in the conduct of war.

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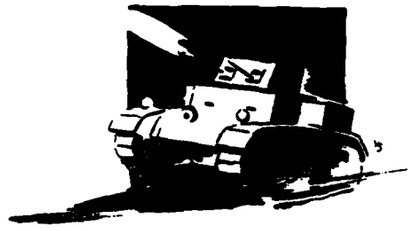
"The human material is at hand; our deficiencies in weapons are now being supplied through funds provided by the last Congress. But if this nation should be called to enter war, the price in blood and tears would still be high if our training program is not completely revised, expanded and developed. A small but permanent field army, with complete staffs and proper organization should be maintained and kept concentrated in two or three large areas in the United States."—Editorial comment, *New York Times*, on First Army Maneuvers.

Staff and Combat LEADERSHIP



By Agrippa II

What, in reality, is the *prime* purpose of an army? That purpose, obviously and stentorianly, is to fight. What are the units of measure, the scale, by which a skeptic may evaluate the degree to which an army is prepared to fulfill that rôle? Trained combat units, immediately available reserves, organization, doctrine, modern implements of warfare, geography, resources, potential reserves, balanced forces, leadership—all and scores of other factors go to make up that scale. But again, if the purpose of an army is to fight, what is the ultimate objective of its combat? Once more, in military parlance, that objective is said to be the destruction of the hostile will to resist.

There are a multitude of factors which make up an armed force, but what in the end is the definite manner in which the power of that force is actually applied? Just what are the factors and the action which go to break down a hostile will to resist? Is it a high public morale backing a nation's armed forces? Is it the availability of endless reserves? Coming down to brass tacks, does the answer not lie in the simple proposition of applying directly to a hostile people the final accomplishment of an organized national effort in the way of hot lead, cold steel, bombs and shells?

The various channels and agencies through which the real force of a major power is finally made effective are many in scope and function. We find super planning bodies whose responsibilities and purposes are widespread over a vast network of overlapping and intertwining activities—economic, procurement, processing, production, transportation, etc. Coming closer to the real application of direct power and force in a military effort we find a higher staff whose activities cover the scope and function of both planning and operating. Eventually we come down to the actual field and combat leadership whose responsibility it is to furnish the direct force and pressure which means success or failure. Who can say which prerogative of the foregoing agencies involves the greater importance or higher responsibility? Certainly, in modern war the power of an entire nation must be organized and exerted; that power must be organized and directed but its final effect on hostile resistance is felt only upon its real application through combat.

Have we been giving to those individuals upon whom will fall the burden of combat the intangible endowments and benefits which their position demands?

The major planning agencies such as a War Resources Board do not fall strictly within the military fold. The higher staff agencies and personnel thereof do come within the full purview of the military organization. Our major schools have been founded and operated upon the premise of furnishing adequately trained personnel for those duties that fall within that echelon of the military team. So important have we considered training for that duty that attendance at our two major schools has become, impressionalistically, a paramount mark in a military career. Now arises a question which should be honestly considered. Have we raised the performance of staff duty to a pinnacle far beyond its just comparison with successful troop leadership? Have we created, inadvertently, the fetish that staff duty is the final and highest goal of military duty? Have we placed upon assignment to that duty a badge or symbol of superlative professional attainment out of all proportion to duty in connection with command or service with troops? Has service with troops been rated on the same scale as service on the staff. Some few years back when attendance at the Command and General Staff School appeared imperative to a military record the individuals who were selected for the course at that time made up a class to which others referred as the 3-A class; Aides, adjutants, and just common A's. Although the touch of humor applied to this reference, it was supported by the thought that those who had been privileged to serve on staffs had received more consideration than those whose service had been more consistently

with troops. In short, for the average mind, have we not, during the past two decades, concentrated on perfecting a highly efficient staff at the expense of overlooking or neglecting the importance that should be accorded successful command performance?

There is no intent here of reflecting on the transcendent importance of staff duty. In fact, it is readily admitted that under ordinary circumstances the good staff officer will make a good commander; and conversely, a good commander will make a good staff officer. In truth, the best commander is one who can make full use of a trained staff because of his understanding of staff procedure and function. The question, therefore, naturally arises that if we have emphasized the importance of staff duty and minimized or neglected the vital necessity of proving command capacity, from what source do we expect to draw for our field commanders? It has been said that the average military organization can function under a poor commander with a good staff, more so than under a good commander with a poor staff. No issue is taken with such a contention, but there is no reason in the American army why we should not be assured always of good commanders operating with good staffs. If it is true that a certain prestige accrues to assignment to staff duty, has the time not come to attach the same modicum of military virtue to proven command capacity? It should be acknowledged by all that the highest military attainment falls to those individuals who have exemplified ability and capacity in command of troops.

Assignment to command should involve that same intangible accolade of military attainment as is now indirectly and inscrutably paid to staff duty. Duty with troops should be regarded as an outstanding opportunity. Can it be said that any such regard is held for this type of duty under current or past conditions? Have we not reserved the pleasant features incident to post life, which goes with duty with troops, for many who have displayed little capacity in many of the rôles which present day officers must be prepared to fulfill? So long as post life is more or less synonymous with troop duty, its accompanying rewards should be considered a matter of professional compensation leading to an opportunity for the greatest military function—command duty.

In the days of hand-to-hand combat leaders sprang from the din and havoc of battle. In truth, even in our modern highly industrialized and mechanized warfare a very considerable proportion of our combat leaders will arise on the battlefield. In no wise does such a supposition lessen the fact that command is a military art. Like all arts, perfection comes only from constant practice. Able leadership in our army cannot be expected to be developed from a few scattered details with troops, frequently with intervals of ten to fifteen years between such opportunities. Proven command capacity should be held in such high regard that the same degree of effort will be found on the part of most individuals to participate in it as is now found in the tendency to seek and prefer staff duty.

The seeds of success in command leadership are many and scattered. Assuredly the knowledge of weapons, organization, administration, and other factors are important; but more important, is that indefinable touch of handling men. To handle men it is first necessary to understand men, and for us particularly, American men. It is firmly believed that in the collective American citizenship we have basically the finest combat material in the world if properly trained and led. There is, of actuality, an American psychology—the finer and better points of which are understood only through frequent and constant contact. These men ask only to be led; only to be shown how. Our task is to know primarily those essentials which should be imparted and the priority of their importance. In the citizen army of the future there will be no time nor need for barrack square methods of the Prussian type, which induce a discipline built on fear. The discipline in our armies will come through leadership based on loyalty and esprit de corps. It is this type of leadership which produces the will to close with the enemy.

It is only duty in the field which imbues one with the ability to cope with the unexpected and the abnormal. It is possible that our unexcelled school system may build up an unconscious psychosis of dealing always with complete units, perfectly trained ranks, normal weather conditions, and always an uninterrupted system of adequate supply. The future leader is entitled to encounter more frequently the absence of these school-like conveniences and to be faced more with the reality incident to the failures of the human factor and the uncertainties of weather, mechanical failures, and confusion of darkness.

It is possible that any lack of enthusiasm which exists for duty with troops may reside in the absence of facilities for any progressive or considerable training which most of our establishments provide. A few years service amid the restrictive influences of small posts may have inculcated a distaste for frequent repetition. Many may recall the legends of dry rot in small battalion posts of pre-war days. Many officers of junior rank may recount too often months of duty under local training conditions where post administration outweighed in many respects any emphasis or attention paid to training matters.

The problem of progressive and illuminating training objectives may have much to do with any lack of enthusiasm toward troop duty. Have we established a system which assures the attention to training which its importance deserves? Has our staff organization and its recognized operative functions added to that deficiency if it does exist? In what way could staff function affect progressive training? Might it be said that staff organization, liberalized to include not only planning but operations, has brought about such deficiencies? One might say that a staff confined to planning draws up ideas and prescriptions which are passed on to others for execution. If the staff in addition to planning is also operating, what is the machinery which assures subsequent check-up and insists on a proper execution? The War Department Staff is frequently accused of being too operative. When that statement is made, does the assertion convey the thought that projects are prescribed for which there is no adequate check of progress? In other words, if the training section is disseminating definite directives for doctrine and methods, in what manner are final results checked and evaluated? Is any attempt being made to assure uniformity of practice? Is it true, as many contend, that training methods and doctrines are a matter of locality and arenas of instructions; that is, is there any assurance that service schools and the Command and General Staff School are in accord in teaching and insisting on approved and accepted methods and doctrines? Are the troops in the field following those principles disseminated at our schools? Have we any genuine uniformity of training methods and objectives?

Many years ago the Inspector General's Department was charged with checking and inspecting the training proficiency of combat troops. That rôle has now been taken from that department. The Corps Area Commander is now charged with this duty and obligation. In what manner is this responsibility being covered under this new system? Can a Corps Area Commander on an annual visit of one or two days to the average garrison really determine the true status of training which exists? Can the War Department, with only spasmodic visits by staff members to the field, affect any genuine control or influence on our progress in training and preparedness for combat?

If there is a lack of uniformity in training and training standards, where does the fault lie and what facilities are available which might result in remedial actions? There is set up as a part of the War Department, Chiefs of combatant arms. It would appear that their measure of responsibilities and functions lie mainly in a general supervision and distribution of personnel together with a remote control of training doctrines through supervision of respective service schools. These offices also have considerable effect in the adoption of improved matériel and also the general type organization in which their arms may be involved. To assure uniformity of training within a particular branch it would appear that these chiefs of arms could render a constructive and useful purpose if given the added responsibility of performing the rôle of Inspector General of their troops in the field. Who should know better whether a regiment of any arm is properly and reasonably trained than the Chief of that arm? In no wise would this new duty impose any restriction upon a Corps Area Commander. By the very nature of the term, a Corps Area is an administrative entity rather than a tactical unity. In the event of war the function of the Corps Areas becomes entirely administrative. In fact, the annual inspection by the Corps Area Commander is devoted in no small measure to administrative features. In no way can it be assumed that with nine Corps Areas there is any common standard of training—nor any definite goal toward training objectives. Nor can it be assumed that with the various and manifold interests involved in the administration of a Corps Area that commanders thereof should all be interested in the same factors. Construction, local repairs, routine administration, all take their toll of time and interest.

Perhaps, also, lack of appreciable units with which to operate at the average post has discouraged frequent tours of duty with troops. Housekeeping demands and overhead tend to reduce tactical ranks to the point where little is left for progressive and satisfactory results along training lines. Due to lack of general army-wide objectives there is little at which to shoot from the point of view of an active and imaginative troop commander.

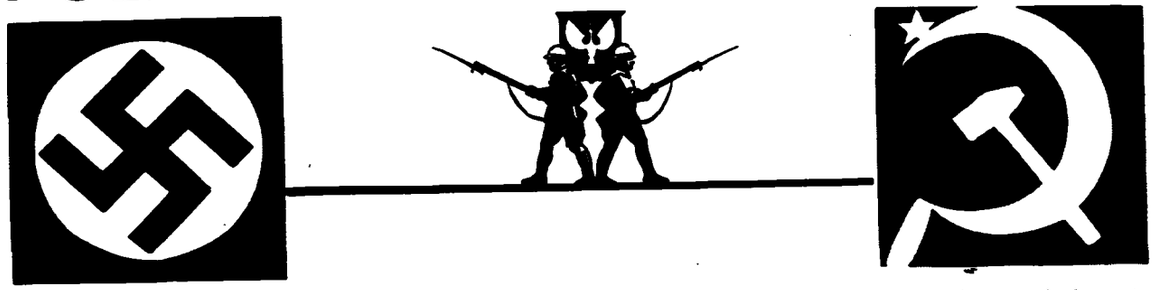
Are we not still an army of battalions and regiments rather than divisions? This mental proclivity is manifested in various ways. It is told that in the recent First Army Maneuvers an infantry brigade commander with an artillery battalion attached over a period of several days was ordinarily so preoccupied with operations confined to the infantry that he overlooked repeatedly the presence and availability of his attached artillery; in fact, on more than one occasion orders for an advance or a movement overlooked entirely the artillery—on one occasion the infantry marched off leaving the artillery in position. An incident of that type is made possible only from the lack of advantages and opportunities which we have in dealing with combined arms. On the average smaller infantry and cavalry posts, how often is it supposed that the normal problem involves or considers any probable action visualizing the presence of supporting artillery or the assistance which might be rendered by friendly combat aviation? Occasional opportunities every three or four years for our troops to engage in combined efforts are not enough. Our mental attitude should widen to include those operations, which, in war, will become realities. Furthermore, the necessary control, direction, and inspection should exist to see that that type of operations are frequently and periodically developed. We speak of night marches, night assemblies, river crossings, defensive positions and a score of others; but how often do our troops actually engage in them? Delaying action presupposes foxholes and minor earthworks—but how seldom is any unit tested in its ability to demonstrate its adequacy in this vein?

Do we not continue to be a housekeeping army and not a combat army?

A foreign observer has commented that a peculiarity he noted in America was that we do not seem to pursue in peace those activities which we will be called upon to perform in war.

War is a-field in the world today. Are we training to that end? Are we producing leaders who can utilize troops and staffs for their final and definite object in being—COMBAT?

POLAND BETWEEN TWO CAMPS



EDITOR'S NOTE: *Modern Age Books of New York, has recently published a book under the title, "Military Strength of the Powers," reviewed in this issue of The* CAVALRY JOURNAL. *This volume was written under the nom de plume, "Max Werner," and translated by Edward Fitzgerald. As a foreword the publishers state, "The author of this book is a noted military authority who cannot use his own name because of the possible reflection on relatives in his native land." Certain extracts are presented herewith dealing with military affairs in Poland. These extracts furnish an illuminating light in an explanatory analysis of recent events.*

After the great continental military powers, the Soviet Union, Germany and France, Poland is next in importance for the alignment of forces and the military position in a European war. It is not so much a question of Poland's military strength as of the strategical importance of Poland's territorial position. The whole World War as far as it took place on the Eastern front was fought out within the frontiers of what is now Poland. The territorial features of Europe have not altered since the World War, and whether Poland enters the next war on the side of Germany or on the side of a European defensive coalition will make no difference to the fact that the decision in Eastern Europe will be fought out on Polish territory.

Poland's situation between Germany and the Soviet Union has become critical since she began to act as an auxiliary to National Socialist Germany. Poland's security was formerly based on German disarmament, on her alliance with France and on the League of Nations as an arbitrator in European affairs. That security no longer exists. Poland would be helpless in face of the overwhelming military strength of Germany without the military support of France and the Soviet Union. The hope of establishing a military alliance with Poland persuaded Germany to launch an active policy of conquest in Eastern Europe. The whole of Eastern Europe has been undermined, and Poland herself is directly threatened.

At the same time her military situation is steadily deteriorating. She is situated between the two strongest military powers in continental Europe, and it must be borne in mind that the difference in war strength as between the strong and the weaker powers is becoming increasingly great. Seven or eight years ago Poland's military situation between her two great neighbors was more or less tolerable. As against a Germany which had not yet re-armed Poland had her bigger effectives and her larger number of trained reserves. Germany's powerful industrial potential for war purposes was made up to some extent by Poland's freedom to arm. Before the industrialization of the Soviet Union the Polish Army was more or less on the same technical level as the Red Army; there was a possibility of comparison in equality. However, in a decade the situation has completely changed. Germany's powerful re-armament and the modernization of the Red Army make Poland's military position hopelessly weak. The more Poland's relative strength towards her two powerful neighbours declined, in 1933-38, the more ambiguous Polish foreign policy became, and in consequence the more tense the position in Eastern Europe. Poland is developing into an area of high pressure: the strongest concentrations of military strength ever seen in Europe are massing on her Western and Eastern frontiers. Poland is being encircled by steel cyclones.

Poland's army represents the usual "East European army type." General von Metzsch defines this type of army as consisting of "millions of *superficially trained men* whose technical equipment is very considerably behind that of the Western European powers."[1] "West" and "East" as a description of army types has lost its territorial significance. In this respect, the "West" now lies East of Poland as well, because the Red Army is on the same high technical level as the armies of Western Europe, and in many respects it even exceeds it. The Polish Army has had no share in the revolutionary technical developments of the past decade. Generally speaking its structure is still that of the European armies of 1930. The Polish Army has remained at a standstill; it has not kept pace with military technical development.

[1]General von Metzsch, "*Die Entwicklungstendenzen des Krieges.*" published in the compendium of the Inter-parliamentary Union. Geneva 1932, p. 43.

The following features are characteristic of the "East European army type," i.e., the Polish Army and the armies of the Balkan States: they are supported by weak war potentials, and small and not very efficient war industries with backward technique. General Sikorski, the greatest military authority in Poland, never fails to stress the effects of industrial weakness on armaments, and he certainly has his own country in mind. A country like Poland with weak war industries must rapidly become exhausted in war. It is not in a position to make full use of its man-power reserves, and it is compelled to pile up large quantities of war material because it knows that in the event of war it cannot reckon with any very considerable increase in production. General Sikorski declares:

"Poland must not base her military strategy on the hope that her enemy will become exhausted, because in the event of a long war the time factor will work against her and in favour of the enemy."[2]

Weak war industries mean weakness in modern weapons: motorization, tanks and the air arm, in other words the absolute certainty of defeat against any enemy with modern equipment. A number of reliable witnesses have given evidence on the armament and supplies of the Polish Army. In 1935 "*Le Document*" of Paris, a pro-Polish organ, published a special number dealing with the armies of Europe, and supplies with a preface by General Weygand, whose name is sufficient guarantee of authenticity. General Weygand, former Chief of the French General Staff, and military adviser to the Polish General Staff during the Polish-Soviet War, can hardly be suspected of pronouncing an unnecessarily harsh verdict on the Polish Army. However, the judgement of "*Le Document*" is very pessimistic:

"Unfortunately the Polish Army suffers severely from the general financial shortage which oppresses the country as a whole. This fact influences the modernization of the army and its equipment with modern war material, and it affects its technical quality. Polish armament is weak, and it is to be feared that in the event of mobilization the equipment of the reserves will be still weaker. Polish industry has only very limited possibilities. In consequence the leaders of the army rely on the endurance, training and intelligence of their troops, and concentrate too much on the factor of manœuvre without paying sufficient attention to the factor of fire-power. This is particularly the case with regard to the Polish cavalry which seems dazzled by a glorious tradition, and apparently still expects the old-time charge and cut-and-thrust fighting. Owing to lack of finance there has been no motorization of the army, and there are very few tanks available."[3]

German military publications have expressed similar opinions, and their judgement is of particular weight because they still regard Poland as a possible ally. The "*Deutsche Wehr*" writes:

"An examination of the present state of the Polish Army reveals the fact that those modern weapons which are generally regarded to-day as decisive, the air arm and the armoured units, are only weakly represented."[4]

And the same journal refers quite openly to the "deterioration" of the Polish Army in relation to the rapid increase in military strength of Germany and the Soviet Union.

There is no doubt about the considerable numerical strength of the Polish Army. Poland takes fifth place in the military hierarchy of continental Europe. The peace-time strength of the Polish Army is 30 Infantry Divisions and 15 Cavalry Brigades. The numerical strength of the Polish Army on a war footing is given by Soviet sources as between 60 and 70 Infantry Divisions. However, the significance of these figures is reduced by two factors: the length of the front on which they will have to fight, and their insufficient fire-power. In the considered opinion of a French military publication,[5] the Polish Army would not be strong enough to man an uninterrupted front in the main theatre of war, and, in any case, it could certainly not hold its front line at a strength at all comparable with the Western front during the World War.

The technical basis for the motorization of the Polish Army is very weak. In 1937 Poland had only 20,000 motor-cars, 5,900 lorries and 900 tractors. In 1935-38 Polish industry produced only 700 light and medium tanks, and 500 tankettes. Soviet sources assume that in the event of war the Polish Army might have between 1,000 and 1,200 tanks, 1,200 tankettes, between 600 and 700 armoured cars, and about 1,000 tractors. In 1938 there were still no big moto-mechanized units in the Polish Army, and by no means all Divisions had moto-mechanized or tank units attached. Cadres had been established around which it was hoped in the event of war to form moto-mechanized units, that was all. There are plans to extend the Tank Corps and to form 2 or 3 Motorized Divisions, but there can be no question of forming any motorized shock army. Any attempts to motorize the Polish Army will be hampered by the low productive capacity of the Polish automobile industry. The "*Deutsch Wehr*" even records a tendency towards demotorization in Poland, and points out that there has been a reduction in the sum total of motor transport. A Polish government organ writes as follows:

"Apart from the splendid carriage of some detachments our military parades on May 3rd were parades of our deficiency in motorization. A few dozen small tanks and detachments of motor cyclists—that is far too little for our times."

In 1938 the Polish aero-industry produced between 800 and 1,000 aeroplanes. The quality of certain types (particularly the fighter plane) is believed to be high. Even in 1935 the Polish Army had one very good fighter plane type, the PZL24, which had a speed of over 260 miles an hour. To-day there is a light and a medium bomber of this type with a speed of almost 240 miles an

[2]General Sikorski, "*La guerre moderne.*" Paris 1935, pp. 108, 200 and 218.

[3]"*Le Document.*" November, 1935, p. 21. "*L'Europe en armes*" by Colonel X with a preface by General Weygand.

[4]"*Deutsche Wehr.*" May 7th, 1936.

[5]"*Revue d'Infanterie.*" January, 1936.

hour. However, the productive capacity of the aero-industry is limited. Reserves are low and Poland cannot reckon with any rapid increase of aeroplane production in the event of war. The Polish air arm consists of about 1,400 machines, of which, however, only between 600 and 700 are first-line planes, i.e., planes which could be used in modern air warfare. It is therefore too small to be used as an independent air army with its own strategic tasks. According to a Soviet source[6] the total bomb load of the Polish air arm is no more than 70 tons, i.e., very small indeed compared with the offensive possibilities of Western air forces, and quite insignificant compared with the bomb salvo of the Red Air Force. Thus aggressive operations in the air do not come into question at all for the Polish Army, and at the same time the weakness of the Polish fighter squadrons makes it impossible to hope for adequate defence against air attack. In a war against Germany or the Soviet Union the mastery of the air would immediately belong to Poland's enemy. Poland would be absolutely helpless against the Red Air Force, for example. This fact is recognized by German experts, and Colonel von Bülow[7] writes that Poland would fall a helpless victim to the attacks of Russian bombers.

The biggest weakness of the Polish Army is thus its lack of modern offensive weapons. The operative instructions of the Polish Army for the use of the air arm, tanks and artillery provide for norms which are on an average only one-third of the corresponding French norms.[8] Compared with the Red Army or with the German Army the weakness of the Polish Army in this respect is still more striking. It may be assumed that in aeroplanes and tanks the Polish Army has about one-tenth of the strength of the Red Army on a peace-time footing, and about one-tenth of the strength of the German Army on a war footing.

The pride of the Polish Army, and its élite corps, is the cavalry, which is the second strongest in Europe. In the opinion of Polish military leaders this arm must be particularly strengthened owing to the length of the frontiers to be defended, the lack of transport facilities, and the necessity of greater mobility. Polish military leadership professes to regard independent Cavalry Brigades as the highly mobile and independent units best suited for the purposes of mobile defence, strategic reconnaissance and attack with subsequent pursuit.[9] *The difference between Polish and Soviet cavalry is very great indeed. For the Polish Army cavalry is a substitute for motorization, whilst for the Red Army it is only a supplement to motorization.* Polish cavalry still consists of nothing but mounted men in the traditional sense, whilst Soviet cavalry has been greatly strengthened by the attachment of motorized units, and trained for combined operations in coöperation with big tank formations, air squadrons and artillery. Writing in Polish military publications Colonel Przeglovski demands the setting up of mixed cavalry formations supplemented by artillery and motorized troops,[10] but no practical steps in this direction have yet been taken. *Polish cavalry is thus numerically strong and highly mobile but weak in fire-power, and not supported by modern offensive weapons.*

Polish military strategy stresses the importance of manœuvring and offensive capacity. It cannot be denied that its ideas and plans are enterprising, but they have very little material basis. General Römer gives us the following characteristic description of Poland's war doctrine:

"Our general strategic situation at the beginning of the war will be favourable, and therefore from the very opening of hostilities we must prosecute the war as actively and rapidly as possible in order to bring it to a victorious conclusion as quickly as possible. At the beginning of the war we and our enemies will be operating in enormous areas with poor transport facilities. Our principles must be taken from the lessons of the Napoleonic wars, from the first battles of the World War (particularly on the Eastern front), and from the last Russo-Polish War. Our salvation lies in a war of movement."[11]

However, between the methods recommended by General Römer and the means at the disposal of the Polish Army there is an obvious discrepancy. Such manœuvring and offensive strategy pursued by Poland would be ineffective and aimless to-day. It might be possible against Lithuania or Roumania, but not against the Soviet Union or Germany. If such strategy is used against a numerically superior enemy equipped with modern offensive weapons, an enemy such as Poland has both in the West and in the East, *it must lead straight to a catastrophe*. Poland's two possible opponents are respectively numerically threefold (Germany) and more than fourfold (the Soviet Union) superior to the Polish Army, and technically (particularly modern offensive weapons) they are approximately ten times as strong. Against such opponents Poland's air strategy is not applicable at all. Polish strategy is one of manœuvring on foot and on horseback coupled with a decide to take the offensive, but with weak fire-power and very few modern offensive weapons. Against powerful opponents in the West and in the East such a strategy would be nothing but a helpless academic manœuvre *rapidly leading to complete collapse*. A French military publication[12] describes the principles of operative procedure according to Polish strategy as follows: the greatest possible rapidity of manœuvring, offensive action even on the part of isolated troop units, preparedness to operate even with uncovered flanks, and the organization of centres of resistance with a mere watch on the gaps between these centres. The terrible risks involved in such

[6] "*Voina i Revolutsia*," September-October, 1935, p. 101.
[7] Colonel von Bülow in the "*Militärwissenschaftliche Rundschau*," December, 1936, p. 816.
[8] Uralski, "Break-through Operations" in "*Voina i Revolutsia*," May-June, 1935, p. 97.
[9] Armeanov, "Cavalry in Future Warfare" in "*Voina i Revolutsia*," September-October, 1935, pp. 103-112.
[10] Colonel Przeglovski in "*Bellona*," the leading Polish military publication, particularly in the November number 1934.
[11] Quoted in the Czech military organ "*Voienska Rozhledy*" 1935, Vol. V.
[12] "*Revue d'Infanterie*," January, 1936, pp. 86-91.

strategy against an enemy of superior strength are obvious. *When enemy moto-mechanized units penetrate without difficulty into these gaps between the Polish centres of resistance like steel arms, split the Polish front and exploit their superiority in mobility and fire-power to carry out flanking blows and encirclement operations*, the sudden collapse of Polish resistance is only a matter of a short time. When Pilsudski developed this strategy of "open spaces" of "*Plein air*," as he called it, he had not the faintest idea of what a tremendous superiority the German and Red Armies would one day enjoy thanks to their modern mobile and armoured technique.

The technical backwardness of the Polish Army is irreparable, and it is becoming fatal for Polish strategy, which is now trying to make a virtue of necessity, developing into strategy pure and simple without consideration to the conditions of modern scientific warfare. Polish strategy affects to regard modern technique with contempt, as very sour grapes, and writing in "*Bellona*," Colonel Missor declares that whoever abandons the real art of war to descend to the level of military materialism must sooner or later be defeated despite the fact that he may be well prepared technically. The art of manœuvring cannot make up for a lack of strength and technique, particularly as the higher war technique of the enemy naturally has its own art of manœuvring, and a more developed one at that. The Polish war doctrine thinks in out-of-date terms; it fails to take the technical revolution in modern warfare into account, *and it refuses to see the rapid advance of the German Army*, and the tremendous technical progress of the Red Army. Polish strategy was possible in 1920 because the Red Army was numerically weak and poorly armed, and it might have been possible against the German Reichswehr of 1920-30, which possessed no trained reserves and no modern technique, but against the Red Army and the German Army of to-day it would be the height of folly.

Polish strategy has one further organic defect: it has no political basis, and operatively it is therefore suspended in mid air. For years Polish strategy has been in ignorance of the direction in which its main preliminary blow would have to be delivered in the event of war. *Polish strategy has been unable to draw up any carefully prepared war plan* because the ambiguity of Polish foreign policy has given it no definite direction. The Polish foreign policy which facilitated the tremendous re-armament of National Socialist Germany, and was in part responsible for what the German Military publication we have quoted terms "the deterioration of the Polish Army," has also robbed Polish strategy of any solid operative basis. The decisive conditions for any war plan still remain unsettled: the theatre of war and the policy of military alliances. Criticizing the vague strategic conceptions put forward by General Sikorski in his book, the organ of the Soviet Commissariat for Defence declares succinctly:

"An operative plan must have a political basis. To have a definite plan of operation presupposes a definite foreign-political standpoint. The political ambiguity of Poland makes any precise strategical conceptions impossible."[13]

In view of Poland's weakness in war technique her strategy must reconcile itself to taking part in the coming war on the side of one of its powerful neighbors against the other. According to General Römer it appears that Polish strategy supposes the prosecution of the coming war on Soviet territory, but even then any such operations would be carried out by Polish troops according to German strategic conceptions and not according to those of the Polish General Staff.

No comparison with the Russo-Polish campaign of 1920 is at all possible to-day or could assist us in any way in estimating the comparative strengths of the two armies. Any such comparison is completely out of date and it is quite impossible to find a single point of similarity between then and now. As far as the Red Army is concerned, everything has changed completely since then: numbers, military technique and military strategy.

Let us take the question of numbers, first. The Russo-Polish War of 1920 was not fought with mass armies, and it can therefore not be compared with the World War. At no time throughout the war had either side more than 200,000 men at the front. Pilsudski trenchantly describes this angle of the war in his book:

"It was not a real war; one might call it half a war, or perhaps a fraction of a war; it was a war between children, and the classic theories of warfare turned their back on it with contempt."[14]

Pilsudski had no illusions about the value of the experience gained during the fighting or even about his own successes, and he admits it with a frankness which does him great credit:

"I was not so naïve as to repeat and copy mass strategy without masses. I was too keenly conscious of my own helplessness and of the humiliation of my own weakness caused me to think of glossing over the problems before me with such phases and expressions as were used in 1914 and backed up by real mass power."[15]

The Russo-Polish War of 1920 was waged by improvised States with improvised armies, and with very weak armies at that. A further important factor was that in 1920 the Red Army did not have the numerical superiority one would have thought likely under all circumstances. Estimations of the relative strengths of the combatants at various phases of the war vary, and even Soviet sources are not in entire agreement. However, it is possible to say with certainty that at no time during the war did the Red Army have any decided numerical superiority, not even at the time of its greatest successes. Temporarily, and for a short time only, it was about 20% stronger than its opponent. At the Battle of the Vistula, which was the decisive engagement of the war, the numerical superiority was on the side of the Poles, a fact which is admitted by Pilsudski himself.[16] How did that come about? It must

[13] "*Krasnaya Zvezda*," September 30th, 1936.
[14] Pilsudski, "*L'Année 1920*," Paris 1929, p. 201.
[15] Ibid., p. 197.
[16] Ibid., p. 265.

be remembered that 1920 was the third year of an exhausting civil war for the Red Army. The South front against Wrangel was still in existence, and, in fact, in the summer of 1920 the situation there was particularly dangerous. The breakdown of the railway system and the rapid advance of the Red Army made replacements impossible, whilst on the other hand the Poles, operating in a more confined area, were able to concentrate all their available reserves rapidly.

The Polish Army was also better armed and equipped than the Red Army; its troops were better trained, and they were supplied by the Entente powers. Tukhachevski declares in his book on the struggle[17] that the Polish Army was better trained and better armed and equipped than the Red Army.

The strategic history of the 1920 war has been fairly thoroughly pieced together in many expert investigations. In the beginning the Polish Army had the advantage of time and initiative. It made a sudden attack, overwhelmed the weak Soviet frontier defence forces and rapidly occupied a considerable slice of Soviet territory. A vigorous Soviet counter-attack broke the Polish front in the South by an encircling movement and a break-through, and the Polish front in the North by a frontal attack. Why did the subsequent offensive break down at the gates of Warsaw? Two groups of causes determined the failure: material and strategical. The Polish historian of the campaign, General Sikorski, who commanded the Fifth Polish Army in 1920, puts down the failure of the Soviet offensive primarily to the dimensions of the Eastern European theatre of war.[18] A decisive victory was impossible in such an enormous area for an army without possibility of reinforcement, without a regularly functioning base behind it and without either technical or numerical superiority over its opponent. The forces in action on the Soviet West front were too weak and too poorly equipped to encircle and destroy the Polish Army in the huge area between the Beresina and the Vistula.

Soviet military literature declares the causes of the defeat to have been the economic exhaustion of the Russian Hinterland and the strategic errors of the Red Army leaders. Soviet criticism of the Polish campaign of the Red Army is severe and ruthless. The present Chief of the Soviet General Staff, Shaposhnikov, holds that the execution of the war plan as a whole was responsible for the Soviet defeat: the South-West wing held back and the drive against Warsaw was delivered from the wrong direction, from the North-West instead of from the South-West, where there were much better possibilities for the development of successful operations.[19] The strategy of the operations before Warsaw is similarly criticized: the launching of a frontal attack and the failure to deliver heavy blows in the flanks and rear of the retreating enemy.

On the other hand, during the course of the whole war up to the battle before Warsaw, Polish strategy showed no superiority. Up to the battle of the Vistula the Polish Supreme Command did very badly, and General Sikorski admits this frankly. The Polish attack on Kiev was folly and it was paid for by the heavy defeat on the Dnieper: and during the whole of the retreat to the West there was no attempt to carry out any active defensive manœuvring. Poland's act of aggression risked the very existence of the young Polish State, whilst Soviet Russia never at any time risked more than losing one or two far-off frontier districts. Poland's stake in the game was Warsaw; Soviet Russia's only Minsk.

The happenings of the Russo-Polish War of 1920 are no argument at all in support of Poland's military strength to-day. In the event of a Polish-German military alliance the National Socialists will find cold comfort in such military reminiscences. The change has taken place since then in the relative strengths of the combatants is very obvious today; it is one of the clearest military-political facts in Europe. Not counting the Special Far Eastern Red Army, the Red Army today is four or five times as strong as the Polish Army, and its superiority in trained reserves is just as great. The Soviet covering army on the Western frontier alone is stronger than the whole of the Polish Army. Further, the military-technical superiority of the Red Army is enormous. In aeroplanes and tanks the relation is about 10:1 in favour of the Red Army. The Polish Army is not in a position to contemplate an engagement with the Soviet shock army, which consists of a powerful air force, tank armies, motorized infantry, air infantry, motorized artillery and modern strategic cavalry. Within the first 24 hours of such a conflict the Red Army would have the mastery of the air over the whole of Poland with all the resultant advantages. Motorization and the air arm mean the easy overcoming of distances. Today they mean victory over those vast spaces of Eastern Europe which were largely responsible for the defeat of the Red Army in 1920. To-day the Red Army is technically able to cope with such enormous distances, and it can do it rapidly. Further, a change has taken place not only in numbers and military technical resources, but also in strategical methods. Even in 1920 the Red Army set a pace unknown during the World War: over 310 miles advance in 5 weeks. That is even more rapid than Franchet d'Espérey's advance on the Balkan front in 1918. General Sikorski describes the offensive of the Red Army in 1920 as "decisive, courageous and even daring." In the event of war to-day the strategic élan of 1920 would be supplemented by powerful modern military technique and efficient strategic methods, because to-day Red strategy is master of the art it lacked in 1920; the concentric blow from various directions and the offensive against enemy flanks and rear. Annihilating operations have become the main theme and subject of its studies. To-day Poland is incapable of even effective defence against a Red Army attack, and the idea of a Polish offensive is absurd.

The "miracle on the Vistula" will not, cannot, be repeated in any future campaign.

[17] Tukhachevski, "The Vistula Campaign" (Russian), Moscow 1924.

[18] General Sikorski, *"La campagne polono-russe 1920,"* Paris 1929, pp. 285 and 288.

[19] B. Shaposhnikov, "On the Vistula" (Russian), Moscow 1924.

War Lessons

War news has been scanned eagerly by military minds for items or features which might form bases upon which to formulate battle lessons of the future. Self styled strategists have applied the chamois briskly to crystal balls in an effort to produce featured articles and sanctimonious comments. It may well be said that current events which have taken place between major powers are too young at this time to furnish any definite grounds upon which to base concrete conclusions. In considering the subject of military lessons during present days, are we not considering also events which have transpired during the past eight years? Certainly, when the battle ramparts of the entire world are brought into review over that extended period many conclusions of one nature or another will have been slowly gravitating in the minds of all commentators and military analysts.

Dubious Lessons

Unquestionably from accumulated incidents which have taken place in China, Ethiopia, Spain, and now eastern Europe, the conclusion has been drawn that the machine has proven supreme. Has it been overlooked that in each of these theaters of operations the machine has been pitted against the forces of impoverished and unprepared peoples? Has it, in reality, been so much the supremacy of the machine as the exertion of overwhelming strength against peoples completely dominated by opposing forces in every phase of modern warfare? Have not all of these operations been characterized by long, finger-like penetrations supported by over-extended lines of communications and made possible mainly through the hopelessness of the defenders' means and situation?

Also, has not every offensive action featured the presence and availability of ample and dominating air power which supported the advance? Had air power been altogether absent, would these rapid and rapier-like penetrations been feasible or possible?

Concrete Lessons

Few will contest the statement that a number of definite lessons may be gleaned from recent history.

Air power is a major factor in modern war. The domination of the air is very likely to portend success or failure.

The strength of prepared positions has in no wise been contested. Madrid, Warsaw are paramount examples of this conclusion.

A highly organized espionage system is of great aid—if it is known what is taking place behind an enemy's lines and something of his intentions, many things can be done that otherwise might prove costly ventures.

Those forces favored with the availability of well developed mechanized elements have proven successful in the face of an ill-prepared enemy. The conclusion must be apparent that the availability of these forces in strength is imperative under modern conditions.

That force which is able to maintain freedom of action is blessed with a transcendent advantage. Has not air power proven a vital instrument to this end? The extent to which mechanized forces have assisted towards this objective cannot be stated from recent history.

Lessons of the Future

In what way and in what manner will the efficacy of the antitank gun be proven? The future will furnish evidence of the necessity of available antitank weapons above and beyond those included organically in the division and lower elements. The answer here may be found in the organization and availability of highly developed antitank units assigned to G.H.Q. and the Army. Should not these antitank elements be the fastest and most mobile elements to be found on the battlefield? If these weapons are not faster than those mechanized vehicles which they are to combat can they be effectively employed? If they are not held in general reserve until hostile mechanization has been committed will they pay their highest dividends?

In rugged, difficult country, uncertain weather, and war of a guerilla nature, has the genuine value of horse elements been properly considered? Have horse elements possessing a proper increment of antitank weapons been tested in the face of highly mobile, but lightly armored, mechanized forces?

Is it to be proven that the best anti-mechanized protection is to be found in one's own mechanized forces?

Has the real strength of land-based aviation against seagoing traffic been tested or proven? Is this test probably not the paramount lesson which the current war is to prove or disprove?

Does the fear of retribution constitute a factor in the reluctant employment of great air forces? Has the inherent power of great air forces thrown a light on distant days of prolonged peace through the very potentiality of destructive powers?

If the annihilation of cities is to occur, do we face a new dimension of hand-to-hand combat underneath the surface of the ground?

Official Executioner

By PETER B. KYNE

During the Great War while I was commanding a battery of field artillery at Camp Kearny, one of my soldiers, whom I will call Private Hamestrap, approached me with the request that he be excused from drill every afternoon that week. He said he was training for a fight in San Diego the following Friday night. So it developed he was a box-fighter in civil life and was anxious to continue to pick up a few bucks to add to his army stipend. He said he was pretty good, although he had been knocked out a time or two, and added that his engagement was to fight a negro, weight one fifty-eight.

After explaining to Private Hamestrap that, since he was now my property, I was his fight manager and must be consulted before he accepted future employment in his civilian pursuit, I pretended to be distressed at the probability that the negro might, conceivably, murder him and thus bring shame and disgrace upon the Army. But he begged me not to feel that way about it; he assured me he would never, never put a splotch on our guidon. So I agreed to permit him to fight but warned him I'd be in his corner and if the negro knocked him out I'd send him away to France in an infantry replacement draft where he would be certain to get killed. I do not know why I said that. It was probably purely an unconscious defense mechanism to make Private Hamestrap think I was tougher than I am—or was.

Well, on Friday night I sat in the seat nearest his corner. He gave me an owlish look as he climbed into the ring and he must have thought I was there for the sole purpose of keeping cases on him. Followed the ever mysterious confab with the referee, the bell rang and Private Hamestrap advanced to the assault. He was a straight-up boxer, like old Nonpariel Jack Dempsey. He feinted with his left, crossed with his right and sent the negro spinning across the ring. The unfortunate man hit the ropes which gave, then sprung him forward on his face, and he lay as one dead. In fact they had to carry him out of the ring.

But, having landed the blow, Private Hamestrap was not interested in watching its effect. Seemingly he knew! He turned, ran over to his corner, looked down at me and queried anxiously:

"Was that fast enough for the captain?"

Cripes, he was my boy! I immediately turned him over to Sergeant Covars, who was (in his own words) all that was mortal of the late Chicago Jack Daley, who was the only man who had ever fought two legitimate draws with Joe Gans. I made Covars the trainer and coach of my Private Hamestrap, and, of course, we promptly entered him in the divisional boxing tournament.

In his first fight I saw that Private Hamestrap lacked the killer instinct. He was a magnificent boxer and a terrific puncher but was content to win on points; seemingly he loathed hurting anybody. Unfortunately, I was out to make him the 158-pound champion of the division and any other division that chanced by and thought they had a fighter. I hinted to Hamestrap that it was all right with me if he played ball with the field artillery, but that it appeared slightly unethical not to give the infantry the works. I realized, too, that it would be unethical of me to order him to commit murder against his will, so I sneaked up on the blind side of him. I told him just before he entered the ring for his next fight that I'd pay five dollars for a knockout. So Private Hamestrap was merciful and made a short swift job of it and I never begrudged him the five. Thereafter, whenever he climbed into the ring and looked around for me I'd merely hold up five fingers.

Of course he won the championship and in no uncertain manner, and I was so proud of him I made him chief mechanic because he loathed drillingly and the job gave him time to train and shadow-box, etc. I do not recall that he was remotely mechanically inclined!

One afternoon my first sergeant Snooper, a regular Army bluebird and as cagey and efficient a first sergeant as ever wore a government brogan, laid before me an order reducing Chief Mechanic Hamestrap to private. I screamed. I said: "This is no way to treat Hamestrap. Has he killed somebody?"

"No, sir," replied Snooper, "but if my plans work out he'll half kill somebody. That big bum So and So has to have special treatment. He's been in the can and he likes that, because he can sleep a lot and the colonel is so kind-hearted he permits the prisoners to smoke and play cards and do as little work as possible. I can't think of any more battery punishment and he doesn't mind that anyhow. He's the worst recalcitrant I have ever known and I'm tired monkeying with him. So I'm going to have Hamestrap explain to him the error of his ways and then lick hell out of him. The guy has to have physical punishment and the regulations forbid you ordering it. So I'm making it unofficial."

"But what," I demanded, "has this got to do with Hamestrap's reduction?"

"Everything. When I read this fake order out at retreat Hamestrap will feel disgraced, because he knows he hasn't done anything to merit the boot. So right after retreat he'll come crying to me in the orderly tent to ask me, confidentially, why the captain has disrated him. I'll say: "Hamestrap, I don't know. The captain is a very peculiar man and seldom tells me what reasons actuate him in busting a man. However, I THINK I can get you restored —provided you're willing to do something that will please the captain greatly."

"Ah," I murmured, "I begin to see the light. Well, it's a noble experiment, so let's try it."

We did and the top told Hamestrap that if he would get into an argument with So-and-So and tell him he was a bum and a no-account and a nuisance and a disgrace to the battery and an annoyance to the captain and then give him a sound thrashing, he, the top, would make it his personal business to ask me, as a favor to him, to reinstate Private Hamestrap as chief mechanic.

Hamestrap smiled a beautific smile as the tale unfolded —and five minutes later he and his victim were going to it in the battery street. The top and I remained aloof. Why not? We knew what was going to happen. And it did. When the fallen one came to Hamestrap told him that the very next bobble he made meant a trip to the hospital.

There were no more bobbles from that bird. However, the draft sent us another presently and the top called Hamestrap in and said: "Hamestrap, the captain is thinking of busting you." To which Hamestrap, who was quick on the up-take, queried eagerly: "What guy does he want licked?"

My recollection is that Hamestrap was a tower of strength in the taming of our men who thought they were tough. It was pretty nice to have an Official Executioner to spare one a lot of trouble.

We went to France. One night, in a village near Bordeaux, I was taking a pasear down a lane after dinner when clear and loud across the fields I heard an anguished voice crying: "Captain, captain, captain!" Inasmuch as I was the only captain in that village, naturally I responded on the run and presently, by following the voice, I found, in front of an inn up a side road, Private Hamestrap, a little drunk, with blood gushing from a stab in his kidneys. He was reeling around looking for trouble and all in the midst of six prone men from Headquarters company.

"Hamestrap," I shouted, "I'm here, so quit your bellowing. What's up?"

"I'm dying," he replied. "I'm stabbed. I got in a poker game with six wops from headquarters company an' they took me like Grant took Richmond. I caught one guy palmin' an ace an' socked him across the table an' the rest jumped on me. "This guy"—spurning one of the fallen with his army brogan—"slipped the knife into me and then threw the knife over the fence into that wheatfield."

A frog came down the lane in a cart, so I halted him, took the names of the fallen from their dog tags, threw the stabber and the stabbee into the cart and fled in high to our medical office. The medico probed and decided the knife had gone into the kidney cavity but had not touched a kidney. So, barring complications, Hamestrap ought to be ready for another scrap in about ten days. However, I decided to take a postmortem statement from Hamestrap, and as once in my variegated past I had been a stenographer and can still do a hundred words a minute, I got some paper and pencils and started the inquisition.

"Hamestrap," I asked, "do you identify this man as the one who stabbed you?"

Hamestrap shuddered. "I can't see him clearly, sir," he moaned. "Bring him closer, please. Oh-h-h! How I suffer!"

He drew his knees up to his chin, so great, apparently, was his agony, and I brought the wop up within range, whereupon Hamestray let fly with both hind legs, like an army mule. He landed both in the wop's midriff and knocked him across the room. The man lit unconscious and we were about ten minutes bringing him back to life, while Hamestrap grinned amiably.

"You should not have done that, Hamestrap," I said sternly. "I'll take care of this fellow. I'll see to it that he goes to the prison farm near Paris—"

"For God's sake, No," howled Hamestrap. "Leave that guy to me. Don't take him away from me, sir. I won't testify against him. I want him private-like as soon as I can get around to it."

"Very well," I agreed, "have it your own way. But do you know what you've done by getting drunk and disorderly?"

"I've put myself in hospital," he agreed.

"You've done worse," I almost moaned. "You've lost the outfit. We're leaving this country tomorrow for God knows where and when you come out of hospital they'll send you to a casual camp and in all probability they'll toss you into the infantry and send you up to the front and get you killed."

"Oh, God, don't let the sons do that, sir," Hamestrap howled, and wept bitterly.

I assured him there was nothing I could do about it, and there wasn't. Already I had abandoned Hamestrap to his fate, but when an ambulance arrived from Base Section No. 6 Hospital I hopped aboard and accompanied Hamestrap to the operating table. A nice major medico with a harsh voice cursed and growled and wanted to know why the hell I'd brought a man that only needed a patch of court plaster to send him back to duty.

Now, I have lived long enough to know that the toughest doctor is one who harbors a soft heart and is deathly afraid he'll be found out. I said to this fellow: "Who commands this poultice brigade, anyhow?" and he replied: "I do—and the hell with you. What's it to you?"

So I told him all about Hamestrap. I told him I was saving Hamestrap and two others to fight British gladiators if we ever found ourselves in a sector with the British; that if I lost Hamestrap I'd lose a fat chance to clean up on sure thing bets, and would he see to it that when Hamestrap was discharged from hospital he be not given a travel order to a casual camp but back to my outfit. I told him how Hamestrap had to lick six men to get into the hospital and the medico's hard face softened and he said: "Why, of course, captain. Wire me where you light and I'll give this hearty baby a travel order back home."

Then he took me into his office and gave me a drink of the only Bourbon I ever had in France. Hamestrap wept with gratitude and said: "I knew you'd make the grade, captain. You always do. That's what comes o' bein' a genius an' writin' books. Why, every so an' so in the world knows you!"

Hamestrap's childish pride in my civilian compliments and his faith in my power were very touching.

He reported in to me twelve days later and that very night (it was bright moonlight) I caught him stealing a huge bundle of brambles from some frog's store of winter fuel. I looked the other way, hoping he'd send some down to my billet, where I was freezing, but he didn't.

On the way home we held a boxing tournament on the main hatch forward one day when the sea was glassy smooth. I was master of ceremonies and, of course, Hamestrap was there to hold up the honor of the army, which needed it, because those lads on the naval transports were always in shape and pretty good and had been whaling the tar out of gladiators among the homeward-bound troops.

Hamestrap fought three times that afternoon and earned fifteen dollars. I think he must have had a hunch that if he stuck around he might pick up another five, for he got into his overcoat and waited. Presently the Navy trotted out a heavyweight as big as a gorilla and I had to announce that my regiment had no heavyweight to oppose him, we having left our heavyweight behind in France to compete in the A.E.F tournament out of which, it will be recalled, Gene Tunney emerged heavyweight champion.

My speech was no sooner finished than I felt a sly poke in the ribs and Hamestrap was murmuring confidentially:

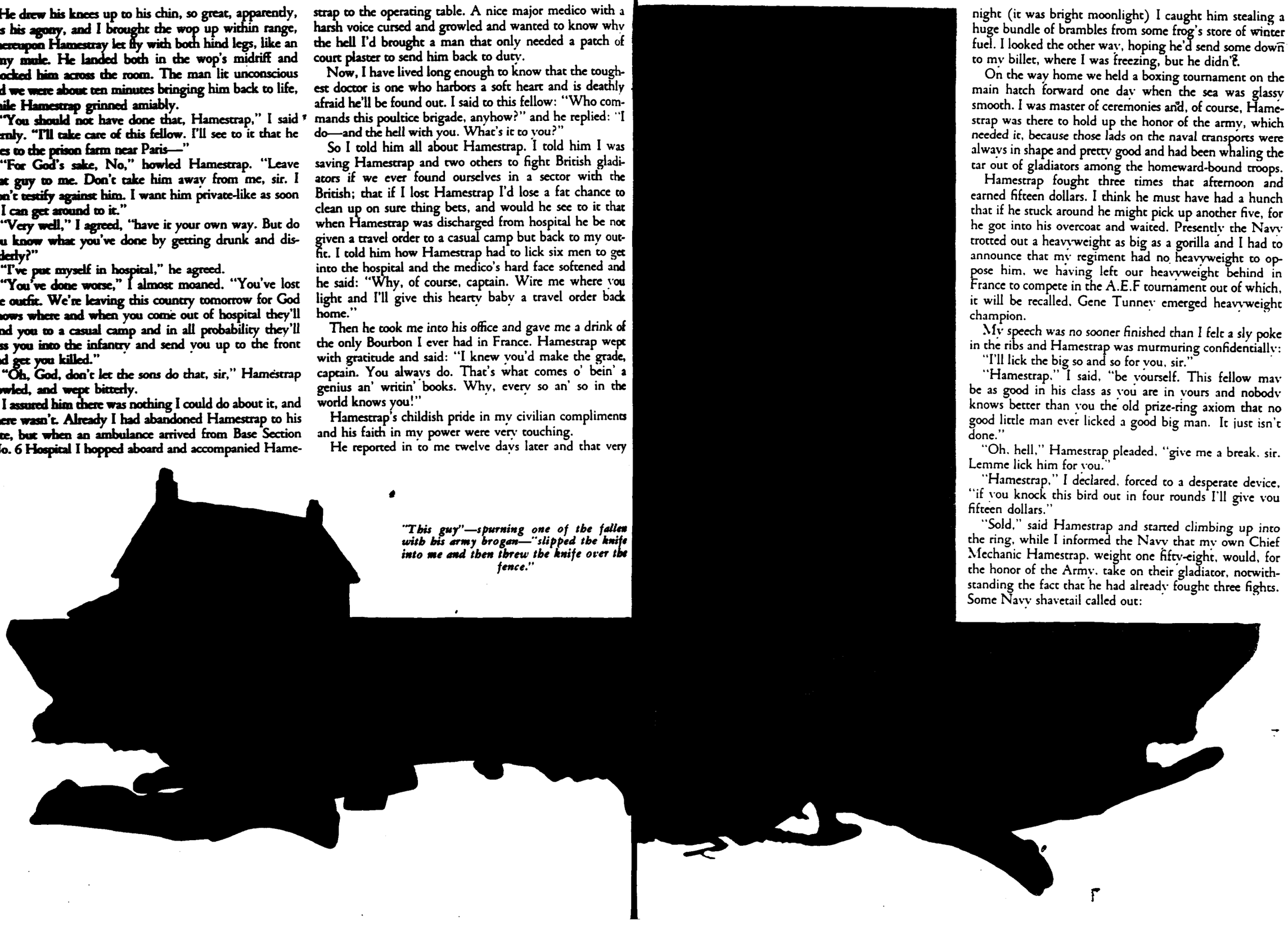
"I'll lick the big so and so for you, sir."

"Hamestrap," I said, "be yourself. This fellow may be as good in his class as you are in yours and nobody knows better than you the old prize-ring axiom that no good little man ever licked a good big man. It just isn't done."

"Oh, hell," Hamestrap pleaded, "give me a break, sir. Lemme lick him for you."

"Hamestrap," I declared, forced to a desperate device, "if you knock this bird out in four rounds I'll give you fifteen dollars."

"Sold," said Hamestrap and started climbing up into the ring, while I informed the Navy that my own Chief Mechanic Hamestrap, weight one fifty-eight, would, for the honor of the Army, take on their gladiator, notwithstanding the fact that he had already fought three fights. Some Navy shavetail called out:



"This guy"—spurning one of the fallen with his army brogan—"slipped the knife into me and then threw the knife over the fence."

"What are you paying your man for knocking our man out?"

"Fifteen bucks," I replied, "but if your man knocks Hamestrap out I'll give twenty bucks to the victor."

"Not a chance," said Hamestrap as he shed his overcoat and hopped joyously around in the rosin box. He put up his dukes in the old Nonpariel Jack Dempsey style and the big Navy lad fell into a crouch. They moved around the ring a minute feeling each other out and I saw a sweet little smile playing around the corners of Hamestrap's rather good-looking mouth. He looked over his shoulder at me as he circled past and said: "How about twenty bucks for the old chief mechanic for a knockout in the first round, sir?"

"Sold," I called back—and Hamestrap stepped in with a right cross. Ensued two minutes of murder most foul with the Navy man wabbling back to his corner on rubber legs.

Hamestrap was desolated. "Gosh," he complained, "he's tougher than I thought. He can't fight but he sure can take it. The big boob has cost me five bucks."

I fanned him with a dirty towel. "Knock him out before the middle of the next round and you still get the twenty bucks, Hamestrap," I promised and Michael Angelo never painted as sweet a smile on the face of a cherub as that announcement drew from Hamestrap. He won that extra five in fifty seconds and I was never so happy to part with money.

We came home to the Presidio of San Francisco to be demobilized. I had accumulated in the draft sent me to replace the casualty replacements sent to France long before the regiment started for the same objective, a tough German Jew. My first sergeant had found, in his civilian clothes, a card showing membership in the I.W.W., and Intelligence had sent me quite a dossier of affidavits touching on his disloyalty and general worthlessness as a citizen. He had been a subversive influence in the outfit until he and I had had a private talk and I had informed him that on the way up to the front at night, if we got under fire, I was going to bump him off and if I got bumped off first the top sergeant was to attend to the job. Thereafter he behaved.

However, it was no part of my plan to turn this fellow loose on my country with an honorable discharge, so I gave him a green ticket with character Good, which was the worst I could give him, and wrote something in red ink across the face of the discharge that was not complimentary. After the outfit had returned from the pay table where the discharges had been given them, this man came hunting me up, object murder, but upon observing I was wearing my automatic he contented himself with a stream of foul abuse.

Just then I happened to see Hamestrap emerge from one of the demobilization shacks, his gas mask and tin hat in one hand (we gave them to the lads as a souvenir) and a straw suit-case in the other.

"Hamestrap," I called, and he reported double-time. "Hamestrap," I said, "this fellow has abused your captain. As a final labor of love, will you give him a good sound commercial thrashing for me?"

"Why, with pleasure, sir," said Hamestrap and did it. Not content with that, he picked the fallen man up, waded out into San Francisco bay to water three feet deep and tossed his victim in to drown. I made him tow the fellow back to shore. So Hamestrap stood there soaked to the buttocks and smiled and said: "Well, sir, I'm a civilian now. May I shake hands with the captain?"

So we shook hands and Hamestrap said: "Sir, take a memo of my address. In case the captain should ever have occasion to use me again for one of these little private affairs I'll always be glad to accommodate him—an' if I'm sick an' can't come I'll send a friend."

I thanked him. Tears came into his eyes. He was an emotional cuss, for a fighting man, and he sensed that he was cutting a tie of sorts. So did I. He stepped back, came to attention, saluted, made a proper about face and walked away.

We have not met since.

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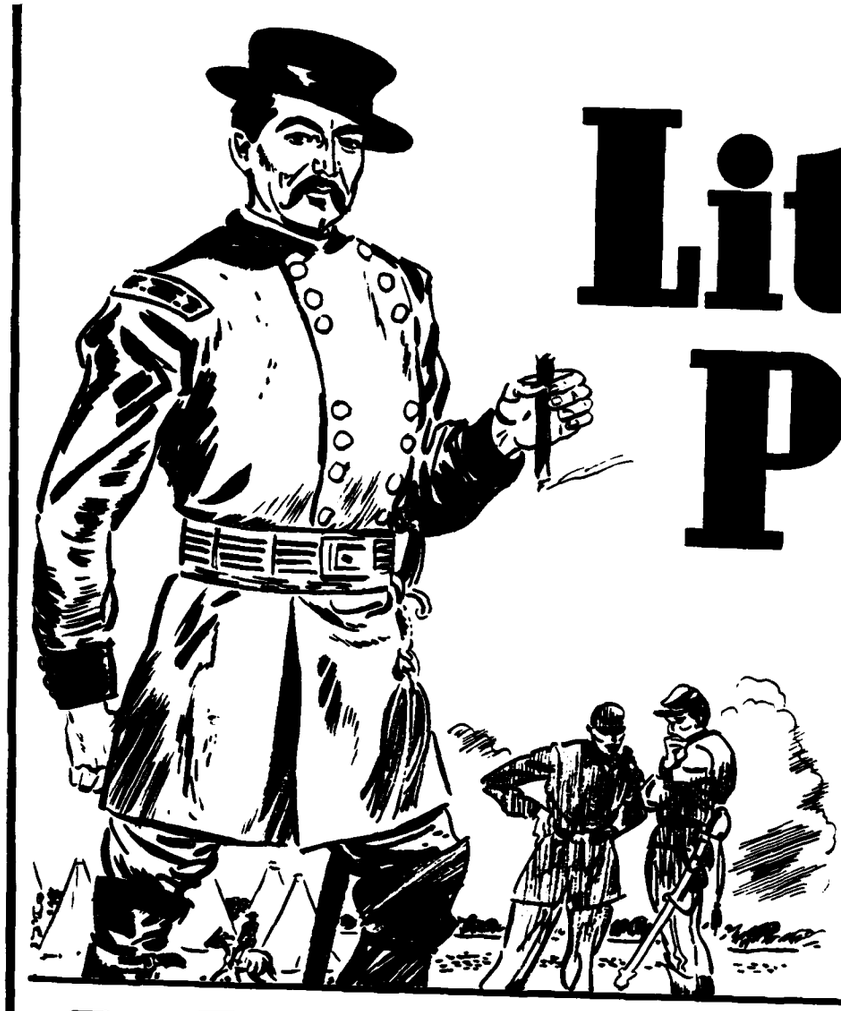
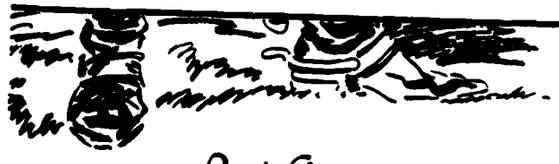
"It was established that aerial bombardment is a most effective weapon against the preparation of counterattacks in open country and that the air strength of warring powers must be somewhere near equal if the war is to be fought on anything like even terms."—Associated Press, September 19, 1939.



Little Phil

Illustrated by Howard Williamson

By FLETCHER PRATT



Part One

The decisive hours of the Civil War are generally considered to be those of the afternoon of July 3, 1863, when Pickett's column moved through the long grass, while 1,500 miles away flags of truce hung limp in the heat along the ramparts of Vicksburg. This is accurate if the war be thought of in the light of European precedent, and only untrue when we remember that for the Union mere victory was equal to defeat. It should not be forgotten that a soldier's work is incomplete until he has decisively influenced the political situation, and the double victory of 1863 did not achieve this result. A year after Gettysburg and Vicksburg—a year that had seen the Chattanooga battles and the better half of the titanic Atlanta campaign piled on the summit of these triumphs—the Democrats were seeking political control in the North by denouncing the war as a failure. It seemed to many intelligent men, among them Thurlow Weed, Salmon P. Chase and Lincoln himself, not unlikely that the Democrats would convince the country they were right and make a peace that left two nations.

The "decisive" battles of the Civil War thus decided nothing but that the Confederates could not win in the

A tough Mick who saw that a cavalryman was only an infantryman with 4 detachable legs

field. They might still gain their essential point by default. The task that faced the North at the opening of 1864 was infinitely more difficult than anything it had yet accomplished. It was required not only to achieve military victory (though this was an indispensable preliminary) but to achieve it in a manner that involved the extinction of Southern morale and the prevention of that guerilla conflict which most European observers considered as certain to follow the operations of the field armies.

In this sense both Vicksburg and Gettysburg were indecisive. They damaged, but did not slay the Confederate spirit. If Pemberton had been less a ninny, the one would not have been lost; if Lee had not made one of his rare errors, if Stuart had not been absent and Longstreet sulky, the other might have been won. The Southerners reasonably felt that a comparatively minor change in the conditions of either conflict would have reversed the results. They went on fighting in the expectation that the law of averages would provide both changes in another combat. The battles that broke their hearts as well as their heads did not come till later; and these were named Chickamauga, Yellow Tavern, Cedar Creek, Five Forks.

The first was Thomas' battle and affected the western theater of war alone. But the other three have four elements in common. Each took place in that Eastern piedmont on which the attention of the people on both sides of the strife was riveted, and thus yielded the maximum moral effect; each was the crowning act of a campaign; in each, cavalry, the special and favorite arm of the South, was deeply engaged; and in all, the Union commander was Philip Henry Sheridan.

With Sheridan there triumphed in these battles not only the Union army. There triumphed also an entirely new, purely American doctrine of war, of the use of the mounted arm—an idea that had been struggling dumbly for expression since Richard M. Johnson's Kentucky riflemen made razor-strops of the skin from Tecumseh's legs after the Battle of the Thames. It was a doctrine that could not possibly have been framed south of the Potomac, in spite of the fact that the Confederacy entered the war with an aristocracy habituated to the saddle and with considerably more than its proportionate share of the cavalry officers of the old army.

In fact, it was a doctrine that could hardly have been born in the mind of a cavalryman at all. For cavalry officers, North and South, were so imbued with the history and tradition of their arm as to be incapable of perceiving that the advance of mechanical science had deprived this history and tradition of all meaning. They continued to think in terms of the days when the infantryman's gun was ineffective beyond a hundred yards and could be fired at most, twice while the cavalryman was crossing that distance. They thought of Murat and regarded the charge of the gallant six hundred as an example of courage and not as one of stupidity.

The Northern cavalry service had clearly failed as a Napoleonic arm when the Mine Run campaign closed out 1863, with its demonstration that the most serious part of the war was still to be fought. The reaction of an ordinary commander to this failure was that cavalry, having become an arm useless for heavy fighting, should be turned into a kind of military police force, charged with convoying trains and doing picket duty for the rest of the army. This had been Hooker's reaction after Chancellorsville, and Meade inherited it from him. It took something more than an ordinary commander; it took, I say, a commander on the edge of genius, to throw all received ideas out the window and start afresh from the concept that a cavalryman was only an infantryman with four detachable legs.

This was Sheridan. He pronounced a bill of divorcement between the cavalryman and his horse, a thing unheard of since true cavalry was born and the Goths came riding across the steppes.

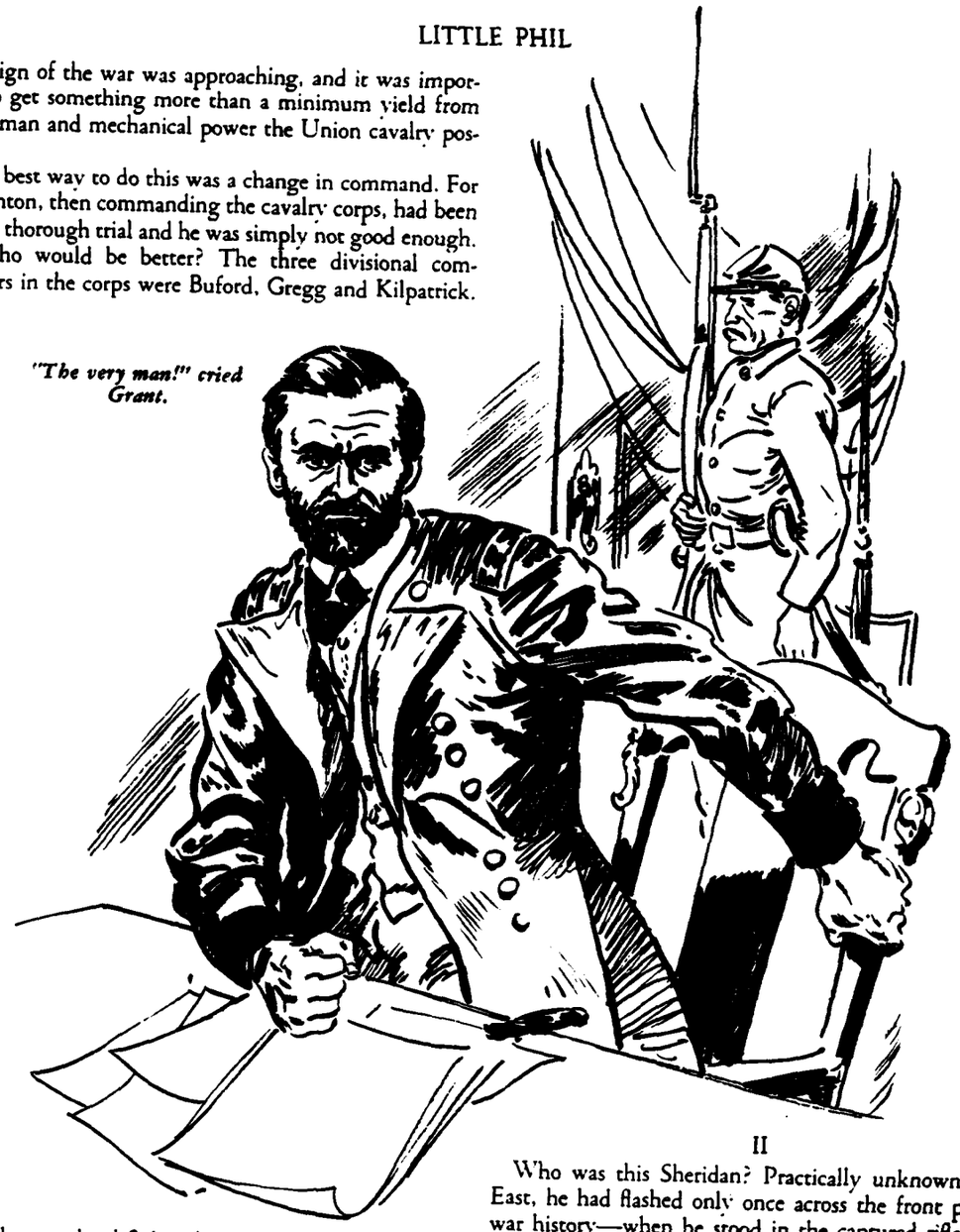
The basic doctrine was not altogether novel, and perhaps not even independently original with Sheridan. John Buford, for one, had held the idea and might have pushed it farther had he not been debarred by death from becoming more than a subordinate commander whose originality was limited to the tactical field. It was Sheridan's special merit that his precise and orderly brain evolved a harmonious and logical structure from the various elements he found already existing. It was his special accomplishment that through his treatment of cavalry, not as a separate arm with peculiar disabilities, but as a kind of fast-moving foot soldier, he achieved the only pure offensive to be found in the Civil War.

For Lee, a master of the tactical attack, always developed his successes out of the strategic defense, against enemies moving in, with lengthened communications, across ground he intimately knew. In both the battles he fought during advances he was beaten. Grant and Sherman, who might have possessed parts of the same brain under two different skulls, exactly reversed Lee by acting on the strategic attack but tactical defense. They aimed to place armies in positions where the enemy must hit out at them. Both failed (Cold Harbor, Kenesaw Mountain) when they violated this principle. Thomas was strictly a counter-puncher, waiting for an enemy advance, which he parried with one hand while knocking out his opponent with the other. Only Stonewall Jackson approached Sheridan; and there is more than a verbal coincidence in the fact that Stonewall's men were known as "the foot cavalry" while Sheridan's were cavalry who fought on foot.

At the time of the great winter conference of 1863-1864 on military affairs, with Lincoln and the army leaders present, nobody was thinking of getting a man of genius or a new doctrine of cavalry. It occurred to nobody that defeat of its mounted arm might have a ruinous effect on the morale of the Confederacy; though for both political and military reasons everyone seems to have agreed that they could not afford to have Stuart riding circles around the Army of the Potomac any more. In other words, the views of the conference were negative. The decisive

campaign of the war was approaching, and it was important to get something more than a minimum yield from the human and mechanical power the Union cavalry possessed.

The best way to do this was a change in command. For Pleasonton, then commanding the cavalry corps, had been given a thorough trial and he was simply not good enough. But who would be better? The three divisional commanders in the corps were Buford, Gregg and Kilpatrick.



"The very man!" cried Grant.

Kilpatrick was a hard fighter but a still harder rider. The men knew him as "Kill-cavalry," for he normally arrived at the scene of action with horses blown and panting, men dropping from the saddle with weariness. Gregg was just the sort of mercurial leader Grant most distrusted—perhaps the best of them all when swinging to victory, perhaps the worst when things went wrong. Custer and Wesley Merritt were too junior. Grant asked for old General Franklin, whose talents he held in an incomprehensible respect, but the others frowned him down and there was a silence till General Halleck cut the knot with the suggestion, "How would Sheridan do?"

"The very man!" cried Grant, and that night a telegram was dispatched for Sheridan.

II

Who was this Sheridan? Practically unknown in the East, he had flashed only once across the front pages of war history—when he stood in the captured rifle pits at the foot of Missionary Ridge, and lifting his whiskey flask toward the rebels on the towering summit, shouted "Here's how!" before he drank the toast. As the last drops trickled down his gullet a shot from a big gun up there threw dirt all over him. "I call that damned ungenerous!" cried Sheridan. "I'll take those guns for that!" and flinging the empty flask up the slope he started after it—the beginning of that incredible charge up a mountain like a mansard roof.

Army circles knew slightly more about him. They knew him for the hero of the fighting at Perryville where he had held his division all day against overwhelming rebel attacks, and in the evening put on a counterstroke that tore Bragg's line to pieces. He had done well at

Chickamauga where, though his division had been one of those carried from the field, he rallied it in time to come back and cover Thomas' retreat. At the dreadful battle of Stone River he had done surpassingly well; had slowed and then halted the Confederate attack of the first day and formed the anchor of Thomas' line. In the dramatic midnight council of war he stood with Thomas against retreat, and even asked permission to lead the counter that eventually won.

Most of the rest was gossip that drifted up by word of mouth through junior officers, for Sheridan was the youngest division commander in the armies of the West, belonging to a later generation than most of the high command. That gossip would tell, for instance, how he came to West Point, a tough little Mick of a store-clerk from Ohio, poor as Job's turkey, with a chip always on his shoulder; how he wrangled during drill with Cadet Sergeant Terrill, and after trying to jab that student officer with a bayonet, had challenged him to a fist fight behind the buildings, coming out of the encounter with a black eye and a year's suspension; how he had been graduated in 1853, an undistinguished thirty-fourth among fifty-two, and was ordered to Fort Duncan, Texas, as a lieutenant of infantry.

There again he fell on stormy weather, which can perhaps be traced to the fact that all his life long Sheridan was a picturesque and vivid swearer, while the colonel in command was equally noted as a God-fearing man of the Puritan type. There was as much disagreement as there can be between a very junior lieutenant and a very senior colonel, with petty persecutions on one side, petty sabotage on the other. Sheridan finally escaped via a requested transfer to the 4th Infantry, then on duty against the Yakima Indians in the Pacific Northwest.

The country was ill-explored, the Indians almost inveterately hostile, and young Lieutenant Sheridan was very much on his own in leading detachments out to deal with them. But in that hard service he found himself. He displayed a perfect passion for topography; never went out on an expedition without taking surveying instruments along and mapping every inch of the country he covered. Two other details of this period have survived, interesting in view of his later career. Lieutenant Sheridan formed the habit of requisitioning all the mules he could lay hands on and mounting his infantrymen on them for movements up to the scene of action; and in dealing with the Indians, he displayed a wonderful gift of blarney, could always talk them out of hostile intention if he could get them to pow-wow before the shooting started.

Much of this, however, was not to be dredged from memories and records till the young lieutenant was famous. The service papers lying before Lincoln, Halleck, and Grant at that winter conference would have stated only that Lieutenant Sheridan was ordered east at the outbreak of war, arrived late because of the distance, and was assigned to the Herculean labor of auditing the accounts left in confusion by the ornamental Frémont. A year after the war began he had only attained promotion to a captaincy and was quartermaster of Southwestern Missouri, that is, effectively buried. Grant and Sherman were already generals, the former already a famous general; Thomas had an independent command and McClellan more military authority than any American since George Washington.

But at this juncture Sheridan caught his tide. Quartermaster business brought him frequently to the headquarters of the western armies where he met and was liked by Gordon Granger, then a brigadier of several months' standing. Granger's old regiment, the 2d Michigan Cavalry, had gotten into bad shape since he moved upstairs. He wanted an officer to straighten the command out, and the name of the young quartermaster, who was running his department like a clock, naturally suggested itself.

Granger put the matter up to Halleck, then commanding the west. That formalist, who had already been impressed by the neat way Sheridan ran his freight schedules and his fastidious paper work, gave the promotion his blessing. This was how Sheridan, whose nearest approach to mounted action had been muleback operations in the 4th Infantry, came to be pitched into the Corinth campaign at the head of a regiment of horse. He was to be a lieutenant-general before he received his colonel's commission.

Fortune rode with him on his first mission, a detached one to hold Boonville, Missouri, with eleven companies of his own regiment and the 2d Iowa, about 759 men all told. Most might not consider it fortune, however—Confederate Chalmers came down to shoot up the place on July 1, 1862 with 4,000 men. Sheridan had chosen a position where his flanks were covered by a pair of swamps, and the attack was canalized into a narrow front where his dismounted riflemen waited, but the disparity in numbers was so great that by noon things began to look grim.

Sheridan summoned a trustworthy officer, Captain Alger; gave him ninety men, armed with Colt "revolving carbines"; told him to go by a circuit and fall on the enemy's rear, shooting for all they were worth from the saddle, making a racket whether they hit anything or not. Now, says Alger, who has told the story, he understood why his colonel had spent half the previous night poring over maps of the region. In the heat of that conflict, among the ceaseless attacks, Sheridan gave him road directions as clear and precise as though he were telling a man how to find the post office. Alger rode off with his ninety; made his circuit, and charged the rebel rear with guns banging. At the same time Sheridan threw forward his own dismounted men in a countercharge against the Confederates, who were mostly still in the saddle.

There is one thing about mounted cavalry. If it once gets started going either forward or back, it is very difficult to stop. Chalmers' men had started going back when Alger struck. Sheridan's charge kept them going with doubled speed, and in half an hour the four thousand had left the seven hundred fifty in possession of the field and the enemy wounded.

It was an outstanding feat of arms in a campaign that had very little outstanding about it. The young commander was given a temporary brigadier's rank and was sent by Grant to Buell a month later, when Bragg's invasion of Kentucky caused the Army of the Cumberland to ask for help. Sheridan was taken from his two regiments of horse to arrange the defense of Louisville, which he did so well that he was placed in charge of one of the new divisions of infantry in the campaign that led to Perryville. While ex-Cadet Sergeant Terrill was being killed at the head of his brigade in one part of the line that day, Sheridan in another was the heart of the Union defense, the best man on the field, winning his step on the ladder that had now brought him to Chief of Cavalry in the Army of the Potomac.

III

There is a certain amount of mystery in how Grant came to assent so enthusiastically to the nomination for the most important cavalry command in the nation of a young man whose ten years of active service had included only four months with cavalry, and those at the head of a single regiment. The commander-in-chief did not know Sheridan well. He had seen him in action as a general officer only during the week or two of the Chattanooga fighting, and the most favorable reports on Sheridan came from men Grant was rather inclined to distrust—Buell, Rosecrans, Halleck.

The choice is perhaps explained by a remark of Grant's long later: "No man ever had such a faculty of finding things out as Sheridan. He was always the best informed man in his command as to the enemy." This is full of illumination, not only on Sheridan, but also on Grant's own theory of the employment of horsemen in a world where they had been banished from the battlefield. He evidently thought of the arm as screen and counter-screen, whose function was to conceal the movements of one's own forces and to acquire information about those of the enemy. Sheridan's preternatural activity, physical and mental, his deep interest in and knowledge of topography, his ability at questioning prisoners ("That there man, he'll talk the eyes right out of your head," said one of them)—these things impressed Grant as the proper equipment of a cavalry leader.

Yet both Grant and Halleck had misgivings when the man arrived in Washington on April 4, too late for any change to be made before the opening of the campaign. Grant particularly, as he confessed later, "formed a very unfavorable impression." Seen in a drawing room Sheridan was a "most extraordinary figure. His chest was large and full, his legs short and small, and his arms so phenomenally long that his hands reached down below the level of his knees." Above this was a small head, bearing little bright eyes like those of a bird and a face that registered doubt both about his own ability and the wisdom of accepting the new appointment.

Sheridan was, in fact, inclined to view the cavalry command as a demotion. He was due to take over a corps in the western armies and liked service there, among the free-and-easy veterans who turned out on parade to bleat at an officer when they considered his behavior sheeplike, or offered him chewing tobacco as a special delicacy when they liked him. The Army of the Potomac, he understood, was more strait-laced in discipline. He doubted his ability to give satisfaction under the conditions. Grant eyed him ruminatively, puffing cigar smoke, and was ultimately delivered of the remark that the new Chief of Cavalry would have pretty much of a free hand on one condition—that he keep Jeb Stuart out of mischief. Sheridan's face cleared at once, and two days later he was riding down to inspect his new command.

There were 10,000 effectives in three divisions, commanded by Gregg, Torbert (a new man come up through the ranks to replace Kilpatrick, who had gone west to join Sherman), and Wilson. The last was another of Grant's surprise appointments—the youngest man so far to bear stars on his shoulders, an engineer of the West Point class of 1860, who had been a kind of secretary and personal inspector-general to Grant in the West, but who had never led troops. The men looked strong, healthy, smart—Sheridan has recorded his pleased surprise at their appearance—but the horses were the merest flea-bait. It did not take the inquisitive new commander long to discover the reason for a state of affairs that would be pardonable only at the close of a long and hard campaign.

The cavalry were doing picket duty for the entire army, round a circuit of sixty miles, besides having the standing assignment of furnishing heavy escorts for every provision train and every column of infantry that moved on the roads in back areas. Sheridan went to Meade with a demand that his corps be concentrated as a fast battle wing of the main army and relieved of drafts for the service of security.

Meade's concept of cavalry was that which had grown up in the Army of the Potomac. It was not thought out at all; it was imposed on the army from outside, by the pressure of Mosby's lightning jabs and Stuart's long rides around the rear; and it was essentially defensive. The commander was horrified by Sheridan's demand. "What will become of my trains, my flanks, my moving columns?" he asked.

Sheridan: "If you let me use the cavalry as I wish you need not worry about trains or flanks. As for the infantry, it ought to be able to take care of itself on the roads."

Meade demurred, filled with the engineer's distrust of new ideas that could not be expressed in figures and Sheridan had to develop his theme. The infantry, he said, were about to attack the enemy's infantry; why then, should our cavalry stand on the defensive against the Confederates'? If our mounted men be concentrated the enemy will dare just one more of those long raids—his last. For a concentrated cavalry corps will then face him from a prepared position across his line of retreat, or alternatively,

deliver 10,000 men at any desired spot on the enemy rear at any time desired.

"It is the business of cavalry to fight cavalry," Sheridan went on, "and if there is no cavalry there to fight, to attack the enemy's infantry in their most vulnerable point." Warming with his own logic he demanded thrice the normal equipment of artillery for his horse, as much artillery as infantry would have. Cavalry used as he meant to use it would be seizing positions behind the enemy, points vital to that enemy, which he would fight like the devil to regain. Cavalry mobility was a means to the end of arriving at an effective point for an infantry battle—

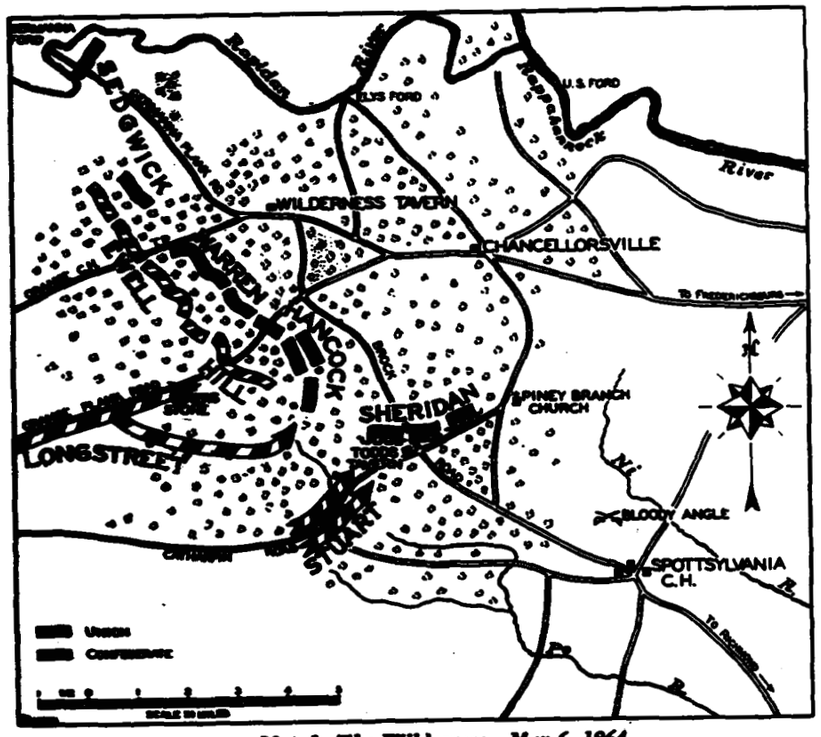
At this point Sheridan had parted company not only with Meade but with Grant also. The latter's theory of cavalry was different from that of either Meade or Sheridan, but he possessed a brain so habituated to following the essential through mazes of side issues as to resemble a mechanical instrument. The registering dial of that machine reported to him that Sheridan was proposing to submit the rebel cavalry to the novel experience of being attacked. This chimed with his own idea of cavalry as a service of information and anti-information. He decided the argument about concentration in Sheridan's favor, but as for the extra artillery—no, not at present. The decision accurately reflected Grant's questioning middle-ground attitude at the time.

IV

The inquiries and arguments took two weeks. Sheridan was granted two weeks more in which to assemble his men and to rest their horses before reveille on the third of May blew the opening of the Hammering Campaign. Two of Sheridan's divisions led the two columns of infantry across the Rapidan that morning. Division Torbert, by Meade's orders, was held back to guard the rear—a perfectly proper employment for the nimblest troops of the army by Meade's ideas. Though Sheridan could hardly have agreed, he forebore any protest at the time.

On the 5th the Battle of the Wilderness broke among the tangled thickets south of the stream. Only two of the three big Confederate corps reached the field that day. On Lee's left, Ewell, with ground and good tactics in his favor, held Warren and Sedgwick around Wilderness Tavern amid appalling losses on both sides. On the Confederate right A. P. Hill did not get his men up quite so soon, and when he did arrive, found Hancock's II Corps, with the best battle-captain in the Union army, facing him. The fighting went ill for the Confederates; Hill lost ground, men and morale, only closing night saved him from a break.

But out of that partial defeat Lee drew a battle plan for the second day as perfect as a painting by Leonardo. (Map 1.) Longstreet arrived during the night with the third big corps. While Ewell held on the Confederate left and Hill slightly retired in their center, this fresh corps was to work round Hancock's flank and strike, crushing Hancock's corps and the line behind him against the anvil of Hill and Ewell. Stuart, who had also just arrived with the rebel cavalry, was to ride round Longstreet, throw out a wing to menace the Union supply trains around Fredericksburg, then turn in behind Longstreet against the Federal rear. Like Leonardo's greatest work the plan went to pieces through the shifting of the foundation on which it was painted. As expected, Hancock attacked again the next morning, rushing Hill back till Longstreet came in on his flank. The Union division of General Mott was swept away, men coming back through the woods all disorderly, some with weapons and a few without. But they came past Hancock himself. He rallied them in person, shouting "Halt here!" till a brigade from his own reserve and a division from Grant reëstablished the line. Under the increasing pressure he took up the retrograde indeed, but slowly, in good order, with no real gain to the attackers.



Map 1: The Wilderness—May 6, 1864.

Astonishment ran through the ranks.

Longstreet, trying to press home, went down with a bad wound. His corps took losses it could afford only as the price of crushing victory, and as twilight sifted through the spring leaves, crushing victory, any victory, was still far distant, riding with Stuart.

For Hancock's stand and Longstreet's wound had left Confederate success dependent on Stuart—whether he could coax Sheridan back on the trains, break his connection with the II Corps and arrive on its rear with something over 8,000 men. And Stuart, for the first time in his career, had failed to reach his final objective, or any other objective.

He started early on the morning of May 6, in two columns, just at the flank of Longstreet, toward Todd's Tavern, at which point the columns were to pivot north. Ambling easily along, the rebel horsemen reached the pivot points without difficulty, but there found log breastworks from which they were received with so lusty a fire of musketry that they reported the presence of Union infantry. Stuart weighted his column heads and tried to drive through. He was violently repulsed while the ground shook with Hancock's struggle farther north, could not win an inch, and in the evening reported that Grant must have extended his infantry lines down that far.

But it was not Grant, it was Sheridan. Though the fact has been lost to sight in the flare of the giant duel of the infantry, he would not have been there at all had Meade's orders been carried out as that general wrote them. After crossing the Rapidan, the two cavalry divisions under Sheridan in person had been shunted aside to the left rear of the army, behind Hancock, and linking up with the third, Torbert's division, which was seeing the trains through at United States Ford and Fredericksburg. This was a perfectly normal cavalry arrangement for the Army of the Potomac, with the exception that the men were somewhat more concentrated than under earlier leaders, and apparently it was the disposition Lee counted on in making his grand attack.

But the night orders Sheridan received on May 5 were to "protect the trains" without specification of method, and the new general took the bit in his teeth. Instead of

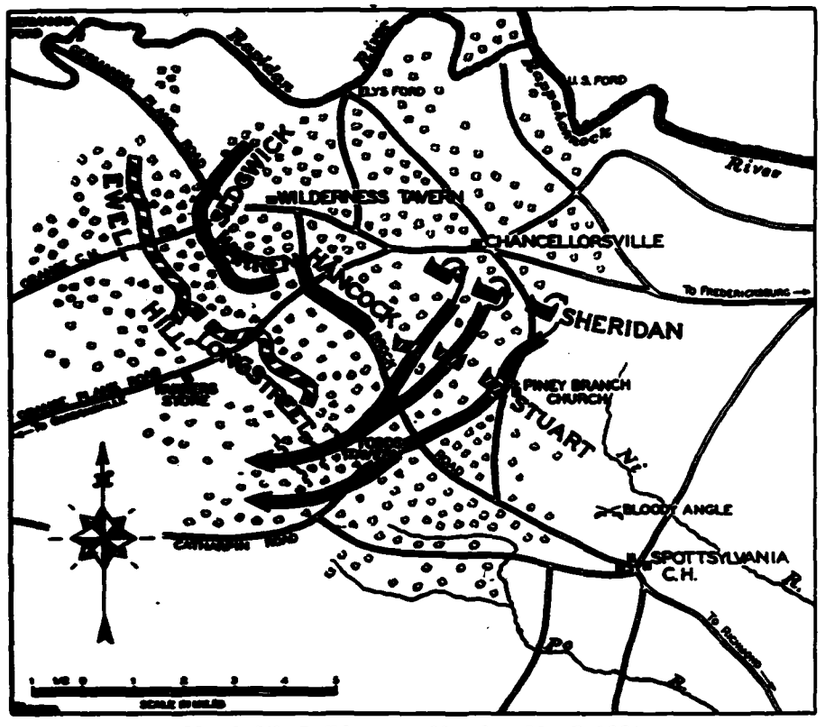
drawing all his divisions back toward Fredericksburg, he shoved everything up, even bringing two brigades of Torbert's command ten miles forward from Fredericksburg to Todd's Tavern. One of the men in that division has left record of the astonishment that ran through the ranks that night when the order came down, "Unsaddle and go to camp," with an order to build breastworks following immediately. It was never so done in Israel before. Always in the presence of the enemy, the Union horse had kept their mounts packed and saddled, sleeping with bridles over their arms, ready for a quick getaway. This time they had reached position, the horses were out of it and they were there to fight.

They did fight; and the report of how and where they fought on the morning of the 6th reached Meade simultaneously with the news of Longstreet's blow at Hancock. Remembering other Lee offensives—Chancellorsville, the Seven Days—Meade could visualize the next step as a Confederate cavalry movement around his rear, between the army and its trains at the Rappahannock crossings. He ordered Sheridan to "draw in and protect the trains" and that night the Union cavalry were going back.

Stuart's men followed them in, and on the morning of the 7th, taking this retrograde as part of a general retreat, injudiciously tried a vigorous pursuit of Custer's brigade, the one nearest Hancock. Custer turned on them, counterattacking savagely. Sheridan learned of this almost immediately. At the same time he heard that more rebel cavalry formations had been located farther east and got some information from prisoners. The aggregated information brought into focus in his mind a full picture of Stuart's movement—a cavalry advance across a front that grew ever wider as the Confederate formations moved down the radii of a fan.

Once again he ran away with his orders, spun the divisions of Gregg and Wilson sharp round in their tracks, and attacked with all his strength. His closer concentration gave him numerical superiority at all contact points, and the repeating carbines in Wilson's division turned this into something like a two-to-one advantage of fire-power. Beside, he was counting on battle and ready for it, his men were nearly all dismounted, operating as infantry against Confederates on tall, vulnerable horses. The Union troopers hustled Stuart's men back along every road, carried Todd's Tavern, and beyond it, coming on several lines of field fortifications constructed by the rebels during their repulse of the day before, stormed them one after another. (Map 2.) By twilight of the 7th Stuart was knocked out for a good twenty-four hours, Longstreet's right was in air and Sheridan on its rear at the head of ten thousand men.

Meade and Grant missed a chance here, or rather, never realized they had one. Both were still permeated with the view of cavalry as something fluid, a force which slept with bridles over their arms. Even the fact that Sheridan's men had fought on foot seems at this time to have made no impression. The special geographical conditions of the Wilderness made dismounted action almost a necessity, it was impossible for an observer to discover that the step had been taken from choice. Moreover, on the 7th the move to Spottsylvania toward Lee's right flank by the main army, had already been decided upon; and Grant, who was beginning to grasp some concept of the use of a mobile fighting force, the motorized infantry into which Sheridan had turned his corps, had already ordered the cavalry to lead the flanking maneuver. Once again Meade played the marplot. Wilson's division, now the farthest to the left, and hence to the front of the new movement, went on to Spottsylvania with somewhere near 3,000 men. But Meade in person reached the headquarters of the other two divisions before Sheridan's orders did, and he instantly used both for purposes sharply different from those the Chief of



Map 2: The Wilderness—Morning, May 7, 1864.

Cavalry intended. Gregg was pulled out of the advance to protect trains (from what?—the whole Federal army was now between those trains and the nearest of Lee's men). Merritt, who had taken over Torbert's division, was held back to accompany and protect the movement of Warren's V Corps, guarding infantry on the roads according to the best muddled tradition of the Army of the Potomac. It was night; of course, Merritt's division became mixed with Warren's infantry and wagons on the wood roads. There was a wild traffic jam that stalled both horse and foot. Whenever Meade appeared the cavalry had to yield precedence to Warren, and Merritt emerged from the tangle well behind the infantry he was supposed to lead.

Wilson's single division was of course no match for the entire Confederate corps that presently arrived at Spottsylvania. After some hard defensive fighting it was driven out, and the whole desperate business of the Bloody Angle, with ten days and fourteen thousand men lost, had to be gone through with.

But Bloody Angle was still in the future when, on the night of the 8th, Sheridan came tearing into headquarters, red, angry and swearing, not mincing the words he shouted as he demanded to know whether he were truly Chief of Cavalry or only a rubber stamp for others' ideas. Meade snapped back the wearisome old arguments about the safety of trains and columns. Grant listened, impassive as an ox, till both men began to repeat themselves, then turning to Sheridan asked him briefly if, being allowed to write his own orders, he could guarantee the elimination of Stuart.

"Yes," flashed Sheridan.

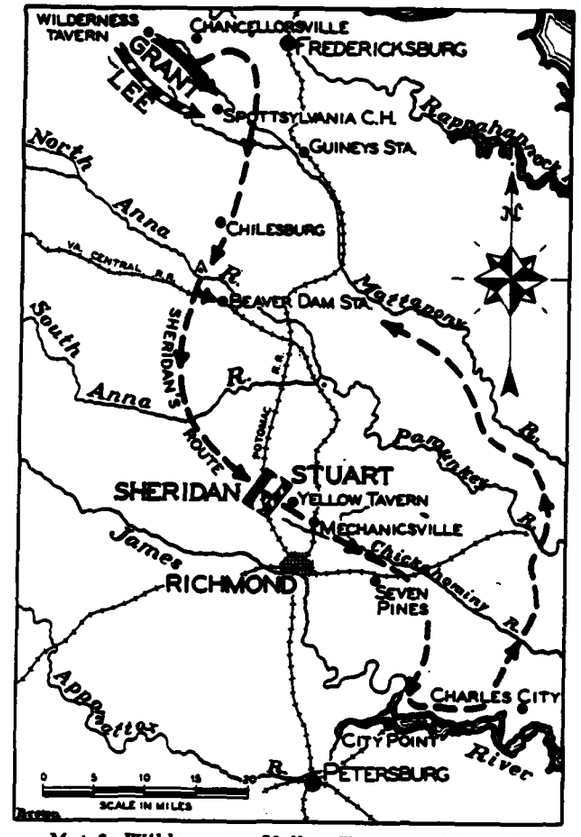
"All right," said Grant.

V

Next morning Sheridan began concentrating back on the long lateral road that runs from Fredericksburg to Orange, behind the Union right rear. Men and horses had a good night's rest, then started early on the 9th May, riding south and east at a sober walk in a single column, thirteen miles long, to get right around the rebel army.

The men, impressed with the leadership of their Little Phil during the hard fighting of the past week, were more impressed now. Under Stoneman, Pleasonton, Kilpatrick, they had moved out on such expeditions at the trot, on parallel roads in tight bunches. When the enemy showed up for a fight, their horses were blown, themselves tired, and the nearest support, also on tired mounts, would be distant across miles of country. Or as we should put it in modern phrases, Sheridan realized that mobility is an evanescent quality, one that can be used for either strategic or tactical purposes, but not both. He was aiming to arrive at the scene of any action with full gas tanks.

Perhaps this is reading more into Sheridan's doctrine than he himself put there. Yet the proof that he had thought the matter through better than any man of his time lies in that single long column moving slowly on. "I preferred this to the combinations arising from using several roads," he himself said. "Combinations rarely



Map 3: Wilderness to Yellow Tavern and beyond.

work." With horses at a walk that column did not present the danger it appeared to. A blow at any portion of it would be subject of envelopment from the wings, all the men moving at the full tactical speed that had been preserved to them. . . .

That is, it worked. Confederate Brigadier Gordon located that serpentine column late on the afternoon of the 9th, near Chilesburg, (Map 3) already well round the Confederate flank and in the rear, but he dared attempt nothing even against its rear. It seems that Stuart had expected to find the Union cavalry off on the other wing of their army, leading the advance. He had the bulk of his men out in that direction, feeling for them till word came through from Gordon.

Now mark the soundness of Sheridan's plan, which brought him to the North Anna by night. He might turn straight north into Lee's rear, or south toward Richmond. To prevent the first move falling without warning, Stuart had to leave Gordon behind with nearly a third of his own cavalry. To fend off a stroke at Richmond, he had to expend his own mobility in a long, hard ride, round the Union head of column, leaving uncovered for some length the two vertical railroads out of Richmond along which Lee was drawing supplies.

That night the Union riders had another surprise. In-

stead of the all night "stand to" in separate little picket camps which had been the custom during raids in their army, they found themselves in one big camp astride the North Anna, with artillery placed and unlimbered, soldiers getting full bellies and a good night's rest, horses unsaddled. One who was there noted that next morning they began to sing. They were content with their Little Phil, and he was everywhere among them. "We saw him daily, whether we were in the advance, at the rear, or the center of the column, and he would as soon borrow a light from the pipe of an enlisted man as from the cigar of an officer. The common soldier's uniform was good enough for him."

That morning, the 10th May, he sent a brigade of them out east under Custer to Beaver Dam Station on one of Lee's railroad lines. A big supply magazine was burned out; it had held the whole of Lee's medical stores, doubly precious in that army which had to use medicines run in through the blockade. A batch of Union prisoners was released; the trackage ripped up for some distance.

Down in Richmond they had news of Sheridan now, the bells were tolling alarm, home guards were being called out and troops summoned all the way from the Carolinas. The Union column plodded steadily on, slanting toward Richmond. They crossed the South Anna in the afternoon and shot out another brigade, Davies', which just at twilight touched the second vertical rail line out of Richmond. Wires were torn down and tracks up; a second depot of stores went. Before midnight both forces had fallen in on the main body, bringing some prisoners.

Sheridan, now as ever his own G-2, extracted from them the information that Stuart had arrived before Richmond and was waiting in a prepared position at Yellow Tavern, just north of the Chickahominy. Gordon's brigade had been haunting the Union rear all day. Evidently some measure had been concerted to bring that also into the impending battle. Sheridan had no objections; the whole purpose of his raid was not to seize any particular point, but to bring *all* Stuart's men to action, and to handle them so roughly that they would never again dare one of their great sweeps—as Grant's purpose in the whole campaign was similarly to impose the defensive on Lee.

Merritt's division had the advance in the morning. He found the Confederate line holding a crossroads at Yellow Tavern, facing west across his front; dismounted, and punched through. It was a trap, of course. There was a second line behind the first. As soon as Merritt was involved against it, a battery of artillery opened an enfilading fire from cover, and down from a grove of trees came Jeb Stuart at the gallop into Merritt's flank.

But Sheridan had met trap with counter-trap. As Merritt's line crumpled, his men firing as they scattered to cover, George Custer, yelling "Come on, Wolverines!" flung himself into Stuart's flank. There was a violent shock, a tangle, Custer was driven off for a moment, but came on again with the whole weight of Wilson's division behind, and the Confederates went tumbling back, their great leader out of mischief forever, shot through the lungs. Wilson's men swarmed all over the rebel line, shot down the artillery's support, captured the guns, drove what was left of Stuart's cavalry right away before them.

"Combinations rarely work." Now, when Stuart was down and the defensive line gone, Gordon arrived on Sheridan's left rear in a mounted attack. The Union leader had foreseen that too. Gordon ran into a breastwork of interlaced branches with Gregg's men firing from behind it, was shot dead from the saddle and his brigade driven off northeast on an eccentric.

Sheridan moved on round the defenses of Richmond, got supplies from the fleet in the James, and shuttled back up across the rivers to the main army, which he rejoined on the 24th May. It tells the whole story to say that the Confederate cavalry never molested him again. Infantry tried to stop him once, where the fixed defenses of Richmond reached the banks of the Chickahominy near Mechanicsville. These unconventional cavalrymen rebuilt a broken bridge under fire, crossed it, and drove the infantry off in a combat of which not enough details have survived to permit an intelligent account.

It does not matter. Nothing in the story of this operation matters after the battle of Yellow Tavern, which, hidden from the sight of northern eyes by the red glare rising round Bloody Angle, inflicted upon Southern morale a heavier blow than the loss of Stonewall Jackson. For Jackson fell in the moment of victory; at Yellow Tavern the Confederacy lost not only Stuart and Gordon but also the legend of its own invincibility in the arm that was the pride of every Southerner. Says Grant: "This raid had the effect of . . . thenceforth making it easy to guard our trains."

No other praise is necessary.

VI

Yellow Tavern thus established Sheridan within the army. To the country he remained merely a corps commander who was doing well, a name among the others that appeared among the others in dispatches from the Virginia scrub-lands where the fighting was going forward with such bloody indecision. Lee seems fully to have realized the political effect of this indecisiveness on the North, and clutched though he was in Grant's embrace, found means to win minor but morally impressive triumphs in the one field where geography practically guaranteed Southern victory. Or was Early's move to the Shenandoah Valley dictated by the more narrowly military hope of forcing Grant to make large detachments from the forces around Richmond?

No matter. Early was in the Valley with a large corps. Early shuttled to and fro, defeating Federal local guards, breaking up the important supply line of the Baltimore & Ohio. Early crossed the Potomac, smashed a hastily gathered force at the Monocacy, and marched to the gates of Washington, where President Lincoln was under fire. Something would have to be done about Early.

General Wright was pulled out of the Petersburg trenches with his VI Corps and sent to Washington. His operations were sound enough, but futile. The Confederate leader, moving up that fertile and friendly region where he could keep his trains to a minimum, danced away from Wright's lumbering legions. The moment Wright went back to Petersburg Early came back down the Valley. Once more he broke the Baltimore & Ohio and lanced into Pennsylvania, where he laid the town of Chambersburg under $300,000 ransom. There was not that much money in the place, so Early turned the inhabitants out into the summer fields and burned it, every stick.

Throughout the North the papers went wild. A year after Gettysburg the rebels were burning towns in Pennsylvania! In parallel columns came the news from Chicago—the Democrats had finished their convention; they were going before the electors on a platform declaring "Lincoln's war" a failure, a repetitious bloody agony. Washington telegraphed feverishly to Grant, another in the series of such telegrams that had been flashing along the wires since Early began his raids. Something would have to be done and Grant would have to decide what it was.

Already, some time before, Grant had pointed out that the trouble in the Valley was not one of forces but of commands. As things stood the Shenandoah and its neighborhood formed the boundary lines of four separate military departments, each with its own troops and officers. Washington agreed with Grant that the whole thing should be under a single head, with a concentrated army "big enough to follow Early to the death," an army particularly strong in cavalry to offset the mobility the friendly country gave to the Confederates, an army that should burn out the Valley granary to an extent where it would no more harbor rats.

But there had been a tug-of-war over leadership. Grant again wanted Franklin, a suggestion which was coldly received. Meade was offered, but the idea was politically all wrong, it would look like the demotion of the commander of the Army of the Potomac, which would be a confession of that very failure the Democrats claimed. Hunter, already in the Valley, was too old and slow; Hancock, too good a corps leader.

This was the situation when the Chambersburg raid caused Grant to react with the speed of a steel trap, as he always did when irritated. "I am sending General Sheridan," he wrote. "I want him put in command of all the troops in the field."

It was a *tour de force* in both directions on Grant's part, for Sheridan himself, approached on the project of taking over what had suddenly become the critical command of the war, was dubious about his own capacity. He would prefer, he said, to command a corps, perhaps the cavalry, under some other leader. Grant listened and smoked, his mind probing for the reason behind this unexpected diffidence on the part of an officer who had not hesitated to stand up to the testy Meade. Finally he hit it—the Valley commands were full of old, senior, respected officers—Hunter, Averell of the cavalry, "Fight mit Franz" Sigel, Wright—some of them twice Sheridan's age.

Grant remarked that this was a campaign in which seniority did not count. If the older officers objected to serving under Sheridan he was to relieve them—"Do not hesitate to give command to officers in whom you repose confidence, without regard to claims of others on account of rank." Hunter did object to serving under the junior Sheridan. He was given his walking papers, and on August 7, at Harper's Ferry, the new leader took over his army, with everything in it to do and the political campaign hurrying on.

It is important to any estimate of Sheridan to realize that his new "army" was a motley collection of units, unknown to him and to each other, units that required to be united, magnetized, stamped with the impress of a single personality, before they were fit for anything. The VI Corps, under General H. G. Wright, had a long, honorable history in the Army of the Potomac, but like its general, was distinguished for solidity rather than speed, a unit better on defense than on attack. The XIX Corps, Emory's, had been doing garrison duty and police work in Louisiana. It had never been assembled as a unit, was unfamiliar with any but guerilla operations, and could hardly be called a fighting corps. Crook's VIII Corps, the former Army of West Virginia, had seen a great deal of fighting, all of the wrong kind. The men had the hangdog, careless attitude of troops that had never known victory, were spiritless, and were no more than Emory's men used to working in big formations. Two of the four divisions of cavalry, Averell's and Duffie's were from this same army, with the same drawbacks. They had moreover, been trained in the prehistoric tradition of "living in the saddle"; regarded dismounted action as something no decent cavalryman would take if he could help it. In the whole army only the other two cavalry divisions, those commanded by Merritt and Wilson, knew Sheridan and his methods. They were a small leaven in a mass of nearly 50,000 men.

This then was the force Sheridan had to make into a fighting machine. It had some other pecularities, of which the most striking was the cavalry-infantry ratio of 1:4, higher than any before seen on the American continent. Another was that Sheridan assigned no less than nine batteries of artillery to this cavalry, or four and a half times as many guns as he had had in the Wilderness for the same number of horsemen; and this artillery was the best he had, United States Regulars.

Early discovered the significance of this in the first and perhaps the most important operation of the Army of the Shenandoah, though it was one crowned by no battle, yielding no newspaper results. When Lee learned that the VI Corps and two divisions of cavalry had been sent to the Valley, he accepted the transfer of major operations thither with evident relief. He reinforced Early with the major portion of Longstreet's Corps and Fitz Lee's cavalry division, which brought the Confederate Valley army up to a strength beyond the powers of Sheridan's rag-tag host, at least in the opinion of Grant, who warned his young subordinate to be careful.

Sheridan, who had been well forward toward Winchester, accordingly retired to a position near Halltown, where he could cover both Harper's Ferry and the northbound roads that lead past it on the west, and dug himself in. (Map 4.) There was a river on either wing, when Early came up, he inspected the place, and decided it was too strong to be forced, too good to be flanked.

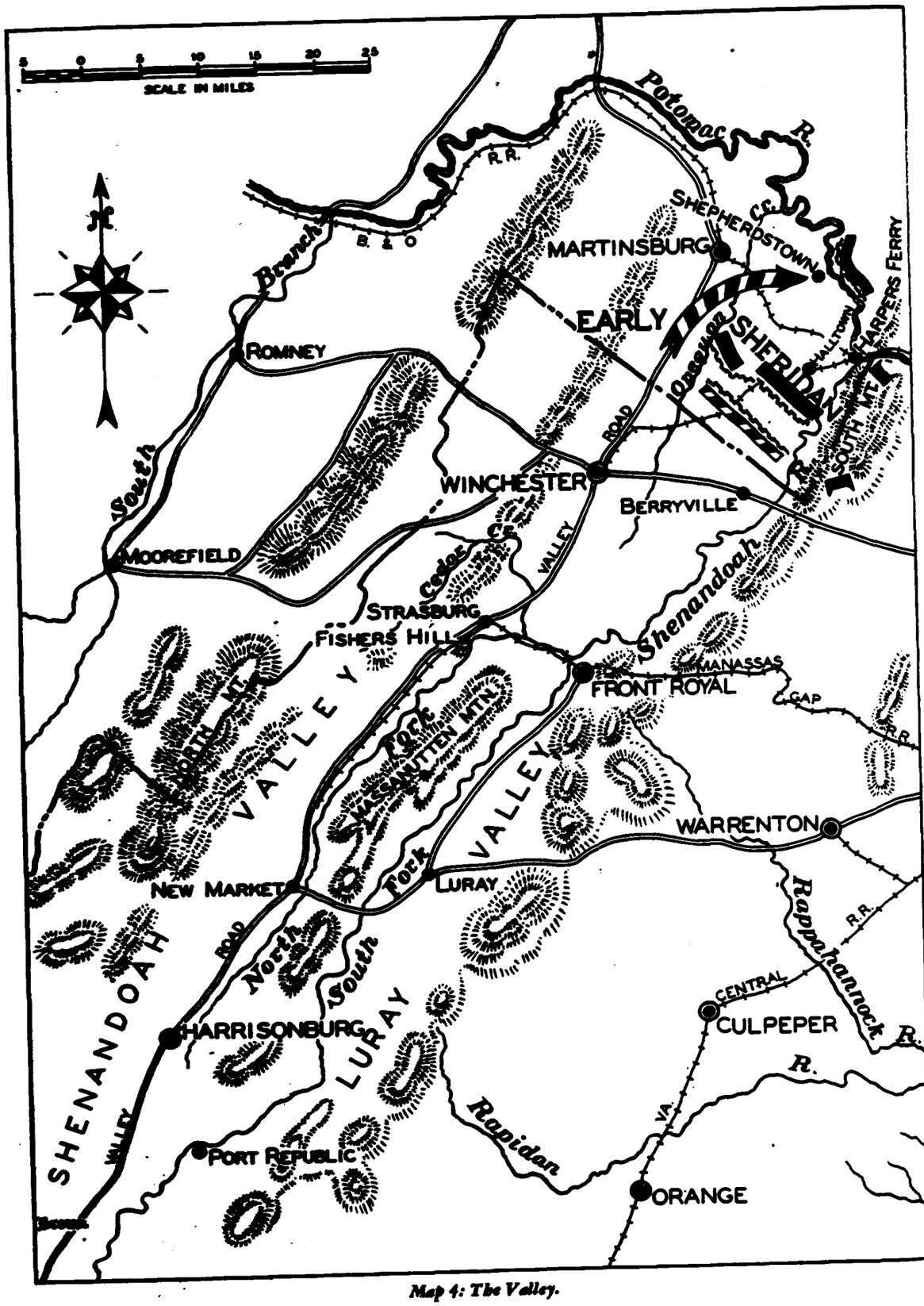
There is more than one way to handle such a situation, and Early worked out an excellent method. He left a division on Sheridan's front, strongly fortified; moved the main body of his infantry up to Shepherdstown, and flung Fitz Lee out ahead to see what he could do about passing the Potomac. If Sheridan advanced against the fortified division Early would come back and fight the Union leader on ground of his own choosing, but he considered it more likely Fitz Lee's threat would force the Army of the Shenandoah to retreat.

Nothing of the kind happened. Sheridan remained coolly within his lines. Wilson's cavalry division held the South Mountain passes; Merritt's knifed in between the detached division and Early's rear, feeling for his communications; and Fitz Lee reported that Averell was holding the Potomac crossings in trenches, so well supplied with artillery that crossing would be a bloody business, probably could not be achieved at all without infantry support.

In short, Sheridan had used the mobility of his cavalry as he proposed before the Wilderness—to seize and fortify a series of positions that severely constricted the scope of Confederate operations. Adventures beyond the Potomac had been rendered impossible to Early. But unless his army could adventure there, it had no purpose; could not affect the main campaign physically or morally. It could only go home; and when Grant started the Deep Bottom offensive, Lee called in Longstreet's Corps. It was September when they crossed the mountains through the ripe crops, and the northern elections rushing on apace. The day Longstreet reached Richmond Grant sent his commander in the Shenandoah the famous two-word telegram:

"Go in."

(To be concluded)



Map 4: The Valley.

☆ ☆ ☆

"Afforded every opportunity by the rolling, dry terrain of Poland, the mechanized forces nevertheless had to be followed by cavalry and infantry and the cavalry was especially useful in moving speedily to positions already stormed by tanks and armored cars."—Associated Press, September 19, 1939.

MANEUVERS REVEAL DEFICIENCIES

EDITOR'S NOTE: *The following article appeared in the* New York Times, *August 27, 1939. It was written by Hanson W. Baldwin, military commentator of the* Times *under the caption, "Serious Deficiencies in the Army are Revealed in Plattsburg Games." This article has been quoted and misquoted to such an extent that it is considered of some purpose to reproduce it here. The appearance of this report in these columns is in no wise a manifestation of opinion pro or con. It is presented merely as an important news dispatch which has created discussion and for military men may incorporate factors upon which it is wise to reflect.*

First Army Headquarters, Plattsburg, N. Y., Aug. 26. —Grave deficiencies in army training were revealed by the First Army Maneuvers just concluded, according to observers who witnessed the exercises.

Lieutenant General Hugh A. Drum, commanding the First Army, and his principal subordinate commanders, speaking at a critique last night, were among those who pointed to mistakes made in the field problems, but their comments were mild compared to opinions many officers expressed privately.

One officer went so far as to assert that the training of the army was at its lowest ebb; another, referring to the peace routine of the army and to past maneuvers, said "they had been very instructive, because nothing was well done in them."

These were extreme views, but most officers agreed that the army—particularly the National Guard units—needed far more field training, and many who had seen little of National Guard "outfits" in recent years were shocked at what General Drum called last night a "deplorable and inexcusable" state of affairs.

Others felt that last night's critique might well have been far more frank, although it was understood that outspoken criticism was avoided lest the National Guard in particular and the Regular Army to a less extent be offended and angry. Thus, the guard was sent away with a pat upon its back, and the belief that it had "won," or was "winning," the Black versus Blue "engagement" just concluded, although neither the Guard's tactical operations nor its knowledge of the military art justified this.

All, however, joined in praising the willing spirit, relative physical hardihood and intelligent application to duty of officers and men of the Guard, particularly of the men. The human material, it was agreed, was there; what is needed is training.

The four National Guard divisions from New England, New York, and New Jersey, bolstered by a few regular officers and organized reserves and a handful of special Regular Army troops, formed the Black attacking force in the army maneuver which took place in the final three days of the First Army's fifteen-day training program.

It made the hard-bitten "doughboys" of the regulars quite angry, for they faced time after time the spectacle of young guardsmen charging excitedly across bare fields without a bit of cover into the face of withering machine gun, rifle and artillery fire from commanding terrain—and being allowed to get away with it by the umpires. For the problem called for the regulars to fall back, and when the inexperience of the guardsmen did not prompt them to try outflanking or infiltration tactics the umpires, perforce, had to make artificial decisions to keep the problem within time limits and within its predestined bounds.

In the problem just ended the Black forces were certainly harried by the regulars' mechanized cavalry and the hard-hitting "Fighting First" Division and the Eighteenth Brigade. Some observers said that had the second battle of Plattsburg been a real encounter with ball ammunition instead of blanks, the Champlain Valley quite likely would have been the scene of a Black débâcle.

This is not to say, as a number of observers pointed out, that all guard units are badly trained or that the organized reserves and regulars are perfect. Neither is true. The Regular Army needs far more training than it gets, particularly in large units. This is the first time, for instance, that the First Division has been together as a unit in four years.

The First Division, under Brigadier General Walter C. Short, acquitted itself in the various sham battles here with distinction; its staff work was excellent; its improvised anti-mechanized defense well placed and well organized; it was aggressive, hard-hitting, fast-moving and probably displayed its abilities to best advantage in the problem in which it was pitted against the Eighteenth Brigade and a portion of the mechanized cavalry brigade. It showed the value of a fighting tradition.

But even the First (perhaps, with the Second Division at San Antonio, the best trained outfit in the nation) was deficient in many respects in what General Drum terms the "mechanism of battle," the art of maneuver in the face of an enemy, the little things that distinguish a veteran of war—how to take cover, how to sight guns, how to reconnoiter, how to lead troops.

The Seventh Cavalry Brigade (mechanized) from Fort Knox, Ky., was used in the maneuver much as it might be used in actual war and it learned and taught valuable lessons. Harrying and worrying the flanks and rear of an enemy, displaying the dash and drive and *esprit* for which the "Yellow Legs" are famous, it did a good job—although because of the artificial nature of the maneuvers and the necessity of imposing limitations upon both mechanized and anti-mechanized forces, little of tactical value was learned. Nor did the problem permit the use of the mechanized brigade in one important manner in which it might well be used in war—as a distant reconnaissance force, 100, 200, 300 miles in advance of the main body.

Far below peace strength, less than half of war strength, and inexperienced, the Guard does not appear now in shape to be ready for war thirty days after mobilization day, as planned. From six months' to one year's training would be required before its units would be up to front-

line standards, it was estimated. As for the Regular Army, which operated here with but 34 per cent of the authorized peace time officer strength, it, too, could not meet the schedule now called for by our protective mobilization plan, according to observers. The regular army is supposed to be ready for action on "M-Day," but there are few here who believe, that as far as training is concerned, it now is, or soon could be, ready for such an emergency. Most officers of the organized reserves also need far more training than they are receiving, it is held.

Some of the mistakes made and the deficiencies in training noted by General Drum and other officers follow:

Inability to read certain types of maps; lack of use of maps.

Slowness in issuing and delivering orders.

Poor liaison between units; frequently flanks were left uncovered, and in at least two important instances a hole large enough to drive a division through was left in the front.

The "fog of war" seemed to bemuse and bewilder many commanders, particularly those in the Guard; many became jittery and nervous; far too many, particularly staff officers, unnecessarily lost sleep to an extent that affected their judgment and might have had fatal results in actual war.

Sanitation was satisfactory, but not completely so until several days after camps had been made.

There was no understanding of the economy of force; with the frequent result that the line was "weak everywhere and strong nowhere."

Communications were sometimes unsatisfactory (though considerably better than at Pine Camp four years ago); radio messages, often in plain language, which were intercepted by the "enemy" were too much used.

Round pegs in square holes; some officers were not fitted for their jobs; some in the Guard probably never will be.

Contact was frequently lost, both with the "enemy" and laterally with the supporting units on either flank.

Too much caution; "fear of losing the battle prevailed at times over the will to win it."

Little knowledge of how to meet mechanized attacks; the Twenty-seventh Division, with its specially created anti-mechanized battalion was best of the guard units in this respect, but even this unit did not heed the principle of the economy of force, with the result that it was often unable to stop the driving tactics of the "iron cavalry." Because of the lack of anti-tank guns and inexperience in combating mechanized forces, the guard units tended to concentrate most of their field artillery against tanks, thus leaving their infantry with little artillery support. As the most drastic example of the extent to which this went, one division used its 155-mm. howitzers as actual road blocks to guard its rear areas against the "dust-eaters."

DELAYS IN FOOD SUPPLY

Food supply in the field frequently was greatly delayed, or broke down temporarily altogether. More experience needed in caring for men in the field.

Deployments made in too close formation; battalions and regiments invariably overextended.

Lack of depth in defense lines; scouts too close to the columns they were expected to protect. Machine guns too far forward, not distributed in depth.

Colonel James P. Marley, chief umpire for the maneuvers, whose umpire force had to cope with an unprecedented problem in controlling maneuvers of this scope and speed, was one who voiced some of the above criticism, and they were made all the more forceful when he and others conceded that the same errors were made in maneuvers year after year. Not that there has not been improvement; the First Army assembled here, and at Manassas, Va., is an incomparably more powerful force than the First Army assembled at Pine Camp and in Pennsylvania four years ago; its equipment is more complete, its men on the whole better trained. But there is still a long, long way to go before the First Army or any army under the American flag becomes in truth a combat force.

Tactical lessons learned at the maneuvers were not many or unique, though the exercises did serve to illuminate a number of points. Among these were:

Both horsed and mechanized cavalry are useful to any army, essential in certain situations.

Speed is vital in a war of maneuver.

Truck reconnaissance is possible, but not satisfactory (though it was freely and artificially used here). As one general put it, "You cannot conduct a reconnaissance from the top of a moving truck."

The mechanized brigade requires effective air and ground reconnaissance if it is to be used successfully; also for an efficient artillery-cavalry (mechanized) "team" an engineer company is needed in the mechanized brigade. The mechanized brigade can force an enemy commander to watch his flanks and rear carefully.

Anti-mechanized weapons, organization and technique must be developed.

Officers do not make enough use of the air. Although the army air corps was not represented here by combat aviation (and hence the exercises assumed an unusual artificiality with troops marching casually along roads, speeding in trucks in daylight into the very heart of battle, etc.), some fifty to sixty Regular Army and National Guard observation planes based at Malone, N. Y., and Fort Ethan Allan, Vt., did excellent aerial reconnaissance work, kept the mechanized cavalry under aerial observation during most of the exercises and by use of a new radio were in constant communication by voice with the army air officer. The two autogiros here gave evidence of their abilities as artillery "observation posts" and for reconnaissance, though their vulnerability to attack makes unlikely their use over front lines.

Neither air forces nor mechanized forces alone can win battles; the man on foot is still needed to take the ground; the battle is won by the best "combat team" of all arms.

These lessons will have to be studied and rehearsed, mainly in theory, for the next four years, unless our training system is changed.

MILITARY ASPECTS OF SUDETEN CRISIS

By Colonel Conrad H. Lanza, Field Artillery

On 28 May, 1938 Chancellor Hitler of Germany held a conference with his advisors. It was of serious import. On its outcome depended peace or war and the lives and happiness of countless humble people who knew nothing about this conference. The subject discussed was: How and when shall the Sudeten, then an integral part of Czechoslovakia, be annexed to Germany?

It was realized that, regardless of theories and propaganda as to rights of inhabitants of the Sudeten to determine for themselves as to which country they preferred to belong, Czechoslovakia would object to loss of her territory. She might fight rather than agree to peaceful cession.

France had an alliance with Czechoslovakia effective if that country should be invaded. There was another alliance by which Russia bound herself to aid France if the latter went to war. Great Britain was friendly to France, for some time had supported her diplomatically, had intimated that she would probably join France in war. There was a strong possibility that if Czechoslovakia was attacked by Germany these three great Powers would come to her aid.

Germany could count on Italy and Hungary, probably on Japan. If all these countries started fighting, a new world war would be in progress, the ultimate result of which would be difficult to determine. Was it worthwhile to run such a risk?

The Army leaders did not favor risking a major war. They considered that the German force was hardly one-half of what they considered as necessary to fight France and her allies on the west, Czechoslovakia on the south, possibly Poland and Russia on the east.

The west front of Germany was open. The opposing French frontier was covered by the formidable Maginot line, the strongest line of fortifications that had ever been constructed. Germany was deficient in heavy artillery which the war in Spain had shown was necessary to attack even moderately defended positions. The same war had proved that the German tanks were too light, had small combat value, and needed to be replaced by heavier tanks.

Because of the few years which had elapsed since rearmament had begun, German organized reserves were insufficient in numbers. Owing to lack of resources in Italy and Hungary, the assistance of these nations ought not to be overvalued. Japan might aid, but, as this country was already engaged in a major war in China, her assistance would probably not be of great worth.

The situation was thoroughly discussed. It was better to prepare for all eventualities rather than risk disaster through insufficient consideration. The proposition looked dangerous. The Army was not enthusiastic.

The Chancellor was persistent. He insisted that the mission must be accomplished. He recognized that there was a shortage of materiel, that there was a lack of reserves. But he thought everything needed could be provided within a relatively short time, and that if this were done quickly, preparations might be completed before possible enemies became aware of what was to occur. He was of the opinion that four months would suffice to correct the conditions admitted to be unfavorable. It would require hard work, but he was sure German organization could do it.

Accordingly a plan was decided upon and was approved by the Chancellor. This plan provided for:

1. Military action against Czechoslovakia and her allies to be ready to start on 2 October, 1938.
2. Extension of the western frontier defenses, to ward off a possible offensive from France. Defenses to be continuous from Belgium to Switzerland.
3. The army to be increased immediately to 96 divisions, with arrangements to supplement this force in a short time by an unstated number of additional divisions.
4. All preparations to be secret. No alarm, no warning. Only the heads of government of the Axis Powers—Italy, Hungary, and Japan—were to be consulted and these only secretly. Officials to be given orders, but no information as to the plan.
5. Initiation of propaganda exploiting the fact that the Sudeten was German, and desired to join Germany; and that under the principle of the self-determination of nations they were entitled to do so. At the proper time a showing was to be made that the Sudeten was grievously oppressed, and that justice required cession to Germany to end an intolerable situation.

Thus closed an historic conference, secretly held to decide the fate of millions of people. It had been dominated by Chancellor Hitler. He made the decision against warnings of able advisers. He recognized the danger of precipitating a general war, but felt confident that he could avert it. He was willing to incur necessary risks, understood that unexpected events might occur, desired to be fully prepared. He thought he could be. He decided to go ahead swiftly.

Evidence recently uncovered indicates that the annexation by Germany of Austria and Czechoslovakia, to take effect at some future convenient date, was provided for in one or two of several protocols signed by Count Ciano, for

Italy, and by Chancellor Hitler, for Germany, at Berlin and Berchtesgaden on 25/26 October, 1936. They were annexes to a treaty of alliance signed at the same time between Italy and Germany. This agreement was the price paid by Italy to secure her new ally, believed to be necessary by reason of the sanctions imposed by the democratic Powers against Italy during her war with Ethiopia. Thus it may be seen that the dismemberment of Czechoslovakia as an independent state was envisaged and planned for by Chancellor Hitler and Duce Mussolini as early as 1936.

The leaders of Italy and Hungary appear to have been notified of the decision reached on that fateful 28 May, 1938. Italy accepted the situation. It was part of the game agreed upon. In December, 1937, Italy had warned Czechoslovakia to settle the Sudeten question by direct negotiation, rather than chance a war through which she could gain nothing, and might lose all. This suggestion was not accepted. The date upon which Japan was notified of the plan of 28 May is not known.

Germany at once took steps to provide the required additional troops and matériel. Of the 96 divisions to be ready by October, only 48 existed, including 4 mechanized and four motorized. Forty-eight new Landwehr divisions were ordered formed. The personnel for these was furnished from drafts from the Regular Army, semi-military organizations, and from cadres of reserve officers and men. The organization of these divisions had so far progressed as to enable the final complement of men to join during August. As this movement was noted by foreign observers, it was announced that a new form of training, involving use of reserve organizations at full war strength, had been decided upon, and would take place in selected maneuver areas, to include the month of September.

The supply departments provided the necessary batteries of heavy artillery and new heavy tanks. This issue was secret.

Work on the west defenses was pushed strenuously. Something had been done on this line as early as 1932. In the spring of 1938, more construction was undertaken. By May, 1938, there was a fair defensive system opposite Strasbourg, and at some other points where an enemy might try to cross the Rhine. Between the Rhine and Belgium there was nothing.

Early in June large numbers of workmen were assigned to this task. By September over 100,000 men were erecting long lines of continuous defensive positions extending from Belgium to Switzerland. The front line initially consisted largely of wire and trenches covering tank obstacles, which more properly might be classified as field fortification. To supplement this, permanent works in concrete and steel were added, distributed in depth to provide from two to five defensive lines. By October the first field line was nearly completed. Considerable work had been done also on the permanent lines, but as a whole the project was less than half completed.

In spite of attempts at secrecy, by August France and Great Britain were alarmed. They believed that Germany was preparing some kind of a surprise. They were not satisfied as to the explanation as to the reserve divisions having been mobilized for training only; they suspected there was some other reason. They consulted each other and, before what seemed to be a common danger, definitely agreed to be allies in case of war. They wished to avoid a war but were quite decidedly opposed to permitting Germany a substantial increase in territory and power.

The German propaganda department by now was in full action, making much play as to the right of the inhabitants of Sudeten to exercise the principle of self-determination. The Allies had fought for this same ideal during the World War, and, although they did not believe this to be the main reason, they found it hard to deny the proposed cession of the Sudeten when it was alleged. Still, they did not like the situation. They commenced war preparations, at first on a restricted scale. Some Allied statesmen, and much of the Allied press, believed that Germany was bluffing and would not fight. It was thought that a show of determination by the Allies not to permit Germany to annex more territory, coupled with a show of force, was all that would be necessary to stop Germany.

The Allies were encouraged by reports that there were no signs that Italy was mobilizing. It seemed certain that if Germany expected war Italy would know about it, and would have taken appropriate measures to assist her ally. Very strong moral support came from the United States, and it seemed that that country could be counted upon for unlimited supplies and probably eventually for military support.

Maybe Germany *was* bluffing. Perhaps a firm diplomatic policy, coupled with a showing of the risk that Germany incurred of becoming involved in a major war against three great democratic powers having immensely superior navies and enormous resources and wealth, would bring Germany to her senses. It was first decided to remain firm.

The general situation in Europe became tense. Germany had believed that it might be possible to commence an attack on Czechoslovakia before other nations could mobilize, but this was now no longer certain. On 22 August, a strategical estimate of the situation was made by Germany and Italy. This considered that in case of war over the Sudeten question,

a. Great Britain and France would come to the assistance of Czechoslovakia.

b. Poland was known to have mobilized several classes of reserves. She was prepared to act, but had not decided which side to join. Initially she might remain neutral.

c. Rumania had had under consideration a request to allow Russian land and air forces to cross her territory into Czechoslovakia. To date she had given an evasive answer. Apparently she was, like Poland, ready to stay out of war, or join either side according to events.

d. Yugoslavia would be definitely neutral.

e. The United States might enter a war on the side of the Allies, but this was yet doubtful.

f. Japan had advised that it would join the Axis. However, in view of her war with China, the assistance that Japan could give seemed to be of no great value.

It was certain that Great Britain and France would come to the aid of Czechoslovakia, and that the United States might. Notwithstanding this combination, it was decided to proceed with the mission as planned as of the original date of 2 October.

The estimate of the situation by Great Britain and France agreed with all items of the Axis estimate. Although they considered that they could if need be defeat the Axis in war, they sought additional allies to increase their forces on land and in the air. As to resources and reserves on land and on the sea, they had all that appeared necessary.

The Allies exerted diplomatic pressure and offered economic inducements and loans of gold to the Balkan countries and to Poland. They did not succeed in obtaining guarantees from any of them. These small countries did not want to commit themselves in advance. Russia was approached; the advantages of being connected with the Allies were explained to her. Russia was not enthusiastic; on the contrary, she was suspicious. She had an idea that the Allies wanted her to fight Germany for their benefit, and not for Russia's benefit. In September Russia did state that in view of the fact that she had in 1936 signed an alliance with France, she would, in case that country became involved in war over Czechoslovakia, comply with her agreement, and would join the French. She gave no information as to what she would do if she did go to war.

The Allies knew that there was unrest in Russia; it seemed quite possible that if Russia engaged in a major war there might be a revolution at home. Many leading generals had been executed for alleged treason. The Allies thought that if they were guilty of treason, others were probably involved, and the loyalty of the army was likely questionable. If the generals had been put to death for political reasons, as was generally believed, their successors were apparently insufficiently trained to lead large units in war. New division commanders had only a year before been captains or majors. If Russia did join the Allies, it seemed nearly certain that Japan would join the other side. If the United States then entered the war on the side of the Allies there would be a distinct net gain in strength; but if the United States did not do so, the appearance of Russia in the war was judged to be of uncertain value. All that surely could be counted on at the outset were France, Great Britain, and Czechoslovakia.

What were the actual forces available to the Allies and to the Axis should war come? The general staffs of both sides knew closely the strength of the prospective enemy. There was one exception—the Allies apparently had not identified all the new German divisions.

In the following tables, completely equipped and trained Regular Army divisions have been noted as first class; the reserve divisions as second class.

Land Forces

The Axis Powers

1st-class divisions		
Germany	48	(includes 4 mechanized and 4 motorized)
Italy	40	(excludes troops in Spain)
Hungary	15	
Total	103	
2nd-class divisions		
Germany	48	
Italy	20	
Hungary	5	
Total	73	
Grand total	176	

The Allied Powers

1st-class divisions		
French	40	(includes 2 mechanized)
England	3	(all available for duty in France)
French Colonial	15	(after arrival from Africa, estimated at from 15 to 60 days)
Czechoslovakia	30	
Total	88	
2nd-class divisions		
France	40	
Grand total	128	

Of the 128 divisions available to the Allies, as against 176 to the Axis, 30 would be in Czechoslovakia, separated from the remaining 98 in France.

Air Forces

The number of combat planes of the various powers cannot be determined exactly. Best available information indicates that the approximate figures are:

The Axis Powers

Combat planes	
Germany	3,500, possibly 4,000. Excellent machines, nearly all new, using noninflammable fuel. Some pilots trained in war in Spain.
Italy	2,000. Excellent machines. Pilots with war experience in Ethiopia and Spain.
Hungary	250
Total	5,750 to 6,250 combat planes.
Capacity for replacing planes	
Germany	Own report stated 1,000 per month.
Italy	No figures available. It was, however, known that the Italian plane strength had been substantially unchanged for several years, in spite of special production efforts. It seemed probable that their production about balanced ordinary losses, war losses in Spain, and sales to Spain and to Japan.
Hungary	Small.
Total	Uncertain, but well over 1,000 per month.

The Allied Powers

Combat planes		
France	2,000	includes old machines.
England	2,000	
Czechoslovakia	300	
Total	4,300	
Capacity for replacing planes		
France	300	actually 100, but this was considered a temporary condition due to new social laws.
England	300	actually less, but expected shortly to be increased.
Czechoslovakia	none	under war conditions.
Total	600	per month. This was expected to be increased by purchases from the United States.

Sea Forces

Without entering into a detailed analysis of forces, their relative strengths were:

a. The British navy was greatly superior as a whole to the combined German and Italian navies. Against surface craft it could enforce a blockade of German North Sea ports, and a distant blockade of Italy by closing the Red Sea and Gibraltar entrances to the Mediterranean. It was not sufficiently superior to form a fleet detached at the same time to the Far East, which would be comparable to that of Japan.

b. It was agreed that the French navy would be under British direction. It was about equal in strength to the Italian navy, and was counted on to convoy troop ships from Atlantic ports in North and West Africa to France. To avoid air and submarine danger, the direct route from Algiers to south France could be discontinued at the cost of some delay in arrival of troops in France.

c. The submarine strength of Italy exceeded that of Great Britain or France. The German submarine strength has not been ascertained, but the Axis submarine strength was equal to or superior to that of the Allies. It was conceded that the Mediterranean could be blocked for important Allied movements. Having bases at both ends, and in the middle of that sea, the Allies believed that they too could interrupt movements of Italian ships in the Mediterranean.

d. Submarine war in the Atlantic was possible. The Allies recognized the seriousness of this, particularly if the Axis had access to Spanish ports, which seemed to be quite possible. They believed that their anti-submarine forces could control the situation.

e. Should Japan enter the war, the temporary control of the North Pacific and the East India regions to that country was conceded, unless the United States joined the Allies. Should this occur, it seemed probable that the United States Navy, by using Allied bases in the Far East, and with some reënforcements from the Allied fleets, could eventually overcome the Japanese.

Resources

The Axis Powers

Germany—Nearly self-sustaining as to food. Surplus capacity for production of munitions. Large excess stocks of all kinds.

Italy—Nearly self-sustaining as to food. Military supplies excellent as to quality, but scanty, because of expenditures in wars in Ethiopia and Spain. Would need extensive assistance as to munitions.

Hungary—Surplus food supplies, which could be sent to Germany and Italy. Scant stocks of munitions.

Japan—Sufficient food supplies. Deficient in certain raw materials, especially iron and oil. Stocks probably, but not certainly, sufficient for a year's warfare. With development of China might carry on longer.

The general view of the Axis resources indicated that they had food supplies sufficient for their needs. Provided that German production plants were not destroyed, they could amply supply that country, and materially assist Italy and Hungary, which countries would need extensive aid shortly after a war started.

The Allied Powers

England and France—Lacked many supplies, both as to food and as to munitions. With control of the sea, apparently assured, and access thereby to the British and French Empires, they would be self-sustaining both as to food and as to munitions. With access to the markets of the United States, large excess of resources was expected.

Czechoslovakia—Food ample. Munitions could be produced in sufficient quantities, provided mines and factories could be protected. Doubt as to this. Stocks would permit of a strong defense.

We will not follow the political plays of the Sudeten crisis. Diplomatic action was extensive; for the Allies it was not very satisfactory. They did not know by this time whether Germany would fight, or was bluffing. The Allied press published reports that in May, 1938, Germany backed away from a then-intended invasion of Czechoslovakia, when the Allies had intimated that this meant war. The Allied press argued that the strength of the Allies, especially on the sea, and as to resources, was superior to that of the Axis, that the Axis knew it, and that it would not venture a war. The United States diplomatically, and in its press, suggested that the Allies show a bold front, and make the Axis understand that further aggressions from them would not be tolerated. The peoples of the democracies, not familiar with the facts as to the relative reserve and resources of the contending parties, had no doubt as to the greater strength of the Allies, especially if the United States was considered as benevolently neutral, and as furnishing supplies.

By about 20 September some gradual changes in the positions of troops had occurred. None were individually alarming; and they were not inconsistent with the idea of maneuvers or of precautionary measures.

It was known that the German western defenses were far from being completed, but enough work had been

done to provide a continuous position against French attack. France considered that the defenses could be smashed by strong artillery preparations. But these defenses had two to four lines in depth. Several artillery displacements forward, with as many artillery preparations, would be necessary to pierce them. This was bound to take time. It was doubtful whether the German frontier could be penetrated before Czechoslovakia was overwhelmed.

The Balkan states still showed no sign of action. Fearful and intensely interested, they preferred to remain neutral until they had reliable information as to which side would be likely to win. They refused to commit themselves at this time.

There were reports that Russia had concentrated about 30 divisions, plus two cavalry corps, near Kiev. It was understood that these troops were not entirely at war strength; and the Allies did not know what they were to do, or when they would do it. Their location was suitable for advancing through Rumania towards Czechoslovakia; but it was also suitable for a defense against invasion by Poland, or for an invasion into Poland. As no permission had yet been received from Rumania for passage of Russian forces, the only conclusion was that the Russians were concentrated in readiness for future undetermined action.

As near as could be determined, Russia had 70 other divisions, about 6,000 planes and a large tank force. There was an absence of information as to whether Russia could or would place these forces in line and be able to supply them. No one knew whether a major war might cause a revolution in Russia. Russia continued sympathetic to the Allies but was very noncommittal.

Poland at this date was alined with the Axis. She wanted her share of any spoils resulting from the disintegration of Czechoslovakia. On the frontier of that country she had about 5 divisions; 35 others were available against Russia. The Allies doubted whether Russia really intended to intervene; they thought that if she did, Poland, with German resources at her disposal, and with superior leadership, might defeat Russia. Had not Poland alone done so in 1920?

Japan quite positively announced her intention of joining the Axis. This was another reason why assistance from Russia was considered improbable.

It is curious to note the Japanese reasons for intervening in a quarrel apparently nowise connected with her own interests. In 1919, Japanese troops had formed the largest, best, and most active contingent of an Allied expeditionary force in Siberia. The alleged mission of this incursion was to save Czech troops, prisoners deep in the interior of that great land. The Czechs were rescued; they were duly sent back to their own country. Japan believed that she was entitled to some expression of gratitude from Czechoslovakia, and was unpleasantly surprised when Mr. Benes, president of that country, in 1932 took a leading part before the League of Nations in condemning Japan for her occupation of Manchukuo. Later in 1937 and 1938, Japan noted that an important part of the matériel she captured in her war with China was marked "Made in Czechoslovakia." To the Japanese this all looked like base ingratitude.

In 1935, the same Mr. Benes, in the same League of Nations, was the leader in imposing sanctions against Italy. The Italians did not forget this. Mr. Benes was personally disliked strongly by Japan and Italy. He was equally strongly disliked by Germany for failure to provide autonomy for the Sudeten, as had been promised in 1919. This personal dislike, or hatred, for Benes, was extended to include his country. In the hour of Czechoslovakia's need, the three great Axis Powers repaid old scores.

The German preparations for the attack, originally scheduled for 2 October, were on time. About 20 September it was decided to move the divisions and artillery from the maneuver areas into battle positions close to the Czechoslovakian frontier. Germany advised Italy and Hungary of her intentions, and these two countries also commenced to concentrate their troops. The first large troop movements in Germany were on 23 September. They were made during daylight hours, and passed through large cities; the various units could be counted and identified. On the same day, Chancellor Hitler announced that his troops would enter Czechoslovakia on 1 October unless the Sudeten was surrendered before that date.

According to reports of Americans then in Germany, the troops marched with full war equipment. The newest and most modern types of heavy guns, tanks, and other matériel were visible to all. There was no enthusiasm, either among troops or people. On the other hand, the troops were imbued with a spirit to do their duty. And there was an indefinable feeling that the cards had been stacked, that war would be avoided. But the Germans believed that if war did come, the Axis Powers were much the stronger, and would overcome resistance within a short time. They hoped and expected that matters would not be allowed to go too far.

French and British intelligence operatives in Germany promptly reported the movements of the German army; they located most of the Regular divisions, and some of the reserve divisions. Plotted on maps at London and Paris, the encirclement of Czechoslovakia by strong bodies of excellent troops was apparent on 24 September. Other reports indicated that Polish and Hungarian divisions were closing in on their sections of the Czechoslovakian front.

It being certain that the Allied powers had observed the concentration of troops, and were themselves mobilizing, on 26 September, Germany declared that she certainly did intend to seize the Sudeten, and would advance into that country at 2:00 PM, 28 September, unless a peaceful cession was arranged prior to that time.

The mobilization of Italy during these days was secret and so well conducted that the Allied operatives discovered only the movements of certain specialists. The secret mobilization of some of the German reserve divisions was successfully accomplished.

There was great excitement throughout the world. There had been doubt as to whether Germany was serious in her war threats. It now seemed that she was, that war was inevitable, and would occur in a few days. Citizens of France and Great Britain immediately foresaw bombing of their cities, bringing gas, injury, and death to their women and children.

There was a rush to evacuate London and Paris. A million people departed from the latter city. Uncounted numbers fled from London. There was hasty emergency construction of trenches and shelters. Gas masks were issued. Dugouts were built in parks and public places. But in spite of all that could be done, it was evident that it would be impossible, in the time available, to protect large centers of population from widespread catastrophe. And could Czechoslovakia be saved? How? Apparently that unfortunate country would be crushed by the combined forces of Germany, Poland, and Hungary, before help could possibly reach her.

France had started mobilizing on 24 September, two classes joining the colors that day. England had called out her reserves and sent her fleet to occupy their war stations. Owing to the small size of her country, Czechoslovakia was completely mobilized by 25 September. She prepared to fight to the last, stating that she expected France to come to her aid as required by treaty. Under existing treaties, it was understood that if France attacked Germany, the only thing she could do to assist Czechoslovakia, that Russia and Great Britain would automatically enter the war on the side of France. Although Great Britain and Russia, as well as France, understood this quite well, they showed no great enthusiasm for this mission which might bring ruin to their countries yet not save Czechoslovakia.

On 25 September Great Britain and France decided to confer. On the following day the heads of their governments and the chiefs of staff of the respective armies met in London. This conference was unlike the one held in Germany only three months earlier. Time now pressed. Hitler had that day announced his intention to advance into Czechoslovakia on 28 September, only two days later. The people were not, as in May, in ignorance of the situation. On the contrary, they were excited and fully aware of the impending danger. They had definite impressions as to what was going to happen.

No one in France or Great Britain wished to sacrifice Czechoslovakia. But no one desired to see civilization ended by wholesale destruction of cities or by brutal slaughter of men, women, and children. Was there any solution to this problem? What could it be? This was what the conference had to decide.

The prime ministers and their military and naval advisers discussed the situation. Except as to the mobilization of Italy, the facts narrated above were known. It was believed that Italy had not mobilized; it was hoped that this was an indication that Italy might consider withdrawing from the Axis. It was just a hope. They realized that Italy might remain with Germany; common prudence required that her forces be counted as part of those of the Axis.

According to the latest information, the disposition of the ground forces of the Axis were approximately as follows:

Opposite Czechoslovakia—55 divisions, being 40 German, 10 Hungarian, and 5 Polish—all 1st-class, and including 4 mechanized and 4 motorized.

Opposite France (Rhine)—13 divisions, all German, 10 of which were 2nd-class. Very strong artillery.

Opposite France (Italy)—5 1st-class divisions.

In reserve—43 divisions, German, 2nd-class; 35 divisions, Italian, 1st-class; 20 divisions, Italian, 2nd-class; 10 divisions, Hungarian, 5 each class; 35 divisions, Polish. In all, 216 divisions.

The Allies only had the 128 divisions previously listed.

If Russia with her 100 divisions should join the Allies, the latter would then have a slight superiority, but there was doubt as to what Russia would do. On 20 May preceding, Stalin, in an address to the directors of the International Communist Party, had stated that the interests of Soviet Russia lay in a war *between* capitalistic states. He added that the entire efforts of Russia, and of Communists elsewhere, must be directed to promoting such a war, which would certainly lead to a revolution of the proletariat. Now the hour had come, the World War was about to break. He desired all Communists to be prepared to profit by this. In view of such an order, could the Allies depend on Russia? It seemed quite possible that the reported mobilization of Russia's huge armies might be for a very different purpose than that of assisting Czechoslovakia.

There was doubt as to the ability of Germany to build 1,000 combat planes per month. Factories to do this had been established, but could the necessary materials be obtained? Some thought that 600 planes was nearer the limit. If that were so, and the Allies had access to the markets in the United States (as appeared certain), the Allies ultimately would have an air force superior to the Axis.

In the beginning the Axis would have about a 3 to 2 superiority in the air. This was unfortunate. Judging from experiences during the war in Spain, it could result in serious damage, some loss, and occasional tactical derangements. The general belief was, however, that if nations were prepared to support temporarily this very undesirable condition, the Axis could not force a decision in their favor in this way.

French generals considered it impossible for the Axis to invade France, either through the Maginot line opposite Germany or over the Alps from Italy. They believed that given sufficient time the highly trained and equipped French divisions could smash through the yet uncompleted German west defenses. The Czechoslovakian army was first class, and would be able to prevent German divisions being sent to the west before a large part of the penetration by French troops had been accomplished. But there could be no promise that Czechoslovakia could be reached early enough to save her.

As to resources, Germany had sufficient to last a year, possibly much longer. But if she had to supply Italy and Hungary, as seemed to be the case, she might break down at some future date now impossible to predict. The Allies had unlimited resources, especially if those of the United States were available. On resources alone the Allies in the long run should win.

The conclusions were:

a. That because of the Axis having superior land and air forces, Czechoslovakia could not be saved from being overrun before Allied troops could penetrate through south Germany.

b. That if war started, it would be a general world war, and might last a long time. It would finally be won by the side having the most reserves and resources, which was the Allied side.

The conference closed with an earnest desire to avoid a war if an honorable way out could be found. The peoples did not want war. The result of a world war would be uncertain, would entail enormous danger.

The result of the September conference was that rather than risk a lengthy, uncertain, and horrible war, the Allies accepted on 29/30 September a proposition of the Axis to agree to peaceful cession by Czechoslovakia of the Sudeten to Germany, based on the principle of self-determination of peoples.

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The open movement of German troops which precipitated the acute stage of the Sudeten crisis was deliberate. It was intended that the Allies should "discover" about 40 first-class German divisions, with artillery, tanks, and so on, plus numerous Hungarian and Polish divisions, lining up around Czechoslovakia. Only about 13 other German divisions, mostly second-class, were "discovered" opposite France. It was clear that Germany intended to crush Czechoslovakia, but had no intention of attacking France.

Why did she disclose her plan?

It was an application of the psychological principle that if fear is suddenly and unexpectedly caused, but a way to escape is open, the first impulsive instinct is not to reason but to retreat. The opinion that Germany was bluffing had been widely held. The Allied press had quite generally boasted that on 21 May, 1938, Germany had abandoned an intended invasion of Czechoslovakia because France and Great Britain had announced that they would not permit this. It had been represented on numerous occasions that the dictators understood no language except force. The Allied governments were urged not to yield again. Their people believed that the totalitarian states were so hopelessly inferior that they could not dream of waging a major war; that all that was necessary to stop the proposed aggression was to make it understood that the Allies would fight.

Therefore Chancellor Hitler decided to show that Germany was strong enough to crush Czechoslovakia. He moved his divisions into their battle positions, creating a situation which made it highly improbable that Czechoslovakia could be rescued. Hitler knew that the French and British general staffs would correctly evaluate the Axis strength. What he desired was to impress the Allied men-of-the-street, and Allied statesmen, that to interfere with Germany meant death and destruction without possibility of saving Czechoslovakia.

Chancellor Hitler has an extraordinary knowledge of psychology, an unequalled psychic insight. He did instill fear into the Allied nations that they might become involved in a useless, disastrous war. Their first blind reaction to this sudden view was to avoid the war if some face-saving way could be found. The Axis arranged for this, insisting on immediate conference and action, before extended reflection should suggest some other solution.

Suppose the Allies had not yielded. Would the Axis have given way, or would they have fought? Had not Germany, by disclosing the deployment of its forces, violated the military principle of acting by surprise? Only two men can positively answer the first of these two questions. These two are the German Führer and the Italian Duce, and they have not told us. We do not know, and may never know, what their real intentions were. The evidence available at this time indicates that the Axis was prepared for war, better so than the Allies.

While the mobilization of the German regular divisions was openly made, Italian mobilization was secret—remarkably so. Allowing for 10 divisions on the French front, and assuming that Hungary would watch Yugoslavia (expected, however, to be neutral), 30 first-class Italian divisions remained. The Germans could add 43 second-class divisions to these, the mobilization of which had been only partly observed by the Allies. A formidable mass of maneuver, consisting of 73 divisions, and which does not count 20 Italian second-class divisions, was also available.

There is no information yet as to how the Axis intended to use these 73 divisions. Germany and Italy, on 26 September, arranged for a joint GHQ at Munich to open on 28 September. This is an indication that the Axis intended to operate in south Germany, possibly after the Allies had become partially exhausted through frontal attacks on the German west defenses. The presence of the strong German artillery force in rear of these defenses would be consistent with this view.

Undoubtedly the Axis preferred sincerely to avoid a war, provided its mission could be accomplished. It was, nevertheless, well prepared for war.

As to the second question—whether disclosure of German troop movements violated the principle of surprise—the answer is, it did not. The Sudeten operation on the part of the Axis was an example of the change in method of application of this principle. It combined military with psychological factors. Surprise was distributed between fear, widely and suddenly disseminated, and certain military measures carefully hidden. It was a modern way, and it worked.

Cavalry Shock Tactics

By Colonel H. S. Stewart, Late 15th Lancers, Indian Army

Today the shock action of cavalry versus cavalry arouses little interest. The more extreme opinion holds that all cavalry should be mechanized, the less extreme one considers that even cavalry which retains its horses can now only act by fire, and should not be trained for anything else, and even amongst those who are strong supporters of the "mounted attack at extended intervals" against dismounted troops, there is probably no one who thinks that in future wars cavalry will act as was visualized prior to 1914.

Nevertheless, there is some reason to anticipate that when mounted formations, even of considerable size, encounter each other (especially in areas where fighting vehicles are unable to accompany them), one side or the other may find it possible to resort to mounted action; and if this does happen the *cavalry unprepared for such a contingency will lose the initiative in any locality where it can be so attacked.*

In the last Great War the anticipated large scale mounted action of "Cavalry versus Cavalry" did not take place; there were numerous small engagements but no great battles. A mounted action in Eastern Galicia in August, 1914, between Russian and Austrian cavalry divisions resulted in fiasco. In part, at least, this was due to both sides contravening all the principles of mounted tactics.

The reasons of the lack of shock action in the Great War of 1914-18 are debatable. The terrain of northern France and Belgium was, it is true, too enclosed for the maneuver of large bodies of mounted troops, but this was not the case on the Russian frontier. The real fact is that nerve and resolution, greater than that of Seidlits or Murat, were required for hazarding the destruction of the great masses of horsemen that marched to war in 1914; and few if any of the higher leaders seem to have possessed the temperament "to put their fortune to the touch, to win or lose it all." What they could have done is rather beside the point; the fact is *they did not try.*

There is nothing very remarkable about this. Writing before 1870, Ardant du Picq said: "It (the cavalry) has not given great results for the reason that we and others lacked real cavalry generals. He is, it seems, a phenomenon that is produced every thousand years."

There were no great mounted battles in the Spanish Civil War. But, apart from the mountainous nature of Spain being unfavorable to shock tactics, there was no Republican Cavalry. The close order charge can only be made on opponents who fight mounted; against cavalry which dismounts the attack in extended order must be employed.

In open country without natural obstructions to free movement, and where there are secure and ample supply facilities, fighting vehicles, which are able to go in force anywhere and everywhere, may make it difficult for cavalry on horses to play a leading part in the operations. However, cavalry equipped with antitank weapons, has little to fear from fighting vehicles in small numbers.

But all wars will not be fought in countries with roads, bridges, and communications suitable for fighting vehicles; and even where these facilities are plentiful, the terrain will seldom permit of the free movement of vehicles across the intervening country, although this will offer few obstacles to cavalry on horses. In parts of the world where war may occur, there are vast non-mountainous areas where cavalry can move freely, but where fighting vehicles could scarcely move at all; and certainly could not be employed with advantage. Even in Europe there are many areas, unsuited to the mass movement of vehicles, where natural and artificial obstacles to horsemen are few.

Assumptions based on tactical premises deduced from circumstances that may or may not repeat themselves have caused disasters in the past; and hasty conclusions, that shock action can be left out of consideration in future, should be accepted with reserve.

The very reasonable opinion, that shock action will not in future be the normal cavalry action, is no reason for neglecting its practice altogether, or for despising its possibilities. "Cavalry action, more than that of infantry, is an affair of *morale*."[1]

Cavalry on independent missions has to make every effort to achieve decisive success as quickly as possible. If it is totally untrained to mounted action, it is unable to do this because it can not act offensively against opponents who determinedly attack it mounted whenever it makes use of its horses to change its position.

While in future battles cavalry attacks on a great scale may be impracticable, as long as soldiers continue to ride horses on detached duties, there will always be shock actions involving the smaller tactical units; and even during great battles such encounters may take place. At times minor successes may lead to great results.

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[1] Ardant du Picq, Battle [illegible]

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The Mounted Counter-Offensive

Cavalry on an independent mission unexpectedly encountering at close quarters a mounted enemy (even in

[1]Ardant du Picq *Battle Studies*.

considerably superior force), will protect itself more easily and effectively by an immediate resolute mounted action than by dismounting to fire. This is especially the case when small parties, unaccompanied by artillery or machine guns meet in comparatively open country.

The Defensive Occupation of Positions

Cavalry cannot carry out any mission, if whenever the enemy is encountered it has to ensconce itself in defended positions. Such tactics would not only cause it to neglect its mission, but would expose it to the continual risk of attack from the flanks and rear. Cavalry by dismounting cannot force its enemy to do the same, and the knowledge that it is only safe when on its feet affects both its *morale* and its mobility. Mounted forces will not attempt to break through defended fronts, they will go round a flank. Mounted riflemen are particularly vulnerable to mounted attack when obliged to remount because their position is outflanked. "Mounted infantry (i.e. riflemen) are as helpless when in the saddle as artillery when limbered up."[2]

The Attack by Encircling Fire

In enclosed country dismounted riflemen (of mobility superior to their enemy) may be able to envelope mounted forces inferior in number with a ring of fire. The nature of the country would be such that detachments can move freely from tactical position to tactical position, protected from view, secured both against fire attack and mounted attack while on the move. These tactics necessitate dispersion; and there is a great danger of being defeated in detail by a cavalry which does not hesitate to ride down the fire-ring, with an extended order attack as French did at Kilp Drift.

The evidence of history is—

(a) That fire alone has seldom, if ever stopped a determined and well conducted mounted attack launched over suitable ground. (This of course is more particularly applicable to the extended interval mounted attacks on dismounted men.)

(b) That in open country all cavalry best protects itself by its readiness for mounted action, and the speed of its horses.

(c) That the attack of cavalry on cavalry which does not dismount, calls for close interval between files.

The Mounted Attack at Close Interval

This calls for quick decisions, and is facilitated by the concentration of units, because dispersed cavalry formations are difficult to control.

Because of the danger from air attack, artillery directed

[2] *Lessons from Two Recent Wars* by General Langlois.

WELL DONE

The Cavalry Rifle Team has experienced a brilliant year. In the National Rifle Team Match the cavalry stood second, only a shy four points below the winning team. Our team this year made the best showing in The National Rifle Match since the World War. Every stage of fire was hotly contested. The finish of only six points between the first three teams indicates the competition which prevailed. The more notable accomplishments of the Cavalry team may be demonstrated by the following statistics:

The Enlisted Men's Trophy Team Match—Cavalry, 2nd place.

The President's Match—High cavalry, First Lieutenant Joseph Williams, score, 135 (highest score, 137).

National Pistol Team Match—Cavalry, 4th place.

Infantry Match—Cavalry, 2nd place.

National Individual Pistol Match—Staff Sergeant Jens B. Jensen, Cavalry School Staff, score 277 (high score, 280).

Herrick Trophy Team Match—Cavalry, 3rd place.

.45 Caliber Restricted Class Pistol Match—First Sergeant Edgar W. Holtz, 5th Cavalry, 1st place.

Scott Trophy Match—Sergeant Edward Weszerski and First Lieutenant Charles B. Fuller, Cavalry Reserve, tied for 1st place.

from the air, and machine guns, cavalry normally will not be able to move in concentrated formations. Even brigades may not be able to concentrate prior to an actual engagement. Divisions would have to rely on intelligent cooperation rather than orders.

Formations larger than a division require so long to assemble and deploy, that they would never be able to take advantage of a fleeting opportunity. It may be accepted that, unless chance brings about some unexpected sequences of fortune, shock actions will be limited to encounters between squadrons and regiments. Should for some reason or other (such as distance from aircraft bases or a break down of mechanization) danger from air attack and long range artillery be temporarily minimized, cavalry might be able to take advantage of this to concentrate to a much greater degree than is normally possible.

Success in shock action in the past has depended mainly on—

(A) The leader.
(B) On surprising the enemy: at least by the direction of the attack.
(C) Cohesion and harmonious movement.
(D) Skilled disposition and employment of the supports and reserves.
(E) Combination of fire and shock, and a fire pivot.

But the following also have played important parts:

(a) Support by other arms.
(b) "*Apropos*" attack.
(c) *Morale*.
(d) Luck.
(e) Utilization of ground.
(f) The non-existence of serious obstacles.
(g) A simple plan, clear orders.
(h) The immediate rally.
(i) The horses' condition.

Are these factors the ones that are still applicable? Modern conditions have revolutionized tactics, but "centuries have not changed human nature. Passions, instincts, amongst the most powerful one of self preservation may be manifested in various ways. . . . But at bottom there is always found the same man."[3] These factors are all more or less closely associated with human nature and only incidentally with tactics; they will apply in a degree to the end of time.

The Leader

The rôle of cavalry throughout the ages has increased or diminished according to the "character of those who have had command."[4]

His maneuvers (to ensure the best direction to the attack his employment of the reserves), and his judgment (about the correct moment of deployment), are what achieve victory or disaster.

The cavalry leader must rely on instinct to visualize a prophetic mind picture (of the tactical situation, the ground, the enemy, the plan, and of what will occur within the next fraction of time) and act in accordance with what this tells him is most likely to happen.

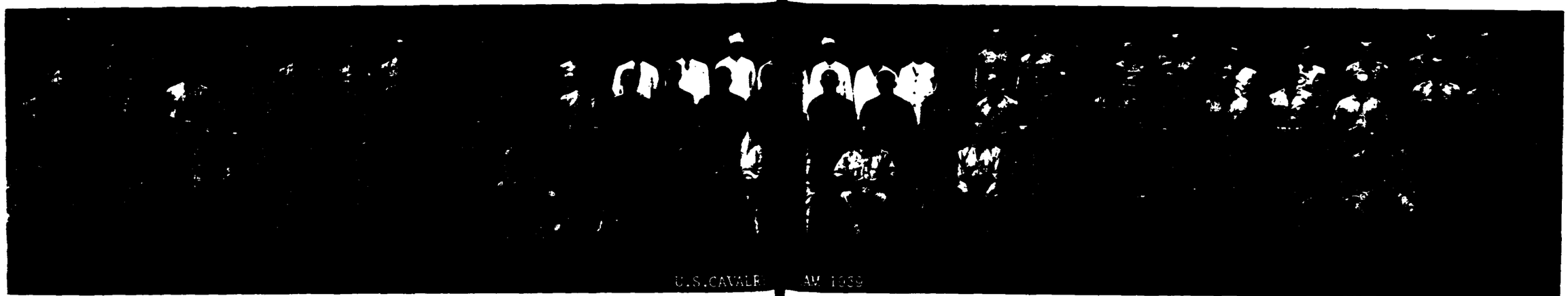
It is impossible to stereotype cavalry maneuver; theories appear simple on paper, but on the ground everything moves so fast that cavalry mounted action is one of the most difficult operations of war; situations change momentarily and do not repeat themselves.

Captain Loir (in Cavalry) defines maneuver as "putting into execution the idea of the leader," and emphasizes two things should be kept in mind: suddenness, and "the object of demoralization rather than destruction." He adds that the cavalry fight had been called "the encounter of two moral forces," and says "Instantaneity of action will doubtless entail a series of effect so rapid that the outcome will be influenced by the soundness or otherwise of the plan evolved at the start, which plan will admit of no modifications once blades have crossed."

Direction of Attack Surprising Enemy

"Cavalry maneuvers like those of infantry are threats. The most threatening win."[5] The object should be an advance against the flank of the enemy which does not

[3] Ardant du Picq *Battle Studies*.
[4] Lord Haig's *Cavalry Studies*.
[5] *Battle Studies* by Ardant du Picq.



mask the supporting fire. When formations charge each other in parallel lines the results (except one side is greatly superior either in numbers or in cohesion) must be indecisive.

"When the British cavalry charges you, make one rapid change of front and take it in flank. You will always successfully execute this maneuver against every cavalry whatsoever which like the English make a vigorous and headlong charge, whose horses are but little under control and whose troopers have more bravery than tactics, so they push their charges to too great a distance." (de Brack) This opinion is borne out by the Duke of Wellington, who considered the cause of Slade's fiasco at Maguilla "was the trick our officers of cavalry have acquired of galloping at everything, they never think of maneuvering before an enemy."

"Whatever method be adopted in charging, one of the best methods of using cavalry opportunity is on the enemy's flanks. This maneuver may be completely successful especially in charges of cavalry against cavalry. It should be employed at the very moment when the lines came in collision. A flank attack being more to be apprehended by cavalry, than in a combat of infantry with infantry, several squadrons should be formed in echelons on the flanks of a line of cavalry which may form to the right or left to meet an enemy coming in the same direction. For the same reason it is important to throw several squadrons against the flanks of a line of cavalry which is attacked in front." (Jomini)

"An attack direct to the front must be an exceptional thing: to advance and at the same time gain ground to a flank must be the rule." He also says: "Ten men on a flank do more than one hundred in front." (Von Schmidt)

"The efficacy of the flank attack is so universally admitted as to need no argument to support it. A more difficult question is how should we protect our own flanks from attack?" (Lord Haig)

Utilization of ground may conceal a flank march, but only a mistake of the enemy can usually provide the factor of time. Long gallops (to secure advantage of position) defeat their own ends by prematurely exhausting horses and men. Many consider that maneuver to attack a flank position, prior to an attack, is not practical because advantages gained will be more than nullified by the time lost. Where the ground is favourable offensive flanks may be formed by bodies in 'forward echelon.' Flanks echeloned to the rear are a defence against enemy flank attacks; but such echelons cannot act as support and reserves, and protect the flanks as well." In these days of aeroplane observation the difficulties of carrying out extensive flank movements by large forces are almost insoluble.

Captain Loir (Cavalry) says: "Without doubt a flank attack greatly helps to demoralize the enemy, but we must have no illusions regarding its importance and usefulness," and goes on to emphasize "that its success is essentially based on surprise" and says "every attack on the flank which is seen, is an attack paried; it degenerates itself into a frontal attack."

Cohesion and Harmonious Movement

The horse is the primary weapon of cavalry, and cohesion is the medium of its power. Shock action aims at overwhelming the opponents by an irresistible blow. Close interval between files is necessary to give weight to this blow, as in a closed line several horses oppose each horse in a line of extended order. Cohesion is however impossible without harmonious movement.

There are ideas that the attack with "extended intervals" can be effectively used nowadays against hostile cavalry. But this is not based on logic; one horse meeting three is knocked down as easily as ever and modern troopers are not more ready than their ancestors to meet a line advancing like a wall.

There are those who have imagined that the necessary cohesion can be secured by the rear ranks during the charge filling up any gaps that may occur in the front ranks; practical cavalrymen realize that such a project is an illusion; men "barging in" from the rear create almost as great demoralization as an enemy breaking through the front.

It will seldom happen that two forces will actually meet in a charge. Usually units which perceive the enemy's cohesion is superior to their own, will try and avoid any collision at all. Ardant du Picq mentions an instance of an encounter (between two regiments of Russians and two of Poles) where both sides fled before any shock took place. Obviously in this instance, apart from poor *morale* both must have lacked cohesion because it is only when there are loose intervals, that weak-hearted men can turn their horses to flee. Every regiment does have some men "who wish to live to fight another day."

Maneuver at close interval is one of the best ways of ensuring that all troopers become competent horsemen. It is a great handicap not to be able to ride at six inches from knee to knee.

Inspecting officers should not judge efficiency by observing the "dressing" from a flank; but should make squadrons advance towards them at speed and see if they can maintain their intervals without "opening out" or "closings up." Six inches from knee to knee gives plenty of room to men who ride straight. Cavalry should never, even on ceremonial, carry out movements with files closed more tightly.

Jomini thinks that cohesion is more important than pace; he says: "It must not be understood, however, that impetuosity always gives the advantage in a shock of cavalry against cavalry; the fast trot on the contrary seems to me the best gait for charges in line, because everything depends in such a case on the *ensemble* and good order of the movement, things that cannot be obtained in charges at a fast gallop."

"By cohesion is not meant that men are to be jammed together for this only produces disorder by men being

forced out of their places and the number of ranks increased." (Von Schmidt)

Today, owing to the necessity of advancing into action in as open a formation as possible, close interval between files may only become possible just prior to a charge. This is all the more reason for devoting time to such training.

As long as the tactical situation permits, attacking lines should advance at the "Trot." The pace should be increased to the gallop in time to work up the necessary momentum to the charge, but the order "Charge" should not be given till about fifty yards from the enemy.

Napoleon's heavy cavalry actually charged at a trot because its training was so indifferent that it could not maintain cohesion and order at a faster pace. Cohesion is certainly quite as important as pace; it is facilitated by shortening the distance over which a charge is made; this will not only preserve cohesion, but will save the strength of the horses for the moment of shock.

Hurried deployments make for confusion; the better the training, the later can deployment be left. Cohesion is facilitated by late development: "columns" change direction easily, but "lines" find this difficult. Even slight changes of direction by a line committed to an attack, will cause loss of cohesion even in the best trained units. Last minute attempts to change direction by "shouldering," even where only squadrons are concerned, will catapult men out of the ranks in some places and cause gaps in others. "Shouldering," besides disordering the line, calls for the maximum pace of flank units and tires the horses. If an attacking line is obliged to change direction suddenly, it is better to attack in echelon of regiment or even of squadrons, that attempt to "shoulder the line" or even to make a "half wheel of troops," and then reform line.

Supports and Reserves

Once a commander has launched an attack he should move to the position from which he can best watch the fight and issue orders to his supports and reserves; *these are the only means left to him of influencing events.*

Supports and reserves are essential in every cavalry action. They exploit initial successes, which otherwise would lead to no results. The side, which retains the last formed reserve, is certain of victory. A repulsed cavalry force is liable to be destroyed unless a formed reserve is at hand, behind which defeated detachments can be rallied and led back to the fight; and even a victorious body of cavalry which has expended its reserves, is in danger of defeat by quite a small formation which has not been engaged, because of the confusion which is inseparable from the aftermath of a charge. Once victory is gained large portions of reserve can be used for pursuit; but some reserve must always be kept in hand to deal with any fresh reinforcements brought forward by the enemy.

Supports and reserves follow attacking lines, but need not necessarily move directly behind them; in fact it is usual for a portion of them to be in echelon on the flank, but some formed bodies must follow the attacking line to reinforce and restore breaks in case of a reverse. As a unit in column or echelon is in the hand of its leader, and can be directed to any area where it is required, supports and reserves should not deploy until required to take part in an attack. Echelon, by breaking up continuous lines into easily handled bodies, conduces to the retention of good order when advancing over rough ground: it automatically provides some flank protection, but no part of a rear echelon can carry out the double task of protecting a flank, and acting as a support or reserve.

General Bernhardi preferred that supports and reserves should follow on lines rather than on the flank in echelons. He contended that such echelons were not favourably placed to deal with reverses in the middle of the line, and argued that Frederick the Great did not echelon his supports and reserves, but formed his cavalry in two lines, and retained it in this formation throughout an engagement.

The fact that Frederick did not employ echelon does not necessarily condemn it. The drill methods of his day were not adapted to the quick deployments of echeloned columns. His cavalry masses had no higher formation than a regiment, nor were there words of command in use suitable for units larger than regiments. Moves to a flank called for square wheels of squadrons into column followed by further square wheels into line. Prior to an action Frederick normally employed his hussars in the advance guard; in an action they formed a third or reserve line.

Combination of Fire and Shock

Since the beginning of history, the combination of Fire and Shock has always led to cavalry victories, and where and when these tactics have not found favour, cavalry has met with constant failure. The mounted missile action of the light cavalry of the East made them universally feared; but in the West made little attempt to imitate their tactics.

In the past horse artillery was the main fire power of cavalry, but now this has been supplemented by machine guns and other automatic weapons.

To facilitate the effective combination of fire and shock, mounted forces maneuver with reference to previously selected fire pivots.

As the result of an action may depend on the choice of a fire pivot, horse artillery, machine gun and fighting vehicle commanders must continually reconnoitre well in advance for suitable positions and areas. At the time they are called on to provide fire support, there will be no opportunity for reconnaissance and little for explanation. It is best for the fire attack to select its position, and for the mounted attack to move away from this. Should the fire attack have to move its position away from the mounted attack, it seldom is able to get into action sufficiently early. If the shock attack can be launched at right angles to the line of fire of the fire attack, the enemy can be enfiladed up till the moment of shock. Enfilade fire is very important, as apart from the superior tactical effect the actual firing can be continued longer. With machine guns enfilade fire is even more essential, as

it is only with enfilade fire that a machine gun attains its full effectiveness.

The following influence events in all forms of cavalry action:

Support by Other Arms

Artillery and machine guns have the tasks of aiding the attack and covering a rally. Movements should be concealed, so normally fire should not be opened till the enemy is committed to action; but once fire commences, it should be continued as long as possible. Artillery usually should concentrate its fire on the enemy cavalry, not on his guns. Machine guns, by providing security to the artillery, can obviate the necessity of detaching mounted tactical units for an escort.

Mechanized cavalry if available will be used as the situation demands. If it is retained in reserve, it will be available to counter-attack any enemy mechanized formations, and to cover a rally or withdrawal. As it requires: (a) time to prepare for action, and (b) carefully thought out orders it should not be prematurely employed.

As regards other fighting vehicles, when these are available in force, shock action is inopportune; except in localities where the fighting vehicles cannot go. But on the other hand a few fighting are not a serious danger as these can easily be dealt with by the antitank weapons which should be in close support ready to counter-attack any surprise intervention of the enemy mechanized cavalry.

The "Appropos" Attack

Much of the discredit which is showered on shock tactics is attributable to their having often been attempted when conditions were unfavorable. There are occasions when shock action is appropriate, there are others when it is hopelessly inappropriate. The attacks of the German cavalry at Haelen on the Belgians ensconced behind obstacles, is a typical instance of mistaken tactics. Even against mounted men, unless there is a decisive superiority of force, shock action normally will only lead to a great success when the enemy is taken at a disadvantage. Instances of really *appropos* attacks are those made when the enemy's dispositions are incomplete, or when his units are too dispersed to aid each other effectively.

Morale

This requires little emphasis; to be successful in shock action cavalry must believe in the efficacy of such tactics, or it will be half-defeated before the action commences. Lord Haig says: "Cavalry must be educated up to a readiness to act absolutely regardless of consequences and to a determination to conquer."[6]

Luck

Napoleon said: "It is necessary in war to profit by every occasion, for fortune is a woman; if you let her slip today, do not expect to find her to-morrow." The element of chance is most marked in cavalry fighting. Everything happens so quickly, and vital information usually arrives so late that much has to be chanced. Patrols, even if able to estimate the numbers of squadrons and batteries and to report on the ground, will not usually be able to give reliable information about the disposition of a rapidly moving force.

Utilization of Ground

Ground can conceal the direction and dispositions on an approach march, except from air reconnaissance; and certain types of country are unfavorable to visibility from the air. Even air reports take some time to transmit and they are normally of little or no use in close cavalry reconnaissance. A primary consideration in choosing ground for a mounted action is the possibility of establishing suitable fire pivot on one flank or the other.

The Non-Existence of Serious Obstacles

Ground scouts can only work in the immediate vicinity of the squadrons that send them out; so to insure that attacks are not made over ground unsuitable for mounted action, special trained officers must reconnoitre well in advance. It might well be worth while for some officers to go forward by road in cars with their horses towed behind in those light road horse boxes used for carrying hunters. It is important to locate and report on areas where collisions are likely. Ground suitable for shock action may be limited in extent, and the effective employment and deployment of the available squadrons in those areas will be facilitated by early information.

Simple Plan and Clear Orders

That great American (Confederate) Forrest said that his only plan was to get there first with the most men. The words largely epitomize cavalry tactics. But "the most men" will not arrive first anywhere, if the orders are not simple and clear.

The plan and orders must be sufficiently simple for subordinate leaders to grasp their meaning without long explanations for which time will never be available. Rapidity is essential, and complicated maneuvers will never lead to success. Units trained and led on the "follow-my-leader system" can give effect to unexpected movements in any direction without any verbal orders at all.

The Immediate Rally

Both in victory or defeat, an immediate rally is essential. A portion of the victorious squadrons must follow a defeated enemy in disorder at top speed, to prevent his rallying; but, as these will be at the mercy of any formed enemy reinforcements, some squadrons must rally before following, so that there will be detachments in regular formation supporting the pursuers.

Rallies should be to the "front"; the faint-hearted troopers may fail to check their horses should their noses once be turned towards the rear! The losses in retreat are not confined to those killed and wounded.

The Horses' Condition

Horses in bad condition are of little use for shock action; and it is essential that no mercy should be extended

[6] *Cavalry Studies.*

to men who fail to place the well being of their horses before their own. But the preservation of the horses should not be allowed to become such a fetish with leaders that they will not sacrifice horses when tactical conditions demand it. A great cavalry success may even destroy a number of units for the time being, but if victory can be achieved this may well be worth while. Napoleon said: "Cavalry should not be handled with any miserly desire to preserve it intact" and that "I do not wish the horses to be spared if they can catch men."

The Arme Blanche or the Pistol

Contrary to historical experience many hold the opinion that the *Arme Blanche* is no longer necessary for cavalry; and that the pistol is sufficient shock action. The value of the pistol in the mounted attack was firmly believed in, as long ago as the time of the Thirty Years War; but Cromwell and Frederick subsequently forbade its use, and by doing so made their cavalry charges irresistible; thereby proving that the previous theories had been ill founded.

While firearms have improved out of all recognition, men's hearts have not changed, and the possession of a sword undoubtedly increases the *morale* of most men, and is not without its effect on the *morale* of opponents. In any case a sword is well worth the slight extra weight entailed on the horse.

Before they had any experience of war, the Australians and New Zealand Light Horse despised the *arme blanche*, but after they had been some time "on service" they demanded swords.

For attacks in extended order against dismounted opponents automatic pistols, *in the hands of men highly trained in their use*, may prove most effective. Theoretically in shock action (provided the leaders do not ride in front) a line armed with pistols should be able to shoot down a line armed with swords, before an actual collision could take place. In practice, however, things seldom work out according to theory. It is undesirable to remove leaders from the front of a cavalry attack; and there are great objections to the use of pistols in mounted attacks that excitement and the movement of the animals makes the best of shots fire less accurately at the gallop, while cohesion and harmonious movement is decreased through the natural instinct of everyone to edge way from any neighbor flourishing a loaded pistol.

A pistol is considered by many to be more useful in a *mêlée* than a sword; but "a bullet fired of in a *mêlée* may hit friend or foe. Very fine horsemen like Arizona cowboys, who break insulators of telegraph wires as they gallop along with a weapon which they have been accustomed to handle from their youth up, would probably do well in a pursuit with such a weapon, but it is not, we believe, seriously contemplated by any nation as a weapon for use in its ranks."[7]

Conclusions

In areas unsuited to Fighting Vehicles or Armoured Forces, or where these are not available, horsemen *must* still be employed. In other areas they will also be used with non-armoured forces as long as the utility of "mechanized cavalry" remains dependent on so many unpredictable circumstances and factors.

The great military powers of Germany and Russia are increasing their mounted forces, not reducing them. While this does not necessarily mean that they believe that the pre-1914 tactics will be those of the war for which they are now all preparing, but it does mean that they consider that the horse will continue to be used in war to carry fighting men in future wars. Human nature being what it is, horsed units will endeavour to fight mounted whenever they can provided that the timidity of higher leaders does not blight the individual enterprise of regimental and squadron leaders.

Cavalry leaders should never despise the power of shock, but neither on the other hand should they unduly exalt it to the prejudice of other training, as has sometimes happened in the past. The training and employment of cavalry calls for a sense of proportion in the utilization of "the means at hand" to achieve "the end in view."

The appropriateness of any sort of mounted action is entirely dependent on its offering in some particular tactical situation the chance of an important success. Such opportunities are on the decrease, and they do not all afford openings for a "close order charge." This is only called for when attacking an enemy formation which decides to remain mounted. In all probability, future shock action will mainly be restricted to fights involving squadrons and regiments: occasionally perhaps forces larger than regiments may carry out attacks, but the weapons and conditions of modern war are unfavourable to employment of mounted men in masses. It is no longer possible to carry out great attacks according to the practice of Seidlitz and Murat.

To make success likely:

(a) There should be an element of surprise.

(b) The ground should be free of the kind of obstacles that give occasion for dismay and disorder before any enemy is met.

(c) There should be effectual arrangements about supporting "shock" with fire.

(d) Once an attack is launched, it should fall on the enemy without counting his numbers; therefore the units must possess *morale*, and the determination either to conquer or perish with glory.

Shock action calls for the mobility, discipline, horsemanship, and horsemastership. Without these qualities units cannot maintain cohesion and harmony of movement during extended advances, even when these are not made in close interval. Attacks which lack cohesion and harmony will usually fail.

Even under the most favourable conditions disaster may result from the ineptitude of leaders, and from reliance on complicated plans, which normally lead to misunderstandings and confusion.

[7] *Our Cavalry* by Major General Rimmington.

Reserves Take Command at Fort Bliss

By Captain Carl N. Smith, Cavalry Reserve

Ever since the Reserve Corps was organized Reserve officers have been checking in at the various military posts of the United States for periodical training with the Regular Army. And what a wide variety of training they've received! Some of the stories they tell about their work would shock the commanding general or even lesser rank. One related a story of busy period of training—two days' travel to camp, two days' back home, three days for physical examination to get assigned to troops and three more, perhaps less, to get in physical condition to return home, two days to get equipment on memorandum receipt at the beginning of camp, and two days to return it to the government before leaving; and thus his fourteen days of active duty training for that fiscal year was completed without even the ball of red tape with which his training was wrapped to take back home. Another and more authentic story revealed a tough schedule on a cavalry post with intensive instruction in the manual of arms, with the 1903 model Springfield, grooming of horses with due emphasis on the extremities of each end of the animal, stable cleanliness and a few other lessons the officer assigned for instruction of the Reserves had learned when last he was in charge of a class of recruits. This went on each day of camp, so the officer related, with a group of some 40 to 50 officers in the class. However, as the years came along, official dignity was to encircle the crowns of Reserve officers who put in their appearance for military training. They graduated from recruit instruction to that of official observer, and were allowed to observe the troops in action.

Those were peaceful years even in Europe and the populace of the United States felt sure that the army of this country would never be called upon for national defense. The training of an army seemed a waste of public funds to many self-appointed spokesmen for the pacifist cause. To these curbstone orators the Reserve was a useless appendage to a useless body. Though the army itself did not feel the uselessness of its appendage, its personnel gave little thought or preparation to training Reserves. The possibility that Reserve officers might some day be in command of young Americans in the front lines of the battlefield seemed quite remote to practically everyone, even most of the officers of the Regular Army.

If the active duty program of Reserves was of little concern to the Regulars then, it was perhaps even less to many Reserve officers who turned out with considerable enthusiasm to the officers' club swimming pool and social functions of the evening but settled down to drowsy inattentiveness as the work of the morning began.

That was the trend of training of Reserves in its extreme and the tales will grow even worse as the officers of that day have grandchildren to listen to their yarns. A vastly different tale to any of these will be the authentic narrative of the summer camp of the 312th Cavalry active duty training at Fort Bliss, Texas, July 14th to 28th this year. The seventy-six cavalry officers who passed all requirements for training in July found something besides "bunk fatigue" waiting for them. First call developed a far different meaning than it had to some of the officers who had attended those camps of the legendary past.

The commanding general on one post flatteringly told Reserve officers assigned to his instruction that the only way he could tell them from his Regular officers was by their clean hats and new hat cords. This identifying mark was soon lost to the 312th Cavalry for in short order these officers had kicked up such a dust that their hats and cords looked as dirty and "time honored" as the Regulars.

By far the most significant factor in the training of the 312th Cavalry this summer was that the troops were turned over to the Reserves to command tactically with the entire responsibility resting squarely on their shoulders. While this type of command has likely been tried at other posts at some time, this is believed to be the first time that Reserves took sole command for the duration of the camp with no Regular officers standing at arm's length to prompt the Reserve officer when he missed his lines. As a matter of fact, the umpire system and staff was operated by the Reserves and the 312th Cavalry regimental staff issued all orders and even took on the duty of supply for the three-day field maneuver of the second week. Authorities at Fort Bliss who worked for months in advance with Lieutenant Colonel John T. Minton, the unit instructor, coöperated in wonderful manner. All concerned recognized the importance of giving Reserves an opportunity to make and correct their own mistakes and as a result the Regular officers were completely out of the picture.

The 312th started cutting corners from the outset of their camp to leave as much time as possible for beneficial training. Regimental and squadron staffs and umpires were organized before the officers left their homes and staff officers traveled on their own time so as to arrive at Fort Bliss and push off a vigorous schedule. Before the medical corps of the post had gotten well into their routine of physical examination, which by the way was conducted with considerably more care than many other years, the regiment's ranking officer, Lieutenant Colonel Ralph O. Baird, of Denver, Colorado, had completed assignment of officers to the war-strength regiment, which was to be the unit for instructional purposes. There were a few casualties at Dispensary "D" from physical examination, but seventy-six officers ended up with the coveted medical O.K. and practically all of them were ready to begin work by noon of the second day with a health certificate in their hands and with bunks, clothes and equipment in their possession. This did away with any

delay and cut considerable off the checking-in time established by the officer who related the earlier episode of going to summer camp.

The program of training for the 312th Cavalry has been carefully worked out far in advance by Colonel Arthur E. Wilbourn, formerly chief of staff of the cavalry district of the Eighth Corps Area, who made up a five-year program of which training camps constituted the culminating feature of each year's program. This summer's camp concluded the third year of this extensive program. Particular emphasis was placed this year on reconnaissance, attack, flank guard, rear guard and deployed defense. The Reserves are supposed to come to camp each summer with a fair idea already fixed in their minds of the tactical problems. The plan worked out by Colonel Wilbourn called for intensive study through troop schools held in the various cities of the corps area where Reserve officers reside. Of course the success of these troop schools rested largely with the Reserves themselves and in far too many cases these officers turned out for camp with little troop school experience behind them. Attendance is purely voluntary and first and foremost a Reserve officer is a free American citizen and like many another American, he likes to flourish that word "free" with an oratorical tongue. Among the thousands of other liberties his revolutionary forebears gave him was that of missing troop schools. In the interest of a more adequate national defense it is the hope of many of the older Reserve officers that more stringent regulations are adopted governing inactive duty training and that more encouragement for this training be given Reserve officers. Every second week throughout last winter troop schools were held for officers of the 312th Cavalry in Miami, Phoenix, and Tucson, Arizona; Denver, Colorado; Albuquerque and Roswell, New Mexico; Oklahoma City and Tulsa, Oklahoma; and El Paso, Texas. The ranking officer residing in each city was responsible for these schools. It was his job to see that schools were held and that instructors were assigned and prepared for each exercise. Historical example taken from the pages of various wars as well as improvised problems from the Cavalry School were used to bring out the practical principles desired.

As mentioned earlier, the umpire staff for the camp was made up of Reserves and in preparation of this job umpire schools were held in El Paso and Tucson for officers selected for this work. Mimeographed texts of the entire summer program were printed and turned over to umpires for study months before the camp began. Umpire check lists were carefully drawn and studied so that the utmost in training could be derived from fourteen days of active duty training.

Since the regiment's ranking officer resides in Denver, he chose his staff largely from his own city to facilitate holding staff schools in preparation for the active duty camp. Regrettably, however, some of his selected staff members could not attend the camp which forced a reorganization of his staff a few days prior to camp. This was true also with the umpire staff but the latter was less crippled because a larger number of officers than would have been needed if they all went to camp was trained for this work.

The heavy work of camp got under way on Tuesday morning (the third day of camp), when the Reserves took over a war-strength regiment formed by combining all available troops of the 7th and 8th Cavalry Regiments. Though there were insufficient troops available for complete organization, a skeletonized regiment was formed. Organization of the new regiment known as the 312th Cavalry for the remaining two weeks, was handled by authorities of Fort Bliss. There was only a little delay and the expected amount of confusion in getting all the totally strange officers affixed to the proper troops and the 312th was soon on the field. Its officers cheerfully moved out far more inclined to accept responsibility for the conduct of tropos than would have been possible if Regular officers were attached even remotely. Colonel Palmer Swift, commanding the Second Cavalry Brigade at Fort Bliss, is due credit in no small part for organization of the war-strength regiment and for firmly enforcing the policy of Reserves taking complete control.

Work of the first week was the conduct of tactical exercises to bring out the principles of reconnaissance, attack, flank guard, rear guard, and deployed defense in preparation for the second week of the camp which was a three-day maneuver with a continuing situation. Two problems were conducted on Tuesday, Wednesday, Thursday, and Friday; one for the regiment less one squadron; the other for one squadron reinforced. Saturday the regiment went into action in the first deployed defense problem.

There were, as will be expected, plenty of errors every morning and these were called to the attention of all officers by umpires at critiques. Of course the opportunity for command is not afforded the officer selected for umpire and his only chance to "sound off" is at the critique. Umpires often poured forth generously with their comments but unit commanders took their criticism good-naturedly, realizing their study and hard work had merited for them at least the moral right to an audience. The conduct of unit commanders in general was very encouraging and expression of this fact was made numerous times by umpires.

The afternoons of the first week were spent in attending and taking part in classes and demonstrations. Though somewhat hurried through the various phases of instruction, officers received a smattering of instruction in numerous subjects from morning reports to indirect machine gun laying; from horseshoeing to courts-martial.

Perhaps the most exacting test of leadership given to Reserve officers was the three-day maneuver which started Monday night the second week of the 312th Cavalry summer camp. Attached to this regiment was another Reserve organization, one battalion of the 382d Field Artillery (horse) whose unit instructor, Major William B. Walters, had worked out a plan with Colonel Minton to show officers of both branches how these two arms

would operate together in war time. It was the second week of training for the Field Artillery officers also, who had taken over somewhat similarly though with a less free reign, one battalion of the 82d Field Artillery, the regular regiment at Fort Bliss. This maneuver was a continuing situation which began with a retrograde movement at 10 o'clock, Monday night.

After receiving the general and special situation late in the afternoon the regimental staff decided to march under cover of darkness to concealed bivouac southeast of Fort Bliss on the Rio Grande River. Any night march is difficult, and particularly with a newly formed organization whose officers and men are none too well known to each other. The reinforced regiment marched at 10 PM and consisted in all (including umpires) of 101 officers, 804 men, 900 horses, 39 trucks, 8 scout cars, 1 command car, 2 station wagons, 2 scout cars with umpires and the 8 howitzers of the artillery battalion. The reinforced regiment was to be completely concealed from enemy airplane observation by daylight.

Despite the difficulty of night marching and the lack of experience of the officers, the march was made with phenomenal success across country to an area of deep sand and heavy thicket of brush. Those who have fallen into the "man of the street" method of thinking that horses and mules will be replaced entirely by motor vehicles in the army would amend this idea after a night march in sand such as was encountered by this regiment. Long after all animals had been tied to trees and bushes, motors were humming and growling, drivers cursing, tow ropes breaking, and tow chains rattling. There was no human error in handling trains; as a matter of fact, they were under good supervision, but the terrain over which the regiment moved the first night into bivouac was fit indeed for horses and not motors. It is worth while remembering, too, that wartime terrain very likely will be so irregular as to hamper if not render entirely inefficient many of the army motor vehicles.

By daylight the camouflage for the regiment was so perfectly completed that a Regular Army pilot and umpire staff observer were unable to locate the bivouac area although their search was limited to a five-mile area. Several times during the morning the plane flew over the general area without success.

The reinforced regiment constituted the "Blue" forces and during the continuing situation was met with "Red" forces of varying size. The cavalry regiment and its attached field artillery battalion had been detached from the "Blue" brigade represented only in the general situation.

Developments of Tuesday in the enemy situation were such that the regimental commander ordered the organization to march to a new bivouac area after dark Tuesday night to avoid attack by a superior force. The second night march was considerably easier than the first. The next bivouac area too was on far more favorable terrain for night encampment and the reinforced regiment went into bivouac on the great open plains of West Texas with distant outposts to protect the command during much needed and well earned rest and sleep. The terrain being far more favorable for trucks, motor vehicles won back a share of the esteem they had lost the previous night. Umpires, realizing the fatigued condition of men and animals refrained from the natural temptation to harass the "Blues" or their outposts during the second night.

The "Blue" commander was presented with his enemy situation Wednesday morning and decided to march immediately to protect his brigade in a debouchment through a mountain pass. Only by vigorous attack in which both cavalry and artillery participated was it possible to push the "Reds" aside and proceed with his mission. Attacks were awarded successful decisions from umpires so that the regiment was able to reach another watering place for the third night's bivouac area. At the critique held Wednesday evening umpires reported considerable improvement in commanders of all units and praised unit commanders for sound tactical judgment and aggression in carrying out their decision when made. The regiment and attached artillery went into bivouac the third night on terrain occupied earlier in the day by "Red" forces. Careful selection of outposts therefore was necessary. However officers had the benefit of a few hours of daylight for the first time in going into camp and therefore were able to protect the halt with more ease.

Thursday morning the "Blue" commander received his orders from higher command to proceed on his mission to protect the debouchment of the brigade through the mountain pass. Selection of suitable terrain for deployed defense was of first importance, and of course constituted an important portion of the problem for the final day. The "Blue" force occupied its selected position by 11:00 o'clock, Thursday morning, using the attached battalion of field artillery to support in excellent manner. Enemy situations developed one after another, with umpires working carefully on time and space factors which actually would confront the "Reds" were they in the field. The "Blues" were credited with stubborn resistance plus terrain advantages too favorable to overcome. Positions were maintained throughout the day and food for men and horses for the evening meal was taken to the main line of resistance.

At the conclusion of this deployed defense problem about 6:00 PM the "Blue" commander organized his forces and started the 22-mile march to Fort Bliss, watering animals en route. The reinforced cavalry regiment reached the post by 11 o'clock, officers, men, and mounts, all tired from the hardest day's work of the maneuver.

The problem of supply is always with the army, and this too was handled by the Reserve through the 312th Cavalry S-4. Coupled with supply is the most tremendous of all problems in the southwestern desert, that of water. Hot dry days like those experienced on this maneuver require the maximum water for horses and men. The tactical situations were drawn up with the practical problem of water in view. Despite the heat which reached approximately 100 degrees every day, and despite the long distance between watering places surrounding Fort Bliss, no animal suffered for want of water.

Reserve officers clearly withstood the ravages of the saddle much better than those of the bright hot summer sun of West Texas. They were a ruddy sunburned lot when they returned to Fort Bliss but the saddle had not taken the toll expected. They were tired, dirty, and unshaven when they returned to make their midnight raid on the shower baths, but in good physical condition and high spirits which gradually improved as many of them

(Continued on page 423)

Cavalry District, Eighth Corps Area Active Duty Training, 1939

NOTE: All officers should at once provide themselves with the Special Texts and other publications referred to herein. For further information on this subject, contact your unit instructor.

DAY	HOUR	SUBJECT	STUDY REFERENCE
Sun.	All Day.	Mobilization.	
Mon.	AM	Complete Mobilization.	
Mon.	1:00 PM to 2:00 PM	Administration (1).	See attached schedule.
Mon.	2:00 PM to 4:00 PM	Demonstration No. 1, Scouting & Patrolling, Mounted.	Chap. 4, Vol. I, CFM.
Mon.	5:00 PM to 6:00 PM	Orientation.	
Tue.	6:30 AM to 10:30 AM	Regiment (less 2d Sq.): Tactical Exercise No. 1, Flank Guard.	Sects. I & V, Chap. 2, Pt. I, Vol. III, CFM.
		2d Sq.: Tactical Exercise No. 2, Rear Guard.	Sects. I & IV, Chap. 2, Pt. I, Vol. III, CFM.
Tue.	10:30 AM to 11:30 AM	Care of Animals and Equipment.	Chap. 7, Pt. III, Horsemanship & Horsemastership (Special Text 856).
Tue.	1:00 PM to 2:00 PM	Administration (2).	See attached schedule.
Tue.	2:00 PM to 4:00 PM	Demonstration No. 2: Scout Cars and their uses.	Sect. XIX, Chap. 5, Vol. I. CFM.
Tue.	5:00 PM to 6:00 PM	Orientation.	
Wed.	6:30 AM to 10:30 AM	Regiment (less 2d Sq.): Tactical Exercise No. 2, Rear Guard.	Sects. I & IV, Chap. 2, Pt. I, Vol. III, CFM.
		2d Sq.: Tactical Exercise No. 1, Flank Guard.	Sects. I & V, Chap. 2, Pt. I, Vol. III, CFM.
Wed.	10:30 AM to 11:30 AM	Care of Animals and Equipment.	Chap. 7, Pt. III, Horsemanship & Horsemastership (Special Text No. 856).
Wed.	1:00 PM to 2:00 PM	Administration (3).	See attached schedule.
Wed.	2:00 PM to 4:00 PM	Demonstration No. 3, Battle Leadership of a Cavalry Rifle Platoon.	Sects. I, II, III, & IV, Chap. 5, Vol. I, CFM. Chaps. 4 & 5, Pt. I, Methods of Combat for Cavalry. Chap. 6, Pt. I, Vol. III, BFM.
Wed.	5:00 PM to 6:00 PM	Orientation.	
Thu.	6:30 AM to 10:30 AM	Regiment (less 1st Sq.): Tactical Exercise No. 3, Reconnaissance Detachment.	Sects. I & II, Chap. 2, Pt. I, Vol. III, CFM.
		1st Sq.: Tactical Exercise No. 4, Offensive Action.	Chap. 4, Pt. I, Vol. III, CFM. Chap. 4, Pt. I, Methods of Combat for Cavalry. Chaps. 10 & 11, Pt. 2, Methods of Combat for Cavalry.
Thu.	10:30 AM to 11:30 AM	Care of Animals and Equipment.	Chap. 7, Pt. III, Horsemanship & Horsemastership (Special Text 856).
Thu.	1:00 PM to 2:00 PM	Administration (4).	See attached schedule.
Thu.	2:00 PM to 4:00 PM	Demonstration No. 4, Methods of Combat, Light, Heavy, & .50 Cal. MG Squads.	Sects. IV, VII, XIII, Chap. 5, Vol. I, CFM.
Thu.	5:00 PM to 6:00 PM	Orientation.	
Fri.	6:30 AM to 10:30 AM	Regiment (less 1st Sq.): Tactical Exercise No. 4, Offensive Action	Chap. 4, Pt. I, Vol. III, CFM. Chap. 4, Pt. I, Methods of Combat for Cavalry. Chaps. 10 & 11, Pt. 2, Methods of Combat for Cavalry.
		1st Sq.: Tactical Exercise No. 3, Reconnaissance Det.	Sects. I & II, Chap. 2, Pt. I, Vol. III, CFM.
Fri.	10:30 AM to 11:30 AM	Care of Animals and Equipment.	Chap. 7, Pt. III, Horsemanship & Horsemastership (Special Text 856).
Fri.	1:00 PM to 2:00 PM	Administration (5).	See attached schedule.
Fri.	2:00 PM to 4:00 PM	Demonstration No. 5, Packs & their uses.	Cav. School Stencil W-38 (35 36).
Fri.	5:00 PM to 6:00 PM	Orientation.	
Sat.	6:30 AM to 11:00 AM	Regimental Command Post Exercise. The Deployed Defense.	Par. 19-a, Vol. III, CFM. Chap. 5, Pt. I, Vol. III, CFM.
Mon.	6:30 AM to 10:30 AM	Tactical Exercise No. 5, The Regiment in The Deployed Defense.	Par. 19-a, Vol. III, CFM. Chap. 5, Pt. I, Vol. III, CFM.
Mon.	10:30 AM to 11:30 AM	Care of Animals and Equipment.	Chap. 7, Pt. III, Horsemanship & Horsemastership (Special Text 856).
Mon.	1:00 PM to 4:00 PM	Preparation for the March.	
Tue.	12:01 AM to Thu. 11:30 PM	Regimental Field Exercise and March involving Marching, Camping, and Camp Sanitation; Logistics. Tactical Exercises to Include Tactical Marches; Security while on March and halted; Defensive Action; and Exploitation of a Success.	Pt. 2, Vol. III, CFM.
Fri. AM to Sat. PM		Demobilization.	

NOTE: CFM—Cavalry Field Manual.
BFM—Basic Field Manual.

Special Activities

The Eighth Cavalry Miniature Combat Range

By FIRST LIEUTENANT BRUCE PALMER, JR., *8th Cavalry*

Today's cavalryman must learn the technique of many diversified subjects to earn the name of a first-class fighting trooper. In a pinch, he may be called upon to function as an infantryman, so he must know the ways of the doughboy. As a cavalryman, besides learning the technique of dismounted combat, he must learn to ride his mount over any terrain at any gait, to scout and to fight from his horse, and to take care of his horse, in the field or on the march, by day or by night, in all kinds of weather. A successful leader of modern cavalry must be a man of extreme versatility; a great leader must, indeed be a virtuoso in the fine art of war. Not only must he know how to lead his troops, dismounted and fighting as infantry, but he must master the vast field of cavalry tactics, both horse and mechanized. He must know how to guage the capabilities and limitations of his own arm according to the terrain at hand, so that he can exploit to the greatest advantage the weaknesses of his enemy, whether it be infantry, horse cavalry, mechanized cavalry, tanks, attack aviation or "streamlined" infantry in motors.

In view of the wide field to be covered, it immediately becomes apparent that in training cavalry, rigid economy of training time available must be practiced, and training schedules must be carefully planned and strictly followed. Important in peace, it is paramount in war, when new troops must be thoroughly trained in a minimum of time.

A cavalry training time-saver is the miniature combat range, developed initially at the Infantry School, and adapted to cavalry use by the 12th Cavalry at Fort Brown, Texas. Further development of such a range has been made by the 8th Cavalry, stationed at Fort Bliss, Texas, with the result that the instructional value inherent in a miniature combat range has been greatly enhanced, and the interest of the men has been aroused to a remarkable state of enthusiasm.

The purpose of the 8th Cavalry Miniature Range is to conserve time, space, energy, and funds in the training of leaders and the individual soldier for their duties in dismounted combat.

Many desirable and worthwhile advantages have been found in connection with the range. Among them are:

(1) *Location:* Being only three-fourths of a mile away from barracks, the range is readily accessible to all troops. Due to the small area (400-500 feet by 50-100 feet) necessary for a range, and the fact that only Cal. .22 weapons are used, units desiring to build a range should be able to find a site close to their barracks.

(2) *Time Element:* Little time is wasted in setting up targets before firing and marking targets after firing. due to the short distance between the firing line and the targets.

(3) *Variety of Instruction:* An infinite number of situations can be devised by merely changing the location of natural and man-made terrain objects. or by changing the location, number, and disposition of target.

(4) *Superiority over Landscape Targets:* The range is found to be far superior to landscape targets, because the miniature range has depth, and it can be changed before its appearance becomes monotonous.

(5) *Economy:* Range material is practically without cost and simple to construct. The range is intended for calibre .22 weapons, and so training allowances of service ammunition are made available for other combat firing.

(6) *Safety:* No elaborate back-stops are necessary. since with calibre .22 weapons a vertical bank, 15 feet high will suffice.

(7) *Interest:* The range is unequalled in arousing interest, a quality which is vital to the success of any program of instruction. Interest is maintained because there is a realistic picture before the soldier at all times. and nothing is assumed, or left to his imagination. In addition. the targets representing enemy troops are so constructed that they will fall when hit, a factor which is not only valuable from a training standpoint, but also produces enthusiastic participation in range problems on the part of all ranks.

(8) *Training:* Immediate supervision over all members of the unit firing is made possible by their close proximity. The instruction can therefore be made more individual. Moreover, the nature of the range permits the application and the effect of fire to be shown in a minimum of time.

Construction of the Range: An old gravel pit 400 feet in depth by 75 feet in width provides the range. The side

Plate 1: CLOSE UP VIEW OF 8TH CAVALRY MINIATURE COMBAT RANGE

Note: 1—Snipers in dead tree to the left of the silo in center of the picture. 2—Truck convoy moving west on road running through center of picture. 3—Officer on horseback with a dismounted messenger near him on a small hill in foreground. 4—Sniper in belfry of church in left foreground.

of the pit vary in height from 15 to 30 feet. The approach to the range has ample cover for approach formations in rear of the firing point. The range proper is dressed up so that it simulates actual terrain. (See attached Photos No. 1 and No. 2.)

Mountains, hills, ridges, ravines, streamlines, and rock formations are as found in the pit, and can be varied at will in a few moments with a pick and shovel. Trees, bushes, and hedges are merely branches of greasewood, cut to the desired length and stuck in the sand. Trees planted at regular intervals represent an orchard. A large branch stripped of its foliage becomes an old dead tree. An old piece of IC'd canvas painted green becomes a pasture, or an alfalfa field. A cornfield or wheatfield is simulated with a piece of canvas artfully painted with spots of yellow, or by grain sacks spread flat on the ground. Small bundles of hay, fastened with baling wire, representing stacks of cornstalks, add to the realism. Larger bundles of hay become miniature haystacks.

A few minutes' work with a little dry lime produces the roads. The buildings are made out of discarded egg crates. A few houses painted yellow and white, with doors and windows in black, make a very realistic town. Barns painted red and farm houses of white are easily made. A white cross stuck on a mountain top becomes a shrine. A windmill and a ranch house are quickly built. A low yellow and black building with a level clearing in front makes a miniature airport. A silo is easily made from a piece of stove pipe. A church with bell tower, steeple, and cross is not difficult to build. Stone walls are painted in black and white on small lengths of wood. Rail and worm fences are easily whittled with a jack knife.

Targets representing the hostile Reds are jigsawed from cardboard procured from old field firing silhouette targets, and are cut to the same shape as the prone and kneeling field targets. The prone targets are made 2 inches high and 2 inches wide at the base; the kneeling targets, 3 inches high and 2 inches wide at the base. The miniature silhouettes set up at a distance of 2,640 inches (220 feet) appear to the eye the same as the corresponding full size silhouettes at a distance of 450 yards. The scale between these miniature silhouettes and the full size silhouettes is approximately 1 to 10 inches. This same scale is used in the construction mentioned above. Tank, combat car, scout car and truck convoy silhouettes are also jigsawed from the same material and cut to the same scale. These vehicular targets camouflaged with zig-zag painting of various colors appear as they would on the battlefield. To save wear and tear on the three-dimensional buildings, silhouettes of barns, churches, etc., with machine gun nests or snipers painted on the fronts, are also cut and provide interesting targets. (See Plate No. 1.)

Prone and kneeling silhouettes are tacked to small bits of wood projecting about 1 inch below the base, so that the targets will stand in the sand, but will be flattened when struck by a calibre .22 bullet. The other silhouettes are nailed to longer stakes which can be driven into the ground. A few rubber toy soldiers, horsemen, motor-

cyclists, and machine gunners add further to the effect of realism.

Use of the Range

(1) *Calibre .22 Rifle:* Squad and platoon problems can be easily conducted. The situation can be initiated with the unit already deployed along the firing position, with the unit halted in approach formation, or with the unit advancing in approach march formation, with scouts out. The situation can also be developed to allow a further advance beyond the initial firing point. (See Photo No. 3.)

To give the rifleman a basis from which to set the Lyman sight on the calibre .22 rifle, the following table was derived after consultation with the Division Ordnance Officer:

Use of Lyman Sight on Cal. .22 Rifle for Miniature Range

Actual Range	*Theoretical Range (Yds.)*	*Proper rear sight setting*
1,000" (28 yds)	170	1.0
1,500"		2.5
2,000" (56 yds)	340	4.5
2,500"		7.0
3,000" (83 yds)	510	10.0
3,500"		14.0
4,000" (110 yds)	680	19.0
4,500"		26.0
5,000" (140 yds)	850	33.0

This table gives only the approximate sight setting in minutes, and, of course, the zero of the individual rifle varies, but actual firing has shown the data to be very accurate.

(2) *Calibre .22 Machine Gun:* Section and platoon problems can be readily conducted. The problem may begin with the gun already in position, or the reconnaissance, selection, and occupation of gun positions may be actually carried out. Guns may be displaced forward by section, or platoon, as the situation develops.

Experiments conducted by the infantry have shown that a sight setting of 700 yards comes to 3,000 inches on the range, and one of 900 yards to 4,000 inches. These sight settings have been used as a basis from which the gunners set their sights, and have given very accurate results.

Training Value—Rifle: Due to the rough and uneven nature of the firing point, the individual soldier receives good practice in selecting a position where he has a good field of fire without unduly exposing himself. (See Plate No. 2.)

Instruction in target designation is rapidly and readily imparted on the miniature range. Targets may be designated by the leader firing shots and ordering his men to watch the strike. Since the strike is readily picked up at the short distance, this method of designation simulates very closely the firing of tracer bullets on field ranges. The method of oral designation is also readily taught. Men learn to recognize terrain features as defined by military terms and to locate targets by means of reference points very quickly. Leaders also have ample opportunity to recognize important terrain features and reference points, and soon learn to give very simple and understandable fire orders.

Due to the fact that the strike is readily picked up men are easily taught how to distribute their fire according to the nature of the target, since mistakes are quickly noticed and rectified. At the same time, the individual soldier learns to adjust his sight setting by observing his strike.

Training Value—Machine Gun: The beaten zone of the calibre .30 machine gun is actually reproduced in miniature on the range, thus presenting an accurate picture of all phases of direct laying. The characteristics of machine gun fire, a knowledge of which is so essential to a gunner, are quickly learned by direct observation.

The remarks made above concerning target designation apply equally as well to the machine gun as to the rifle.

The methods of covering wide targets, narrow targets, oblique targets, deep targets, and area targets, so difficult to put across in the classroom are readily demonstrated and practiced on the range. In connection with this, it is possible to set up targets between 3,000 and 4,000 inches whose depth is greater than the length of the beaten zone of one gun. Again, the gunner gets ample practice in adjusting his fire by the observation of the strike.

Plate 2: VIEW OF RANGE FROM VICINITY OF FIRING POSITION

Note: 1—Squad engaged in fire fight. Line has been built up by infiltration. Men are about 2,000 inches from nearest targets (stone wall in foreground of range). 2—Squad leader has taken cover in rear of squad controlling fire fight.

Plate 3: VIEW OF RANGE FROM VICINITY OF FIRING LINE

Note: 1—Scout car in foreground in position for a quick getaway; driver at the wheel. 2—Gunner (on right) firing over rear end of scout car. Machine gun can be seen to left of gunner's head. 3—Car commander on left of gunner is observing fire through field glasses.

The range can be readily adapted to instruction in indirect laying. Such instruction is far superior to the blackboard and to field firing, since each step in the procedure of collecting data can be visualized on the ground from one position, without the confusion and loss of time resulting from a change of location. All instruments, except, of course, the range finder, are used exactly as in field firing. All that is needed is a screen to prevent the gunner from seeing the target.

Conclusions: Results of actual firing on the range have proved it of great value as a means of training. It has been shown that in a given period of time, many more problems can be conducted on the miniature combat range than on a field combat range. Such has been the reception of the range among the troops of the 8th Cavalry that many men have voiced a desire to stay and fire another problem, even after it was time to return to barracks.

It must be made clear that training on the miniature combat range is only a valuable adjunct to similar training on the field combat range, using service weapons, and is in no sense a substitute for the essential training in firing service ammunition under field conditions, which troops must receive. However, for the civilian components of our military establishment, where range facilities, time, and funds may be limited, the miniature range truly comes into its own as an indispensable item of equipment.

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War Paint for Modern Fighters

By LIEUTENANT FORREST H. RIORDAN, JR., *305th Cavalry*

Since the beginning of time, nature has endowed her small and weak animals with a negative protection—camouflage. The young, speckled partridge, if it cannot find its mother in time of danger, instinctively tucks in its head and feet and becomes motionless and to keener eyes than those of a man, it looks like a crumpled leaf on the ground. The chameleon for purposes of protection changes color to match the limb or foliage upon which it is resting. The variable hare, willow grouse and arctic fox which inhabit northern regions are all white during the winter months, yet they change their coats in the summer so that they are inconspicuous in their natural surroundings.

Modern armies have also discovered the advantage of inconspicuousness and soldiers no longer march into battle with plumes waving, wearing red coats with white belts and breeches and covered with shiny buttons and medals. Uniforms are of a neutral color. Precision metal parts of pistols, rifles, and machine guns have a dull, steel blue finish, while trucks, tanks, and other matériel are painted the standard army olive drab color. Artillery, machine gun nests, and observation posts are camouflaged with small trees and brush in order that they will not be spotted by the enemy. It is reported that some elements of the Russian army are equipped with white mantles for winter service.

The art of camouflage has covered practically everything to the end of rendering men, equipment, and buildings invisible to the enemy. But one conspicuous and vulnerable target is left—white man's face. We are trained never to show our faces when in observation, never to look upward at hostile aircraft, except when firing. When a deployed line of skirmishers are caught in the light of a flare at night, the faces shine like individual bull's-eyes.

To reduce enemy perception why not dye or stain the face and hands of all combat troops? A dark tan or brown or even green would certainly make men less visible and would make it less imperative to keep the face hidden from view. After all, one can observe better and shoot straighter if he doesn't have to think about his face.

The hands could be dipped and the face and neck swabbed with a harmless vegetable dye which should not wash off with soap and water. The most vulnerable part of man's body cannot be covered with armor, but it can be made to present less of a target than it now does. Let's don our war paint like the first fighters of the new world—the American Indian—but for a more intelligent reason—CAMOUFLAGE.

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March Schedules Simplified

By MAJOR GYLES MERRILL, *Cavalry*

A recent article in the CAVALRY JOURNAL dealt with the subject of marching in a very able manner, amplifying, among other things, the instruction contained in Paragraph 311 of the CFM, Vol. III. Reading this article and studying the examples of a timekeeper's records shown on Page 147 of CFM, Vol. III, led to a few simple computations which finally resulted in the preparation of the table shown in Fig. I. Believing this table with an explanation of its use might be of interest to others and in the hope that the following description of a simple method of timekeeping may be of value to some, this present article was written.

The first column in Figue 1 shows minutes at the trot (9 miles per hour) the remaining marching time being at a 4 mile per hour walk or lead. Under the appropriate heading in the other columns appears the miles travelled. Thus, if in any one hour the command marches a total of 50 minutes, 26 minutes of which is at a trot, it will have covered 5.5 miles (4th column, 12th line). Similarly if the command marches for a total of 55 minutes of which 40 minutes are at the trot it will cover 7. miles (3d column, bottom line). A glance at the table will save the time required for the computations shown as examples on Page 147, CFM, Vol. III.

Further, a commander decides to march at 5.75 miles per hour with 5 minute halts each hour. Column 3, Line 11, shows that he must trot 25 minutes of the 55 minutes marching time. Knowing this, it is a very simple matter to so arrange the trotting and walking periods as to accomplish the result.

Another example of the use of the table: a command must cover 36½ miles in 7 hours. The commander decides to halt 10 minutes at the end of the first hour, 5 minutes at the end of the 2d and 3d hours, 30 minutes at the end of the 4th hour, and 5 minutes at the end of the 5th and 6th hours. The total time at the halt amounts to 1 hour, leaving 6 hours of actual marching. 36.5 miles divided by 6 hours gives 6.08 miles per hour of a full 60 minutes marching. In Column 2, 6.08 appears opposite 25 minutes at the trot, therefore the command must march 6 times 25 minutes or 150 minutes at the trot and 6 hours less 150 minutes or 210 minutes at the walk and lead. The ratio of 5 to 7, trot and walk, is at once apparent and will serve as a guide in determining the length of the periods.

Now as to the paper work required of the timekeeper. Those of us who have served as timekeepers with the ordinary equipment consisting of a wrist watch and a notebook and pencil know the difficulties attendant. In the first place there is always the difficulty of trying to compensate the fractions of a minute that are always present, (unless the orders for a change of gait are based solely on the watch, which they should not be). Next there is the difficulty of writing hours and minutes in a note book, on the back of a horse in motion, especially during inclement weather or at night. One can approximate such things but if you are going to approximate it, why bother with a timekeeper at all?

The approved solution, to my way of thinking, is one of the modern wrist watches that embodies the features of a stop watch and time interval recorder combined. The one I own (Xmas present) has the usual hour, minute and second hands, and in addition has a sweep second hand and a dial that records the time the sweep hand is in motion. There are two "push buttons," the upper one starts and stops the sweep hand and the lower one resets the sweep hand and the time interval hand to zero. It differs from the usual stop watch, or time interval recorder, in that the first push of the upper button starts the sweep hand and the hand of the recording dial, the second push of the same button stops both, and a third push starts both again where they left off and so on. In other words it enables one to "take time out" and record only that time that one wishes. Its use by a march timekeeper would be as follows: first note the hour at which the march started, or set the watch at 12:00 at the start of the march. Then at the beginning of the first trot push the upper button. At the end of the first trot push the upper button again and the duration of the trot will have been recorded. Again push the upper button when the second trot starts and again push the upper button when the trot ends, thus adding the time of the second trot to the first. A glance at the time interval dial will tell the total time at the trot for that hour. At the hourly halt make a record of the distance traveled by drawing a circle around the proper number on the march table card and numbering it 1 for the first hour, 2 for the second and so on. At the end of each hour push the lower button, resetting the sweep hand and time interval dial hand to zero. For example, the command marches 45 minutes in the first hour and then halts 15 minutes. 21 minutes of the time as recorded on the watch was at the trot. Opposite 21, in Column 5 draw a circle around 4.75 on the march table and mark it 1. The next hour the command marches 55 minutes of which 31 minutes were at the trot. Draw a circle around 6.25 in Column 3, line 17, and mark it 2. And so on. It is believed that the timekeeper's work has thus been brought to the irreducible minimum and bookkeeping errors practically eliminated.

Min. at trot	Total minutes marching				
	60	55	50	45	40
15	5.25	4.92	4.58	4.25	3.92
16	5.33	5.	4.67	4.33	4.
17	5.42	5.08	4.75	4.42	4.08
18	5.5	5.17	4.83	4.5	4.17
19	5.58	5.25	4.92	4.58	4.25
20	5.67	5.33	5.	4.67	4.33
21	5.75	5.42	5.08	4.75	4.42
22	5.83	5.5	5.17	4.83	4.5
23	5.92	5.58	5.25	4.92	4.58
24	6.	5.67	5.33	5.	4.67
25	6.08	5.75	5.42	5.08	4.75
26	6.17	5.83	5.5	5.17	4.83
27	6.25	5.92	5.58	5.25	4.92
28	6.33	6.	5.67	5.33	5.
29	6.42	6.08	5.75	5.42	5.08
30	6.5	6.17	5.83	5.5	5.17
31	6.58	6.25	5.92	5.58	5.25
32	6.67	6.33	6.	5.67	5.33
33	6.75	6.42	6.08	5.75	5.42
34	6.83	6.5	6.17	5.83	5.5
35	6.92	6.58	6.25	5.92	5.58
36	7.	6.67	6.33	6.	5.67
37	7.08	6.75	6.42	6.08	5.75
38	7.17	6.83	6.5	6.17	5.83
39	7.25	6.92	6.58	6.25	5.92
40	7.33	7.	6.67	6.33	6.

Fig. 1

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Streamlined Training

By CAPTAIN CARVER M. LACKEY, *109th Cavalry*

The CAVALRY JOURNAL seems to welcome suggestions and we all *know* that the United States is *not* going to get into this War, still it is worthwhile for us to do a little thinking about training men in case we should have a war.

As Plans and Training Officer of my regiment, I have given this subject some thought and the following idea for training has occurred to me. It is absolutely original as far as I am concerned, but we know nothing is new under the sun so it might have been thought of before.

Lay out a marching course of about five hundred miles for about a four weeks' ride to train men and animals. Make a camp site for the end of each day's march. Provide instructors who should teach a definite lesson each day so that when the march is completed the men would have sufficient training to take the field.

In case of a large war, it would be necessary to train men and animals quickly and such a system of mass training based on the American system of production lines seems feasible and is at least novel.

The men and animals should be sent to a concentration camp where at least two weeks of basic training and conditioning should be given. The re-mounts could be worked out each day by older men and the recruits could be given basic training, using trained horses.

After such a period of basic training, which could be made longer or shorter according to the tactical situation, the new men should be placed on the new horses and started over the course, a troop or platoon each day with full pack.

The course should be started with short marches getting progressively harder. By the end of the march the course should average 25 miles daily and at least one or two marches should be made 40 miles to test the endurance. This course would, of course, condition men and animals and each succeeding unit would march the same number of miles, camp at the same places and receive the same instructions.

An organization for instruction should be set up. At least two or more instructors should be stationed at each camp site to give instructions, lectures and demonstrations on a definite subject in which they have been specially trained. An instructor could ride on the next day's march with that unit, instructing and correcting the unit in the subject which was being taught. The instructor could utilize the succeeding day to return to his original station and thus two instructors would be necessary or units could be started on alternate days.

A subject of importance which might be given on the first day's march is "Marching, Marching Discipline and the Proper Procedure Upon Arrival in Camp." This subject might be again covered because of its importance on, for instance, the seventh day (Sunday excepted) and possibly again touched upon so that the subject would be fully covered and the men would be completely trained in this subject.

A good deal of time should be devoted to working out a schedule so that every subject which it was necessary for the men to learn would be covered and at the end of the course the men should be (as far as possible) completely trained and prepared for field duty.

The course should be laid out, using hard surface roads as little as possible, by making use of back roads, trails and considerable cross-country. It should be as near as possible to what cavalry would expect to encounter in war. It should be over good country where it would be a pleasure to ride, thus raising the morale of the men and selling them on their branch.

Points and advance guard formations could be taken up, scouting and patrolling could be taught in wooded country. Individual men could be sent out with a map and a compass thus learning map reading and scouting. Individual squads could be sent out and taught how a squad would act on patrol missions. Problems could be carried out during the march. An advance unit could be held over one day and act as the enemy for the next unit at some favorable place along the route. Interior guard duty could be taught at night and on Sunday when the unit was not marching.

One camp might be equipped with all the material necessary to conduct the first phase of preliminary pistol marksmanship, the next camp to teach the next phase, until completed; then a camp could be equipped with a pistol range and another a mounted pistol range, thus giving a full course in pistol marksmanship. In like manner, rifle marksmanship could be taught and carried out. It would be possible for the course to go by a range and for the men to stop at this camp several days to complete its rifle firing though it might be better if this were taught at another time.

At one camp, the necessary instruction for stream crossing might be taught; the camp being located near a good stream to be crossed, the men could be instructed in stream crossing in an afternoon with stripped saddles and be required to cross it on the march the next day. The units should be given at least a week of night marches as this would be necessary in War.

In fact, I cannot think of anything that could not be taught on such a course.

This course could not be set up on M-day. To be of any value, it should be laid out and perfected well in advance so that on short notice it could be set up for mass training. Officers or non-coms should be selected and specially trained as instructors so that they would know thoroughly the subject they were to instruct. Regular army recruits could be sent through such a course and remounts could be trained in this manner so the course could be tested and necessary changes made to perfect the system. National Guard units for their two-weeks' encampment could take, with much advantage, their summer training over part of the course. Selected noncoms of the National Guard might be allowed to take the full course. Reserve Officers might be sent over such a course with much benefit to themselves. The purpose of giving preliminary training to these units would be, mainly to perfect the system.

Hundreds of variations could be made in this plan. The ride could be made much longer if it were found that it was necessary. With a longer course, the daily march could be increased to thirty miles and practice forced marches could be made up to sixty miles. Stopovers at rifle ranges or for maneuvers might be made. An enlisted cadre for the next unit could be taken through the course with an advanced unit and while waiting for its own unit the individuals could be sent to different specialists schools. Officers might be sent through in advance of their units and stop over along the way, receiving training and fall in with their units as they pass.

The Government could, without too much expense, rent rights of way and establish camps with the necessary facilities. National Parks could be used for maneuvers and farmers could be persuaded for a consideration, to let the troops use their hills and wood lots, through which the course would run.

It would not be necessary for such a large expenditure on the night camps. Permanent kitchens and bathing facilities would be beneficial, water necessary. Sufficient ground for pitching shelter tents and picket lines would be necessary. Store houses would be necessary at least every three or four camps and telephones could be installed in each camp so that notice could be given of the number for which to draw rations. Medical and veterinary services and supply service could be set up so that they could cover four or five camps, with cars and trucks.

Courses could be set up in each corps area, but it is believed that if one were set up and well organized that it could turn out troops about as fast and more thoroughly trained than a number of small courses.

Since I am more familiar with this territory, I thought of starting a course at Fort Oglethorpe, Georgia, going north slightly east through the Smokies, turning west about at Knoxville, thence through Nashville to Fort Knox. A longer course might be started at Fort Bliss, Texas, through Tennessee to Fort Myers, Virginia. I think no cavalryman would be well trained unless he could ride through the beautiful hills of Tennessee. A course could be laid out so it would begin and end at the same place but that would take away the novelty somewhat, and have other disadvantages.

Through the middle part of Tennessee, there is now a civilian riding course for pleasure riding which is used by horsemen in this vicinity, mostly through trails on which you can ride for several days and it is reported that several successful rides have been made by groups of horsemen.

If a company can start a nut and a bolt down a production line, stationing men along the way to add gadgets, and at the end turn out a fully completed, and streamlined automobile, there seems to be no reason why streamlined cavalry could not be turned out, using the same principle.

☆ ☆ ☆

Horseshow Terms

By LIEUTENANT COLONEL ADOLPHUS W. ROFFE, *3rd Cavalry*

In the language of the horse show ring, a number of expressions with a more or less technical meaning have come into common usage. The expressions are usually seen or heard in an abbreviated form, and could be aptly described as "trade terms."

A very large percentage of competitors and regular attendants at horse shows know and understand the meaning of these "trade terms," but many casual spectators, and occasionally competitors, do not understand them fully. Too frequently it happens that a competitor leaves the ring thinking or saying all sorts of uncomplimentary things about the efficiency of the judges, when, as a matter of fact, the competitor himself has a misconception of the rules under which the class was judged.

One of the primary objects of a horse show should be to stimulate interest in horses and riding, to encourage competition, and to foster good sportsmanship. The success of a show should not be measured by the number of entries, the number of "cash" customers, nor the social, political, or financial importance of the spectators. The real success of a show should be measured by the amount of interest created or revived in horses and riding, new competitors in the ring, especially from the younger set, and a high standard of sportsmanship.

Well aware of the risk involved in entering into any highly controversial subject, some of the expressions most often misconstrued or not fully understood, together with the classes to which they apply, are enumerated below, followed by a brief statement of their accepted meaning.

1. "Performance only to count." (Applicable to Jumping Classes.)

This is the normal condition imposed in straight jumping classes in the United States and means that the entry is penalized only by the faults incurred in negotiating the course. The faults that may be incurred in such classes are tips, knockdowns, refusals, run-outs, loss of course, and

fall of horse and/or rider. If it is also a "time" class, overtime is penalized according to the rules announced. But rushing or propping a jump and "bad manners" are not scored as penalties, unless the horse is so ill-mannered as to cause it to be ruled out as "dangerous" under the general rule of any well-regulated show.

2. "Performance and manners and way of going to count." (Applicable to green and qualified Hunter Classes.)

In such classes performance is scored as indicated in 1 above, except that ordinarily tips are not scored as faults unless of such a nature as to disturb the balance of the horse or rider, in which case they are scored on the same basis as a knockdown.

In scoring "manners and way of going" everything should be considered and scored that go to make up a safe, comfortable ride in the hunting field. This includes calmness, smoothness, boldness at the jumps, uniformity of appropriate pace over the entire course, stride, relaxation, and amenability to control by the rider. The faults that come within "manners and way of going" are boring, rushing, propping, timidity (lack of boldness) at jumps, overboldness (unsafe) at jumps, swerving over jumps; i.e., failure to approach, take, and move away from jumps on a straight line, choppy or pounding stride, any exhibition of "bad manners," i.e., balking, rearing, bolting, lunging, and stubbornness, disunited gallop anywhere on the course, irregularity or inappropriateness of pace anywhere on the course, breaking over a shoulder while making a change of direction, apparent nervousness and tenseness, and nonamenability to control of rider. In short, anything that tends to detract from an insured safe, comfortable ride in the hunting field should be scored as a fault.

Some highly competent hunter judges will penalize a hunter for failure to gallop true, i.e., with the inside lead, around a turn on the course because, in their opinion, the false gallop, like the disunited gallop, indicates tenseness, lack of suppleness, or resistance to the rider. However, this practice is not habitual among hunter judges, and is a controversial point.

3. "Conformation to count." (Applicable to a number of classes, including Model Hunter, Charger, Polo, Ladies' Hunter, Suitable to Become Hunter, Broodmare Suitable to Produce Hunters, Broodmare Suitable to Produce Polo Ponies, and practically all Saddle (gaited) Horse Classes. In addition, this requirement may be and frequently is added to the conditions of the Green and Qualified Hunter Classes discussed in 2, above.)

Conformation is an all inclusive term denoting form, size, shape, and proportion of the individual parts and the assembled whole of the equine specimen. Conformation of the horse has an exact parallel in the physique of the human. Ideal conformation is that much sought and rarely found combination of the form, size, shape, and proportion of the parts and the assembled whole which science and experience have determined to be the best combination of desired physical qualities for the purpose for which the animal was intended. The model conformation of the equine race is the "Venus" or "Apollo" of the human race.

The characteristics of ideal conformation in detail are:

HEAD: Muzzle fine, nostrils large, lips that match; face straight, broad and flat between the eyes; ears medium size, shapely and alert; eyes large and prominently set to afford vision to side and rear; lower jaw deep with ample space between right and left branches; throat-latch narrow and fine.

NECK: Long and slender, well muscled on sides, straight top line, well set onto both head and shoulders.

SHOULDERS: Long and sloping with prominent withers that go well into back.

BACK: Short, well-ribbed and well-muscled, short coupled between last rib and point of hip, symmetrical top line.

CROUP: Smooth and well rounded, well muscled, ample length between point of hip and point of buttocks, top line a continuation of the symmetrical top line of back; entire croup should convey an impression of power and endurance.

BODY: Deep heart-girth, long, well-rounded ribs which provide ample abdominal capacity, entire body smooth and well-rounded.

LEGS: Well set onto body (giving the impression of one support under each corner of the body), medium length over all, with maximum length above knees and hocks, short between knees (hocks) and fetlock joints, arm and gaskin broad, flat and well-muscled, knees and hocks should be broad, flat and smooth on anterior surface, extending well down into the lower leg (cannon bone), posterior surface should be smooth and straight; cannon bones should be thin, broad, and flat, the tendons should be smooth and straight and stand well out from the cannon bones; fetlock joints should be smooth and symmetrical (not too rounded); pasterns should be medium length with slope paralleling the slope of the shoulder; feet should be well rounded of medium size, level, and the slope of the hoof should conform to the slope of the pastern. Looking from the front, a line bisecting the front leg below the point of the shoulder, and the hind leg below the stifle should be a straight line.

CHEST: Should be broad with plenty of space between the front legs to give ample lung capacity.

THE COMPLETE ENSEMBLE: Should convey the impression that all the various parts fit, one with the others, and are properly joined together to produce a specimen of physical strength, grace, symmetry and beauty. Fortunately, science and experience coöperate with art in this instance. The animal with the most nearly perfect conformation is a creature of physical grace and beauty.

AFTERTHOUGHT: Since no two people, regardless of ability and experience, can ever entirely agree on this subject, anyone who may read the above may disagree with any part or all of what has been written here on conformation. Honest difference of opinion is one of the principal reasons why the horse game is one of the most fascinating of all sports. May it ever be thus.

Letters to the Editor

SIR:

The best argument for horse cavalry that I have heard or seen was the performance of the 101st Cavalry during the Army Maneuver at Plattsburg. The 18th Infantry Brigade in trucks went hellboring down the road to a distant objective. A squadron of the 101st sneaked in behind them and took General Short short, and how, complete with staff and car. I seen it. I spoke to him, and said he was running about in cavalry infested country, but he blew me the razz and said he was an hour in rear of his own infantry. Five minutes later they had him. On the north flank, two squadrons of the same regiment held up the 2d Brigade so long that Colonel Marley had to telephone the umpires to call them off or the maneuver would never get started. (See his remarks at the Army critique.) General Haskell, commanding I Corps, said that he got more information from the 101st Cavalry than all other reconnaissance agencies combined. That night, at 10:30 PM, I was with the 1st Battalion, 7th Field, and this same 101st was raising hell with the gun batteries, operating from thick woods. We were supporting a battalion of the 28th, or the 16th, maybe. Every time the cavalry would rip a burst of machine gun fire into a battery the umpire with the 18th would stick his head out of his tarp and order someone to go up and rule the horse cavalry out, that it was too dark for them to operate. You might send a few pamphlets to senior officers in other branches, methinks. Particularly whoever let a squadron of the 3d sit on their tails at Schuyler Falls for 30 days doing nothing but grooming and watering. If the enlisted men had to be orderlies for the umpires, why not leave the horses at Ethan Allen? They had every horse they owned on the picket line, and what troopers were available grooming three and four apiece. It was said that the horses were for the umpires to ride, but since the flag orderlies were all Coast Artillerymen, how could an umpire ride and his flag orderly walk? They both walked.

YELLOW LEG.

* * *

TO THE EDITOR:

Your most excellent periodical recently contained a piece which suggested that the present heavy machine gun be replaced by the light machine gun. To me this is a most curious suggestion in view of the following facts:

(1) The 1936 maneuvers of the 1st Cavalry Division, which the writer cited as directing his thoughts to this problem, were notable among other things for the realization by the high command that the light machine gun was most unsuitable as a cavalry weapon.

(2) The cavalry organization tests at Fort Bliss in 1938 were characterized by the *unanimous* opinion of the officers conducting the tests that the light machine gun should be abolished and its place taken by the present water-cooled gun.

There is so much unanimity of opinion that the light machine gun is an unsuitable cavalry weapon that it would appear dangerous to present the suggestion to National Guard and Reserve officers that it replace the so-called heavy gun.

The light machine gun is not light, nor is it a machine gun. It has been used as a single shot weapon, and as such does not pull its weight with the M-1 rifle. Its instability and low command make it far inferior to the water-cooled gun and the crew needed to operate it makes it most uneconomical from a personnel standpoint.

I have seen a good many tests of this weapon and have worked with it in the field to a considerable extent. Always I have been impressed with the fact that the "heavy guns" were getting around just as fast when manhandled as the light guns and that the former had something to shoot besides a promise. Also I know that a great number of officers with extensive machine-gun experience feel the same way.

I realize that in advancing over great distances dismounted the few pounds difference in weight would become quite a factor. But a situation requiring long dismounted advances is one in which cavalry should fall out in favor of the doughboys.

I can count on the fingers of one hand the officers I know who do not agree that the present light machine gun should be gotten rid of without further delay and replaced with the water-cooled gun or its equivalent.

Cavalry, to have a light machine gun which will do the job of the infantry automatic rifle, must develop an automatic weapon which can be carried on a ridden horse and which needs but one or two men for its operation.

W. W. YALE.

☆ ☆ ☆

War In Europe

War between first-class nations of the world now actually exists. As this war progresses every attempt will be made to present pertinent phases thereof within the columns of The CAVALRY JOURNAL. No attempt will be made, however, to furnish any chronological report of events, nor is it to be expected that situation maps of any type can be provided. Daily newspapers and certain weekly periodicals are far better equipped to furnish this type of information. Such references to the war as are made will be confined more strictly to analytical phases of the conflict which bring out major tactical lessons or new thoughts on the modern matériel of war, and their actual application in combat.

Political factors involved in the war will in no way be discussed in these columns so long as the war continues.

Close heed will be paid to new and advanced thought and application of means of waging war; employment of aircraft, particularly with respect to support of ground troops; tactical use of mechanized elements; use of motorization; communications and control facilities; supporting arms—all these and closely allied phases will be closely followed, and an attempt made to provide analytical observation as to actual effect on the progress of ground troops. Particular attention will be paid to the employment of highly mobile elements, and particularly the use made of horse and mechanized cavalry.

Some time may elapse before sufficiently accurate data is available upon which to base any comment on this subject.

This statement is made here to emphasize editorial cognizance of the existence of a major war, and the need of paying close attention to those significant factors which deserve our study and reflection. When such data is available, rest assured that it will be duly presented.

"PRACTICAL USE OF JOURNAL"

It is the desire of the editors of The CAVALRY JOURNAL to make it not only a readable publication but an instructive one as well. A former regimental commander told us the other day how he used it in the instruction of his officers. We think enough of the scheme to pass it on to our readers. Briefly, it is as follows:

The regimental commander selects from the many thoughtful articles available in The JOURNAL, those which he considers especially suitable for discussion, and assigns them to various officers, well in advance of the date of presentation. Probably one such discussion per week will be about right. On the day in question, all the officers assemble, preferably at the club, and listen to a discussion of the article by the officer who has been detailed for that purpose. The latter uses the blackboard or sketches if necessary, but should give the discussion without reading from The JOURNAL and preferably without notes. After giving the author's viewpoint, he should then add his own comments. A period of discussion then takes place, even the lowest ranking lieutenant being encouraged to express freely his own thoughts on the subject.

The success of this plan depends largely upon the manner in which it is conducted. The whole affair should be carried on in an entirely informal atmosphere, avoiding as far as possible the constraint of the lecture or school room.

We believe the advantages of this scheme are obvious. The speaker of the day will certainly know one article in The JOURNAL thoroughly and will get some badly needed practice in talking on his feet. All other officers present, also, will understand the subject much better than they would have from a more or less casual reading of the article. It is probable that the younger officers especially will learn, either from the lecture itself or from the discussion that follows, something that will be of lasting value to them in their profession. Not least of all will be the satisfaction felt by the editors at seeing such intelligent use being made of material gathered from widespread sources.

A word of warning. We believe that some such plan can be made the bright spot in the week—or it can become a disagreeable chore. Like so many other things, it depends upon how it is done. It might serve as a medium for a social stag gathering of regimental officers, of which it is believed they are too few in our army.

(CONTRIBUTED.)

Acknowledgment

In the July-August issue of The CAVALRY JOURNAL there appeared a very excellent article on the training of modern cavalry for war under the bi-line "Polish Cavalry Doctrine." Translation into English from Russian sources should have been credited to the Translation Section, Historical Section, The Army War College.

What Would You Do?

In the usual feature under the heading, "What Would You Do?" which appears under Notes from the Chief of Cavalry, it is regretfully announced that the good Slinkovitch has been relegated to an inactive status. He has been replaced by Old Man Rivers, a sagacious and foxy old cavalryman who is on the alert every minute for a situation of opportunity. It is believed that the old man can be depended upon for aggressive action in every situation which is presented. The tactical sagacity of Old Man Rivers is commended to your attention.

Membership Cards

From time to time requests are received as to the availability of cards representing membership in the Cavalry Association. Due to accumulative costs for postage and other items, employment of these cards was discontinued several months ago. Unless there are cogent reasons to the contrary, future use of these cards is not at this time contemplated.

Poland

News items which have trickled out of Poland have emphasized the lack of information upon which to base definite lessons. It is believed that the time is not yet ripe to formulate positive conclusions nor is there sufficient information available upon which to formulate analytical reasoning. It is believed that the article under the title, "Poland Between Two Camps," which appears in preceding pages of this issue of The JOURNAL is of extraordinary value as an aid to analyzing what occurred in Poland and why it occurred.

Honor Roll

The following organizations occupy a place on the Cavalry Honor Roll by maintaining 100% membership in the Cavalry Association:

National Guard:

103d Cavalry
104th Cavalry
106th Cavalry (Michigan Component)
112th Cavalry
113th Cavalry
114th Cavalry

Headquarters, and Headquarters Troop, 52d Cavalry Brigade

Headquarters, and Headquarters Troop, 57th Cavalry Brigade

Headquarters, and Headquarters Troop, 24th Cavalry Division

Organized Reserves:

308th Cavalry (72% Membership, highest in that component).

Of the Regular Army commissioned personnel, 98% are members of the Cavalry Association.

The United States Cavalry Association

Organized November 9, 1885

The aim and purpose of the Association shall be to disseminate knowledge of the military art and science, to promote the professional improvement of its members, and to preserve and foster the spirit, the traditions, and the solidarity of the Cavalry of the Army of the United States.—Article III of the Constitution.

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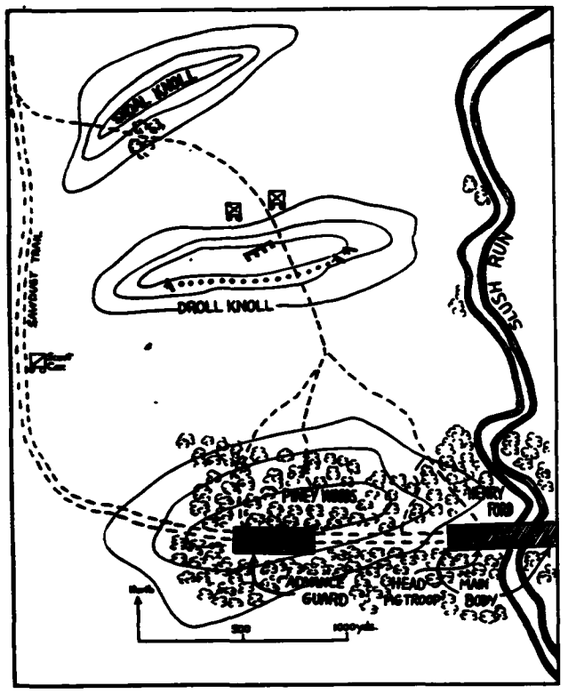
NOTES from the CHIEF of CAVALRY



What Would You Do?

"I am very sorry I selected the wrong road, Colonel," apologized Major Jack Spavin, the S-3, "but they can't have gained very much distance."

Old Man Rivers' replaced the cork in a dingy looking bottle of Jose Cuervo's pale amber cactus juice. "Nuts, Spavin," he said, with a polite belch, (for Old Man Rivers was as much addicted to four-letter words as to four-letter tequila) "this is a pursuit. Or is it? A little more of your-left-handed Leavenworth map reading and we'll be out-run by a lot of doughboys. Just let me get out of these woods so's I can work behind a covering detachment, and I'll run over those birds with the light wagons. Driver! Full speed to the head of the column!"

The command car lurched down the long column of twos that made up Old Man Rivers' regiment. Passing Captain Paul Beltfeed, the machine gun troop commander, Old Man Rivers motioned to him to gallop to the head of the column and join the commander's group. Simultaneously came the voice of Lieutenant Klutch, of the Scout Car Platoon over the radio,—

"I'm up here near DROLL KNOLL on the SAWDUST TRAIL, Colonel," screamed Klutch over the roar of the static, "and it looks like the tail end of the doughs is heading for the bosque to the northwest of SKOAL KNOLL. But some of them, in trucks, with a motorized battery, are up on DROLL KNOLL. It looks like a delaying outfit!"

The command car skidded to a stop beside the led horses of the regimental command and staff group a few yards east of HENRY FORD. The advance guard and part of the main body had already crossed SLUSH RUN while the machine gun troop was still partly in the act of crossing.

Old Man Rivers, firmly gripping the neck of Jose Cuervo, vaulted to the saddle and waved the bottle in the face of Captain Paul Beltfeed, who, accompanied by his second-in-command, was haunching his horse to a stop before the Colonel.

"There'll be no delaying this time, Beltfeed," shouted Old Man Rivers. "There's open ground over there and I'm going to run over them right now,—"

WHAMMM!

A somewhat short, but fairly well placed salvo of 75's exploded a few yards upstream, followed by the thud of the battery itself from the DROLL KNOLL vicinity. A shrapnel slug shattered the bottle of Jose Cuervo, leaving the neck in Old Man Rivers' hand.

"Odd them beeches," cried Old Man Rivers, doubtlessly referring to the peculiar undergrowth which bordered the road. "Support the attack from the north edge of PINEY WOODS, Beltfeed. I'll attack in column of squadrons from the woods near SLUSH RUN as soon as you open fire. You can have a covering detachment from the advance guard and the rest of the advanced guard will protect the left flank. Go tell 'em I said so, Spavin (S-3). Now, hurry up, both of you. SQUADRON COMMANDERS! SQUADRON COMMANDERS!

As the troops took extended intervals and distances, and as the squadron commanders galloped up for orders, Old Man Rivers yelled, "You're the covering detachment, Lieutenant Splint, first bound edge of the woods, with your right flank on SLUSH RUN. Move out!"

As Major Jack Spavin galloped up ahead to the advance guard to relay the Colonel's instructions, Captain Paul Beltfeed began to think of the troop leading necessary to carry out Old Man Rivers' orders about supporting the attack.

Step into Beltfeed's boots, friends.

WHAT WOULD YOU DO?

See Chart.

Reserves Take Command at Fort Bliss

(Continued from page 409)

reviewed the events of the past three days. Older officers could not help but compare the heavy work and responsibility of this camp with others they had attended. One of them expressed the keynote of comparison when he related that he had been backing up to the pay table with his hand behind him every year for a long time, but he claimed he would walk straight forward and look the paymaster squarely in the eye when he took his pay this year.

The 312th Cavalry summer camp was distinctive in its amazing shortage of corpulent high ranking officers. The regiment was officered by such an array of newly-commissioned second lieutenants that captain almost became a rank of honor. The Eighth Corps Area commander established a policy that recently-appointed second lieutenants were to have first preference in making assignments for active duty. With four educational institutions in the district (University of Arizona, New Mexico Military Institute, Oklahoma Military Academy, and Texas A. & M.) all graduating Cavalry Reserve officers, there is an abundance of youthful junior officers available. The umpire staff was made up of only two field officers, both majors, and the rest first and second lieutenants. The roll call of rank left only three officers of field grade to command the war-strength regiment. Of remaining officers only three were captains. Therefore the task of running a regiment was considerably more complex than it normally would be with a better percentage of more experienced officers.

The 312th Cavalry summer camp was no place for the armchair type of officer. The schedule in plain language was tough with a full program from reveille at 5:00 AM each day until 5:00 PM. Even at this hour the day's work was not over for regimental and squadron staffs who received the special situation for the following day. These staffs had to complete plans of orders and turn them over to umpires by 9:00 PM. Umpires received an extra item in their diet in the form of night sessions to help digest the morning's maneuver. The camp ended with a total of 126 hours of actual tactical instruction showing a high daily average when days for travel were excluded.

Generally officers were pleased with the schedule despite the hard work or long hours. Objectors were so far outnumbered that their wails were of no avail. As a result of this camp it is quite certain that similar camps will be held each year with Reserve officers commanding appropriate units and Reserve officers acting as umpires.

What Would You Do?

Solution

Captain Paul Beltfeed turned to Lieutenant Beaton Zohn, his second-in-command. "The regiment is to move to assembly positions off the road to the right," he said. "I am going ahead to arrange for the covering detachment. You lead the troop along the left side of the road for about 1,000 yards to the front, or until you meet me. Have the platoon leaders at the head of the column."

Beltfeed whirled his horse in a cloud of dust and was off to the advance guard at a dead run. Finding that trusty Jack Spavin, the S-3, had already told the advance guard commander of the situation and that a covering detachment of one platoon was awaiting him, Beltfeed led the covering detachment back along the road for a short distance until the machine gun troop appeared, moving, as ordered, at the trot.

Turning to the covering detachment commander, Beltfeed ordered, "Your first bound at the gallop due north to the edge of PINEY WOODS. Move out!"

Beltfeed then allowed the machine gun troop to come close enough to signal, "SQUADS COLUMN RIGHT, MARCH." Placing himself in the center of the troop and motioning the platoon leaders to him, he said, "We support the attack of the regiment which will come from our right. When we break from cover of the woods, take the first available position in which you have a field of fire to the enemy and open fire on troop order (signal). Rejoin your platoons."

When the edge of PINEY WOODS was reached, Beltfeed directed the covering detachment to remain in place and signalled, "ACTION FRONT." When all guns were in position, he signalled, "COMMENCE FIRING."

Needless to say, Old Man Rivers and all the lads gave a very convincing demonstration that pursuing cavalry cannot afford to temporize with delaying forces, but must strike immediately at full assault strength, usually mounted, and with maximum fire power. Unless a thoroughgoing squitch is put on delayers they will withdraw, only to repeat their action in another well-chosen position.

General Hawkins' Notes

Motorized Infantry Protected by Cavalry

In March or April of this year, 1939, a comment appeared in the *German Cavalry Journal* by a Captain J———, referring to my article "The Difference is Amazing," published in our CAVALRY JOURNAL of January-February. The captain took exception to two of my statements about the German Cavalry in 1914.

I referred to the carbine used by the German Cavalry as a "popgun." The captain says it was only slightly inferior to the infantry rifle. Of course, I did not mean to say literally that the German carbine was a popgun. The expression was a figure of speech. This carbine was a high-powered rifled gun capable of killing a man at a mile. But its barrel was very short. Its sights were rather coarse. And it was not easy to fire it with accuracy. Personally, I tried shooting at a target with the French carbine, which was very similar to the German, and although I was a very good shot, I could not hit the bull's-eye at three hundred yards except by accident. I, therefore, regarded it as a very poor weapon in comparison with our old cavalry carbine or our present rifle. As I remember the French carbine, it had only three cartridges in the magazine. I am not so sure about the German carbine in this respect. Since I have always believed that a cavalry firearm should be capable of a great volume of fire in a short time, I did not believe that this weapon was adequate for modern warfare.

The second statement to which Captain J——— takes exception was to the effect that in 1914 the German cavalry advanced often preceded by a battalion of infantry in motor trucks, with a few cavalry patrols in front of the motor vehicles. I called attention to the clever manner in which these German patrols lured French cavalry squadrons into charging in close order, believing that they were going to meet German squadrons, and thus finding themselves ambushed by German machine guns and infantry. This was of course not a criticism of German cavalry, but rather of the French for failing to use covering detachments properly and for attacking in close order.

But Captain J——— says that such a statement is "amazing" because in 1914 there were no German battalions that were motorized. Perhaps they were not motorized organically as permanently motorized infantry, but there is much evidence to show that, by improvisation, some infantry battalions were transported in some kinds of motor vehicles for the purpose of supporting the cavalry, and that they did in some instances precede the main bodies of cavalry divisions except for the cavalry patrols which were out in front.

My chief authority for any statements was no less a person than General Joffre who, in a note for all armies on the subject of tactics, published at G.Q.G., on the 24th of August, 1914, makes the following statement: "The German Cavalry Divisions always operate preceded by some infantry battalions transported in motor cars. Up to date the main bodies of these cavalry formations have never allowed themselves to be approached by ours. They advance behind their infantry and then throw forward detachments of cavalry (patrols and reconnaissance) which fall back upon their infantry as soon as they are attacked. Our cavalry pursues these detachments and comes up against barrages strongly held."

There is other evidence in personal memoirs and official reports. Thus, if my statement was in error, I have much excuse. My purpose in calling attention to these episodes was not to criticise the German cavalry, but rather to point out to our own cavalry the tactical lessons to be gained by the failure of the French cavalry to use the proper methods to meet such tactics.

Infantry in trucks preceded by cavalry patrols and followed by the main body of a cavalry division, might have been a good way to establish a base of fire in advance of the cavalry so that the enemy cavalry could be checked by surprise fire and then attacked by the main body of the cavalry division. As a surprise it proved effective, but only because of the French equipment and methods of that date. At the present time, our equipment in firearms precludes the necessity of such an awkward arrangement as the Germans resorted to because of their lack of firepower in 1914.

When our cavalry meets hostile cavalry patrols, it should not launch itself blindly into the impetuous charges that were used by the French. There is not much to be gained by smashing into hostile patrols. Rather, they should be followed cautiously by our covering forces until we find out what is behind them. If it should be motorized infantry, then we have them trapped and can destroy them. Of course, if this infantry is stronger in force than our cavalry command, we can only harass them, stop them, and cause them many casualties. If we catch them before they have time to detruck and deploy we may even inflict a disaster upon them. If they are warned in time by their patrols, we can at least cause them to detruck and thus destroy their mobility. We might then be able to bring up reinforcements from our larger cavalry formations and even our own infantry to destroy them.

But in these days we shall not find unsupported infantry out in front of their main forces. Motorized infantry may accompany cavalry in advanced missions, or in flanking operations and in exploitation of a success after a serious penetration of the enemy lines. Some persons seem to think that a motorized infantry unit even as large as a division may be sent on certain missions unsupported by other troops and relying on mechanized cavalry or other mechanized forces for its security. The success of such a venture depends on the nature of the enemy and his proximity and strength. If no enemy is encountered such a move would be successful, at least for the time being, even without any security forces whatever. But, of course, when there is any possibility of contact with enemy forces, no commander would take the risk of moving such a column without an advance guard or covering force of some kind. The question is what kind of covering force is required.

Now, as stated before, the Germans, in 1914, covered those infantry columns, which were advanced in motor cars, with cavalry patrols, and supported them closely with larger cavalry units. Therefore, the motorized infantry must have moved by bounds so as to avoid moving faster than the cavalry patrols in their front. These patrols had not only to reconnoiter the road ahead but also the flanks, so as to prevent surprise or ambush by enemy cavalry moving across country.

And so, even though we motorize a whole division, we cannot send it out unsupported on tasks in which the enemy is likely to be encountered unless its front and flanks are well guarded.

Motorized columns can be attacked not only in front but also on the flanks, and not only on the flanks near the head of the column, but also on the flanks near the middle or tail of the column. Therefore, widespread mobile elements must cover the advance. This means that much cross-country work must be done. Motorized or mechanized elements used as security detachments can themselves be surprised and ambushed by means that would not be effective against well trained cavalry. Observation from motor vehicles is difficult, especially when it is necessary to take advantage of cover and of every little hillock or mound to get a look across the country to be explored. Armored cars and scout cars can reconnoiter side roads and roads perpendicular to the line of march for some distance, but always in a more or less helpless manner if the enemy lays a trap for them. Woods, dense and large enough to conceal enemy forces of considerable size, will often be neglected because of the difficulty of movement in them by motor vehicles and of the danger to the vehicles in attempting to explore such places.

For these and other reasons, there is no getting away from the necessity of protecting an infantry motorized column by means of cavalry security detachments. Mechanized cavalry can be of assistance but cannot be relied upon alone.

Therefore, a motorized infantry column when moving unsupported towards the enemy on an independent mission must be covered by cavalry. And this means that its rate of movement must be controlled by the rate of march of the cavalry detachments. When moving behind the lines under the same conditions that permit troops to be transported in railroad trains, the matter is entirely different.

After all, no matter how much our infantry can use motor cars for transportation as an extension of the railway system for concentration of forces, or for occupation of a strategic position, or for transferring of units from one flank of the army to another, a motorized infantry column that is moving in a tactical formation to operate against an enemy must have security detachments of cavalry. Motorized infantry may move up to a defensive line to reinforce troops already there without requiring security detachments. As a support for large cavalry forces moving to cover an army or to perform other independent missions, motorized infantry can move in rear of the cavalry force or its advanced elements without special cavalry detachments being assigned for its security. In other words, motorized infantry can take full advantage of its increased mobility only when it needs no security detachments. When it does need them its mobility is reduced to that of such detachments of cavalry as may be assigned for such duty. And, as a matter of fact, in such situations that degree of mobility is quite sufficient because no column of troops can go tearing toward the enemy at the speed that motor columns are capable of making. When contact with the enemy is imminent the speed of march of tactical columns must be reduced to gain time for more information of the enemy, for a little more caution and for other obvious reasons, to say nothing of interference by enemy air force.

The apparent rapid advance of the German columns into Poland as reported by the press must be due to the policy of the Poles to fight only rear guard actions so far, without attempting to outflank motor columns by using cavalry. We don't know how the Polish cavalry is armed and trained. Nor do we know how the Germans are protecting their motorized columns. Powerful columns may have been able to move close enough to each other to prevent anything but frontal resistance by Polish rear guards. Or, there has been insufficient cavalry for the purpose; or, perhaps the Polish cavalry did not have the necessary antitank guns.

Since infantry must detruck at safe distances from the enemy, it is obvious that it must be prepared to march for considerable distance before engaging the enemy. And our infantry should be kept hard and fit by constant practice marching. This is not being done. Even in maneuvers our regular infantry rolls around in trucks and is learning to despise marching and the physical fitness that only marching can bring about.

Perhaps this, as well as lack of tactical instruction, was

what General Drum had in mind when he criticized so severely the training, or its lack, as shown by the recent maneuvers near Plattsburg.

It is peculiarly important at this time that our lack of training should have been exposed at the Plattsburg maneuvers. The first requisite for training is a sound and practical doctrine. The second requisite is the possession of sufficient ground for tactical movements. Individual training in the care and use of weapons can be had in all of our military posts with their adjacent target ranges. But collective or tactical training is impossible in the great majority of our posts. We need varied ground for the training of infantry and cavalry units in the art of using cover in offensive tactics and of proper utilization of the ground features for defensive action. Most of our military posts are mere postage stamps stuck around the country and surrounded by forbidden ground. At least six months of the year should be devoted to daily tactical training of all units from the squad up to the largest unit stationed at any post. It is not sufficient to have training grounds within twenty or thirty miles of the post. But only very few posts have even this. Training grounds for units up to the size of a regiment should be in close proximity to the post in order that the training may be a daily affair during the six months collective training season. The housekeeping in the post has to go on. Guard and fatigue details must be made. Special arrangements have to be made for units to leave the post for more than one day. The result of all this is that there is no tactical training at most posts, and only a week or two of it in a year at posts which have some training grounds available at distances involving the necessity of camping off the post for more than one day at a time.

Inclement weather is not suitable for training. And troops stationed in northern posts have very little good weather for training except during summer months when they are fully occupied in training civilian components of the army and in target practice.

There is much excuse, therefore, for the lack of tactical training, although there is none whatever for failure to train the troops in marching.

It must be admitted that even in those exceptional posts where tactical training is possible, very little advantage is taken of it except at certain posts along our southern border. This is a matter for our War Department to regulate. But first of all, as before said, it must assure a correct tactical doctrine. Then it must take steps to procure training grounds for all troops. And last but not least, it must require every Corps Area Commander to prescribe a collective training season for each post in the area and to see that every regular army unit takes full advantage of it. Post commanders should not be permitted to regard housekeeping and post maintenance as the principal objective. But rather, housekeeping should be regarded as a means to an end, and that end should be individual and tactical training.

To go back to our combination of motorized infantry and cavalry, there should be training in conducting a movement of a tactical column of motorized infantry prescribed and guarded by cavalry. The movement over nearly three hundred miles in Texas by an experimental motorized division proved nothing of a tactical nature. That was nothing more than a movement of troops by rail. It has no place in a tactical exercise. If we wish to find out what we can do with motorized infantry it should be in a tactical movement. Everybody knows that strategical movements by motor cars are in the same category as strategical movements by railroads. The motor cars merely extend the railroad system.

Our cavalry needs training in securing the march (if we call it a march) of motorized infantry. And motorized infantry needs training in moving behind cavalry and in supporting cavalry when such support is needed. Just how roads can be used for this purpose, and how the infantry can support the cavalry in cross-country movements is something that can be learned only by practice. And the combination of mechanized cavalry and horse cavalry might be included in such exercises which would reveal many principles not yet well understood.

But, as General Drum has pointed out, we need a highly trained well organized Regular Army ready to take the field at short notice, as is the case with the Navy. The Army need not be very large, but should be composed of organized divisions instead of scattered and poorly trained elements. Only thus can the Army be well trained and ready to perform its duties in any emergency.

It behooves us not to be caught as we were in 1917, wholly unprepared. Had we been prepared, not necessarily with a great army, but with a few divisions of highly trained troops, we might have avoided that war, or at least been able to contribute at once an important element in the allied armies. But we did not have enough well trained officers and noncommissioned officers even for the purpose of training the new formations which were not ready for over a year, if then. We do not expect to have to send an army to Europe again, but no one knows just where or how our troops may be needed for our national purposes. War of today needs highly trained troops. A regular army of not over three hundred thousand men, organized into highly trained and well equipped divisions of infantry and cavalry, and including Corps and Army artillery, garrisons for defense of such important points as the Panama Canal and Hawaii, an Air Force, and a reserve of National Guard Divisions, would preclude any necessity of organizing and training a new army of a million men.

But at the very least, or we might say at the very worst, we should have enough highly trained divisions to provide really competent instructors for any new army we might have to form. We cannot get these competent instructors by merely sending officers and noncommissioned officers to our service schools. They need training with high class troops. Without this training they are not competent. Such tactical doctrines or methods as are discussed in this or other military journals fall off from untrained minds like water off the backs of ducks. A man needs training with troops to be able to comprehend tactical discussions. Too much reliance is reposed in our service schools. They are essential. But officers sent to them should have had some training with troops beforehand in order to make the most of the school course, and they must have training with troops afterwards in order to crystallize the ideas they have absorbed and to distinguish between the practical and impractical theories that are found inevitably in every school. Our higher schools, at Fort Leavenworth and the War College, have done much for the training of staff officers. The staffs of our large units may be expected to be better in the field than any staffs we have ever had before, but we cannot be so optimistic about our troop training which includes of course troop leading by officers and noncommissioned officers.

Now that the terrible reality of war has again appeared in Europe, we can appreciate more keenly the value of the practical soldier, and question more acutely the value of certain doctrines and theories that have sprung up in peacetime. And this turns me again to the practical question concerning cavalry. Cavalry is not well understood by the majority of officers in our army, or indeed in any army. It seems to take great leaders to use cavalry well in war. All great leaders in the past did so. The mediocre leaders did not.

The missions for which cavalry is useful or necessary arise from time to time. They then become apparent to the general who knows how to use his cavalry. If the cavalry has been held fit and ready for such missions, it can be used when they become necessary with every prospect of success. But if, in order to employ his cavalry and get it into action rather than have it lying around doing nothing, the general commanding a force which includes cavalry gives it useless missions or missions which are not important to the whole plan of action, he is exposing it and frittering away the strength without adequate results. And it will be exhausted or worn out before a paramount mission arises.

Although the German armies did not advance any faster than we might expect motor columns protected by cavalry to advance against opposition by enemy rear guards only, they might have been delayed much more by really numerous forces of horse cavalry supported by mechanized cavalry.

But, of course, for such service, the horse cavalry must be armed, trained and led properly. Such a cavalry one hundred thousand strong, armed and trained for both mounted and dismounted action, but relying upon firearms for both types of action instead of swords and lances, could render such important service that it is strange that only "a few voices crying in the wilderness" seem to understand.

NOTES FROM THE CAVALRY BOARD

"The Cavalry Board invites any individual, whether or not a cavalryman, to submit for consideration constructive suggestions or ideas relating to new equipment, improvement of standard equipment, or to any problem or project under study by the Board. The Board will also welcome suggestions as to new problems that may properly be considered. Communications should be addressed to the President, Cavalry Board, Fort Riley, Kansas."

60-mm. Mortar: The Cavalry Board is testing one of the new 60-mm. mortars. Much of the firing has been completed, however other parts of the test will be delayed until pack equipment is received. Packing accessories are now being fabricated by the ordnance department, and will be so designed that ammunition may be packed on the horse in original shipping containers.

Pull-type selective single shot auto-fire trigger mechanism for BMG, Caliber .50, M2 HB: The question of the desirability of altering all caliber .50 machine guns in cavalry to provide a pull-type trigger and a selective firing control device to provide for positive single shot fire is being investigated. It is understood that a gun is being altered by the ordnance department to include these features and when completed will be furnished the Board for test.

Pitchers, syrup: The soldier who has had the experience of deluging his hot cakes, and possibly his clothes, when the top of the syrup pitcher unexpectedly popped loose, and the mess sergeant who has cursed the dribbling mouth of the present type of syrup pitcher as well as being concerned with his breakage allowance, will welcome the non-breakable (aluminum), non-drip syrup pitcher which has just been service tested by the Second Cavalry and favorably reported upon by the Cavalry Board.

Tanks, Watering, Canvas, and Sponges, Cellulose, mentioned in previous issues, are still undergoing service tests.

Training Films: "A picture is worth ten thousand words"—a fact that is being realized in modern training by the use of improved slide projectors and moving pictures. An excellent training film plan prepared by the Infantry Board covering the subject "Pitching Tents and Establishment of Bivouacs and Camps," has been received by the Board for study. Additions, in the form of interpolations, so as to make this film also applicable to cavalry training, have been submitted by the Cavalry Board. Also, matter is now being prepared for a strip film for R.O.T.C. training covering the subject "Animal Management."

Anti-gas Equipment: The matter of anti-gas equipment for horses still presents a serious problem which is the subject for continual study by the Board, while it maintains liaison with the chemical warfare service which is conducting definite research in our interest. At present the Board has on hand, undergoing service tests, fourteen horse gas masks of the newly adopted standard type, M111, embodying certain modifications over the ones previously tested by the cavalry and the field artillery. These changes involve matters of fit, serviceability and method of buckling straps while seven of the masks to be tested have had added an outlet valve in an effort to reduce the amount of moisture which collects in the mask over a period of time due to exhalations of the animal as well as to a certain amount of slobbering. In addition a Czechoslovakian mask is also being tested. This is of a canister type, is rather awkward and cumbersome and does not appear to be very promising. However the study of a canister type of mask is continuing. Research is being conducted to provide suitable protection for the horse against vesicants. Any type of covering or boots appears to be impracticable at the moment but efforts are being made to develop something in the nature of a neutralizing salve which might afford sufficient protection for a few hours at a time.

The board is expecting the arrival shortly of a few new type Service and Diaphragm Gas Masks for test.

Communications: The ever important subject of communications requires unrelenting study. Characteristics for a new pack radio set have been submitted. It is believed that the need for an ultra high frequency, light, portable set capable of transmitting up to seven miles has been established. Just as the cavalry arm is continually being confronted with the problem of weight versus mobility, so the development of such a set involves the reconciliation of power output (i.e., range) with weight. A conference early in November with signal corps technicians at Fort Knox is contemplated. The development of a panel set for communicating with aerial observers, affording considerably less weight and bulk while at the same time lending itself to more rapid communication, is showing promising results. The treatment of radio frequencies within the cavalry is being reviewed. Obviously the present chaotic condition, wherein, in certain localities cavalry organizations are using the entire width of the band available for cavalry as a whole, cannot obtain in war service. There can be but one answer, of course, and that is that the use of radio is going to have to be considerably curtailed in general, and the use of radio telephony, which requires a much wider channel, in particular.

Semitrailers: The Cavalry Board has recently passed upon the specifications for seven new semitrailers which will be procured for cavalry use in the near future. They will be used principally in the conduct of experiments in the use of portee cavalry. These semitrailers will be a great improvement over the ones now in use in the various regiments in that they will have a larger, more powerful prime mover and a greatly improved body. It is believed that a number of these units might be included in the

Quartermaster Squadron of the Cavalry Division, Horse, to be used normally as cargo carriers but to be available when needed in emergencies to portee horse units. Some observers believe that sufficient of these semitrailers should be included in the service units of the division to transport a reinforced squadron if desired.

Pyrotechnic signals: Several new types of pyrotechnic signals have recently been received by the Cavalry Board and will be tested to determine whether any of them have a value for use with cavalry units in addition to or to replace those now in use. The ones furnished for test are for both daytime and night use.

Legging top boots: The service test of the proposed new legging top boots is progressing and thus far it appears that they are much more desirable and sturdy and much more suitable for real field use than is the present issue boot. The method of closure of the new boot (buckles and straps) appears to be very satisfactory and a great time saver over the lacing method employed in the old type boot.

Cavalry Participation in First Army Maneuvers

Manassas Phase

Colonel George S. Patton, Jr., commanding the 3d United States Cavalry which participated in the First Army Maneuvers at Manassas, Virginia, in reviewing operations of the cavalry during these maneuvers, emphasized the following factors:

"The area selected for the maneuver was well adapted to bring out the potentialities of the several arms involved after contact was made. However, it was too restricted to permit cavalry or mechanization to execute their proper initial functions of reconnaissance and screening.

"The lack of ground observation and the impossibility in many cases of air observation restricted to a considerable degree the use of the supporting artillery with the cavalry. Nevertheless, particularly on the first day (August 14th), the artillery liaison groups overcame this difficulty and provided prompt and probably effective fire whenever called upon.

"It is believed that this command demonstrated the efficiency of its previous training. However, the four days' intensive work at Fort Belvoir were of an inestimable value in overcoming the inevitable tendency to crowd which is produced in regular units through training on the inadequate terrain of small army posts. This remark applies with equal force to the cavalry and field artillery.

"The high effectiveness of the cavalry light machine gun was emphasized by the maneuver because in such terrain it gives opportunity for powerful effect with limited personnel thereby insuring each troop of a large and mobile reserve to be used mounted or dismounted as circumstances indicate.

"Time and again in these exercises the vital necessity of providing cavalry with sabers was demonstrated because in close terrain cavalry can and did during the maneuvers approach unobserved with such short distances of unsuspecting enemy as to make a mounted charge with "cold steel" of inestimable value in securing a decisive result with a minimum loss of time and personnel.

"The high value of horse-drawn artillery in supporting cavalry was repeatedly demonstrated. It is believed that even better results would have obtained had the exigencies of the situation permitted the firing batteries to remain closer to the cavalry.

"The terrain was ideal for the employment of cavalry because the growing effectiveness of automatic weapons has rendered the open country, for years acclaimed as "cavalry country," less suitable than in closed country where the practically noiseless and ubiquitous mobility of individual horsemen may be capitalized.

"It is believed that, had the exigencies of the situation permitted leaving its organic scout cars with the cavalry, the efficiency of the latter would have been materially increased.

"The cavalry radio communication system is unsatisfactory. Practically all radio communication received by this command was through the field artillery liaison units using the SCR 194 sets. The officer commanding the scout car section of the reconnaissance detachment states that the radios with that unit worked satisfactorily. Due to the lack of radio communication the cavalry had to resort primarily to mounted messengers and to situation reports transmitted through the medium of liaison officers.

"Adequacy of communications. Despite the failure of the radios with the cavalry it is believed that communication for this arm is adequate, because in war the various highly specialized means of communication will not stand up and it is well to learn to operate in consonance with a prearranged plan for the attainment of satisfactory results.

"It is recommended that the present cavalry pack set be discontinued and replaced with the SCR 194 set as used by the field artillery, and also an adequate radio set for communication with scout cars and higher echelons be provided in a 4-wheel drive truck armed with machine guns. Each troop and squadron headquarters should be provided with one SCR 194 set and regimental headquarters at the ratio of one for each squadron.

"At least three motorcycles, solo, should be added to the tactical vehicular transportation of headquarters and headquarters and service troop of a cavalry regiment."

Book Reviews

WORLD IN ARMS, a study in military geography, by Major R. Ernest Dupuy, U.S.A. 103 pages, Military Service Publishing Company. Price: $2.00.

With a major war raging in Europe, Major Dupuy has provided the average reader, interested in its broader phases, source material of exceptional interest.

The book appears to have been carefully and scientifically prepared to enable a reader to grasp at a glance the meaning of the drives on land, movements by sea and lightning sallies through the air. A total of 41 simple graphic illustrations are provided with detailed explanations opposite each, which facilitates a rather prompt understanding of the military reasons for and limitations of any movement.

Each major country and area of the world is covered in very satisfactory fashion. Each country is well mapped, showing those geographical corridors which lend themselves as a primary route of invasion, all indicated by suitable symbols. Secondary routes of invasion also are indicated. Charts showing air mileage and time travel between vital centers and the closest hostile air bases are furnished. Army strength and organization are graphically represented to include army, navy, and air forces. When necessary, explanatory details are furnished covering incidents peculiar to any country or area. In an age of highly mechanized and scientific warfare being fought on three planes, land, air and below the sea. Major Dupuy has produced a book of outstanding interest and value to all who wish to follow intelligently the trend of coming events.

* * *

MILITARY STRENGTH OF THE POWERS, by Max Werner. 324 pp. Modern Age Books, New York: 95c.

In the preface to this book the publishers state, "The author of this book is a noted military authority who cannot use his own name because of the possible reflection on relatives in his native land." The volume then proceeds to ascertain and analyze the approximate strength and combat ability of the principal European powers. Published in July, 1939, it at that time appeared to overemphasize the industrial and mechanized efficiency of both the Soviet and the German armies. In the light of historical events of September, however, the chapter on Poland seems to have so accurately analyzed the military situation in that country that one is led to further reflection on Mr. "Werner's" analyses of other armies.

The book, written for lay rather than professional readers, contains an amazing accumulation of factual data, well sprinkled with remarks and opinions of a host of European military authorities. The bibliography covers newspapers, magazines, and books of several languages and indicates a rather extensive research.

The opinions of the author seem slightly prejudiced in favor of the superiority of the present Soviet Army, but he opens many channels for serious thought. His prognostications concerning political trends are far less accurate, in the light of September history, than his diagnosis of the military situations.

* * *

AIR-WAR, by W. O'D. Pierce, Modern Age Books, Inc. 216 pp. Price: 50c.

This volume is a condensation of an English edition entitled, *Air-War: Its Technical and Social Aspects*, and is another volume intended for lay rather than professional reading. The author, a young Irish scientist, presents an interesting treatise on the psychological affects of aerial combat on both the flyer and the bombarded civilian population. He presents a number of "case histories" of World War aviators and the psychological trends from the time of the action in each case to the eventual death of each. These examples are ably given, and to the scientific mind or to the student of psychological affects, form an interesting study.

The study of mass psychology of bombed civilian centers is less conclusive, but the author's study along this line, including recent bombings in China and Spain, is of interest at a time when the possibility of destruction from the air is so pertinent to a large portion of the present civilization.

On the matter of future bombings the author concludes: "When the bombs fall again in a major imperial war, the extent of death and destruction they will cause is difficult to forecast accurately. But our civilization can rest content that the best technical brains in all countries will do a thorough job. The extent of devastation caused will be their great memorial."

* * *

LET THE RECORD SPEAK, by Dorothy Thompson. Houghton Mifflin Company, 400 pp. $2.75.

This book, published in July, 1939, is a compilation of Miss Thompson's interpretation of world news in general and activities of Hitler in particular as expressed through her syndicated column, "On the Record," and various speeches made during the years 1936-1939.

Miss Thompson absorbs the news as a plant drinks water, and then, much as the plant utilizes that water for manufacturing its own variety of leaf and bloom, Miss Thompson digests yesterday's news and turns it back to us with the stamp of her own dynamic personality. She is fearless in her opinions, often cruel with her thrusts, but seems to have pierced the complexities of international politics and mapped the course that European events have taken toward war. For those who have not read her daily columns, this book presents a collected résumé of recent European politics.

In the conclusion, written in July, Miss Thompson says, ". . . the time when such a stand could have been taken lies in the past. . . . The conquest of Czechoslovakia was the completely logical successor of the conquest of Austria; the conquest of Poland remains a completely logical successor to the conquest of Czechoslovakia; the conquest of all eastern Europe has been in the cards from the beginning." C. H.

* * *

ROAD TO EMPIRE: The Life and Times of Bonaparte the General. By Fletcher Pratt. Doubleday Doran and Company, New York, 1939. $3.75.

Beginning with the insurrection of the Sections in Paris in October, 1795, the author describes the history of General Bonaparte of the French Republican Army up to the time he seized the government as First Consul in November, 1799. Only four years of history, but during that time the foundations of the Empire were laid.

The military history is in sufficient detail to give a clear picture of the campaigns. These were the first Italian, and the Egyptian by Bonaparte, and the campaigns along the Rhine conducted by the French generals, Moreau and Jourdan.

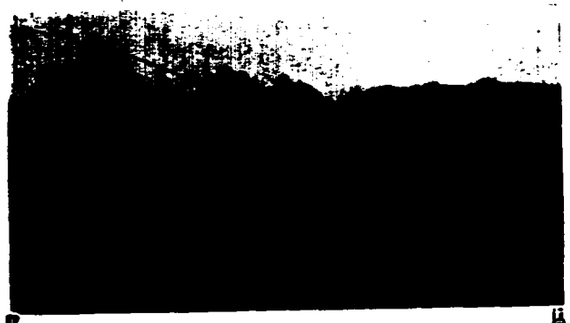
The author pictures Bonaparte as the first exponent, in those times, of "absolute war"; that is, forcing from the enemy a profitable peace instead of merely doing a little gentlemanly fighting and settling the real issues at the peace conference tables. This was to the surprise and discomfort of Austria.

The Egyptian campaign, according to the author, was the result of a queer combination of circumstances. Bonaparte, following the Italian campaign, was uneasy lest his reputation become dim. Tallevrand had advanced the theory that England could only be defeated through India, and that Egypt was the first step. And the Directory, having more soldiers on hand than they knew what to do with, were more than pleased to get rid of forty thousand of them—and Bonaparte.

Mr. Pratt writes in a delightful manner. It's quite different, but easy to read and the tempo never drops. He calls a spade a spade and reports certain episodes for what they are worth. Josephine's part in Bonaparte's appointment as Commander of the Army of Italy, is an example. "The opposition journals said it was given on the condition that the new general relieve Barras of the mistress he was anxious to discard."

The weakness of the government put a premium on the "law of the sword." The Directory leaned heavily on the army for its support. Finally, on November 10, 1799, "the sword had been lifted once too often. Now it was master."

At the beginning of the book is a "time table of events and personalities previous to the rising of the curtain"



Cavalry Scout Car on distant reconnaissance. Note camouflage and local security measures.

and a description of the French revolutionary calendar.

Fletcher Pratt makes history a very good story. Just as his *Heroic Years* and *Ordeal by Fire* delightfully picture our War of 1812 and our Civil War, *Road to Empire* pictures the rise of Napoleon, and makes an excellent story in the telling.

* * *

A HANDBOOK OF NATIONAL DEFENSE IN PEACE, by Thomas H. Healy, A.M., LL.D., Ph.D. 325 pages, Ransdell, Washington, D. C.

Although written and published in 1936, the purpose of this book appears to be as pertinent today as three years ago. The author early invites attention to the rather vast appropriations for national defense which occurred in 1936-37, and goes into the reasons behind these vast expenditures in some detail.

In discussing the causes of war one cannot help but regret that Doctor Healy approaches the subject with considerable restraint. It is believed that there are other and more definite and concise causes which bring about war, rather than racial and national animosities and infringements. A more basic understanding of the true causes of war are vital to a proper understanding of the need and imperativeness of a national defense, particularly on the part of a "have" nation.

The aims and activities of peace groups within America are adequately discussed. Many of the fundamental flaws which generally are to be found in the ordinary peace movement are satisfactorily revealed.

Altogether, it may be stated that this book analyzes the constant conflict between the needs of national defense and peace advocates which exists under our democratic form of government. This book will constitute a valuable asset in the library of any student interested in the broader political and psychological factors peace and war.

* * *

THE WESTERN HORSE, by John A. Gorman, Assistant Professor of Animal Production, University of Wyoming. 278 pages, The Interstate Printers and Publishers, 1939. Price: $1.65.

Professor Gorman has provided a volume of much interest and usefulness for those interested in the native horses of the Western United States. This book evidently was written and intended for the layman and for those owners of a favorite riding horse of Western breed: his origin, capabilities and general characteristics. Features such as training the colt, training and gaiting the pleasure saddle horse, trick training and other items add interest to this book and would be found of considerable value to those owners, particularly, who evince pride in ownership of a small stable. Bloodlines and other distinguishing elements of our Western stock are adequately covered.

ORGANIZATION ACTIVITIES

1st Cavalry—Fort Knox, Ky.

COLONEL HENRY W. BAIRD, *Commanding*

On August 2, 1939, the regiment marched from Fort Knox, Kentucky, to participate in the First Army Maneuvers in the Plattsburg area. The story of the part played by the Seventh Cavalry Brigade is the story of the units which compose the brigade and, in addition to the articles appearing in the press, will be told elsewhere by military students and writers. Suffice it to say here that the 1st Cavalry played its expected part and came back to Fort Knox with a record of which the regiment may well be proud.

The work was hard and the hardships experienced will not often be duplicated in time of peace. Contacts with other arms were of inestimable value. The outstanding fact brought home to all who came in contact with the regiment and the brigade was that there is no higher type of enlisted man in any army than those men who make up the Seventh Cavalry Brigade. Many times was this fact noted by umpires, commanders of other units, and the civilians in whose communities we camped.

The return of the regiment via the New York World's Fair was an experience long to be remembered. The trip down Broadway to the Battery, and back up Fifth Avenue, with enthusiastic spectators lining the streets and crowding the windows of Manhattan's tall buildings, the intermittent showers of paper (as well as rain), and the warm welcome extended by Mayor La Guardia and the citizens of New York were events given to few to experience.

The regiment was reviewed by Mayor La Guardia, Mr. Grover Whalen, Lieutenant General Hugh A. Drum, Brigadier General Adna R. Chaffee, and other notables in the Court of Peace the day after our arrival. Throughout our stay, elements of the regiment gave daily demonstrations at the fair, arousing great interest among the throngs of Fair visitors. Due to the kindness of the authorities, all men of the brigade were admitted to the various exhibits and special performances were given by General Motors, Goodrich, and the Aquacade.

While all ranks enjoyed our stay under the Trylon and the Perisphere, it was good to hear the strains of "My Old Kentucky Home" at reveille on September 7, 1939. The regiment took its place in column at 2:00 AM on the 8th and completed a successful march on the 13th of September. Arriving at Jeffersonville at 6:30 AM, we unloaded our tracked vehicles, which had been shipped from New York, and marched to Fort Knox where we passed in review before Major General Van Voorhis the Corps Area commander.

Back in our home station, the regiment is busy getting equipment in shape and preparing for whatever duty the future may hold in store.

* * *

1st Squadron, 3d Cavalry—Fort Ethan Allen, Vt.

LIEUTENANT COLONEL S. V. CONSTANT, 3d Cavalry, *Commanding*

On July 31st the squadron left Fort Ethan Allen at 6:30 AM to move to camp near Schuyler Falls, New York, to prepare for the First Army Maneuvers.

The squadron marched to Burlington, Vermont, where it was embarked on a lake steamer and a ferry boat for a ten-mile trip across Lake Champlain. The horses stood the trip very well. Upon arrival at Port Kent, New York, the squadron again took to the road and hiked to Schuyler Falls reaching the camp area about 1:00 PM.

The camp had already been set up by Troop B detachment which had been in the area since July 11th. Troop B had also set up the umpire camp which was to accommodate some 350-400 officers. This work meant the construction of a complete camp in the field with the additional work of setting up assembly tents for umpire's and instructional purposes.

On August 4th, 5th, 6th and 7th, officers and men of the squadron with the permission of the commanding general of the First Army attended the Lake Placid Horse Show held at Lake Placid, New York. The following is a list of the events entered and the names of the officers and men winning and placing:

Adirondack Jumper—Limited to horses owned within 150-mile radius of Lake Placid, New York.

1st—*Milly Russell*—Captain T. C. Wenzlaff.
2d—*Hailstone*—Sergeant Roy Wood.
4th—*Hightime*—Lieutenant Colonel S. V. Constant.

Troopers' Mount.

1st—*Shady Lady*—Sergeant Roy Wood, Troop A.
2d—*Jane*—Private First Class Miscik, Troop B.
3rd—*Blue Boy*—Private First Class Gormley, Troop A.
4th—*Banjo*—Corporal Hagen, Troop A.

1st Phase, Team of Three—jumped separately over a course of 8 jumps. Team score only to count.

1st—*Hightime*—Lieutenant Colonel S. V. Constant.
Milly Russell—Captain T. C. Wenzlaff.
Razor Back—Lieutenant T. B. Harrington.
2d—*Beatrice*—Lieutenant L. H. Cross.
Banjo—Lieutenant W. A. Sussmann.
Blue Boy—Lieutenant T. C. Stone.

Officers' Charger.
1st—*Hightime*—Lieutenant Colonel S. V. Constant.
2d—*Milly Russell*—Captain T. C. Wenzlaff.
3d—*Banjo*—Lieutenant T. B. Harrington.
4th—*Beatrice*—Lieutenant L. H. Cross.
5th—*Razor Back*—Lieutenant W. A. Sussmann.

Team of Three Hunters.
2d—*Hightime*—Lieutenant Colonel S. V. Constant.
Hailstone—Sergeant Roy Wood.
Milly Russell—Captain T. C. Wenzlaff.

2nd Phase, Team of Three—Unicorn over a hunter course.
1st—*Hightime*—Lieutenant Colonel S. V. Constant.
Milly Russell—Captain T. C. Wenzlaff.
Razor Back—Lieutenant T. B. Harrington.
2d—*Beatrice*—Lieutenant L. H. Cross.
Banjo—Lieutenant W. A. Sussmann.
Blue Boy—Lieutenant T. C. Stone.

Bareback Jumping—over a course of eight jumps.
3d—*Hightime*—Private First Class Dorman.
5th—*Razor Back*—Private First Class Armonaviczie.

Military Pair.
1st—*Shady Lady*—Sergeant Roy Wood, Troop A.
Banjo—Corporal Hagen, Troop A.
2d—*Come On*—Private First Class J. F. Ross, Troop A.
Blue Boy—Private First Class Gormley, Troop A.
3d—*Prince*—Private First Class Armonaviczie, Troop B.
Jane—Private First Class Miscik, Troop B.
4th—*Beatrice*—Corporal DiPalma, Troop B.
Pete—Corporal Scott, Troop B.

Military Fours.
1st—*Shady Lady*—Sergeant Roy Wood, Troop A.
Banjo—Corporal Hagen, Troop A.
Come On—Private First Class J. F. Ross, Troop A.
Blue Boy—Private First Class Gormley, Troop A.
2d—*Prince*—Private First Class Armonaviczie, Troop B.
Jane—Private First Class Miscik, Troop B.
Beatrice—Corporal DiPalma, Troop B.
Pete—Corporal Scott, Troop B.

Adirondack Hunter—limited to horses owned within 150-mile radius of Lake Placid, New York.
4th—*Milly Russell*—Captain T. C. Wenzlaff.

3rd Phase, Team of Three—single file at a safe distance over a hunter course.
1st—*Hightime*—Lieutenant Colonel S. V. Constant.
Milly Russell—Captain T. C. Wenzlaff.
Razor Back—Lieutenant T. B. Harrington.
2d—*Beatrice*—Lieuteriant L. H. Cross.
Banjo—Lieutenant W. A. Sussmann.
Blue Boy—Lieutenant T. C. Stone.

Military Championship.
1st—*Hightime*—Lieutenant Colonel S. V. Constant.
Milly Russell—Captain T. C. Wenzlaff.
Razor Back—Lieutenant T. B. Harrington.
2d—*Beatrice*—Lieutenant L. H. Cross.
Banjo—Lieutenant W. A. Sussmann.
Blue Boy—Lieutenant T. C. Stone.

During the period of the maneuvers proper, the squadron ran the camp for the umpires.

When the men were not busy they were permitted to go on mounted pass and see as much as possible of the maneuver. By being a neutral it was possible to ride through the lines and learn a great deal about what was really going on.

After the maneuver was over the squadron cleaned up the area and turned in all of the equipment that had been drawn. Everything was in order and the squadron ready to leave for home on August 31st just one month after their arrival. The squadron left camp at 10:45 AM and embarked on the boats at Port Kent at 1:30 PM. All the horses rode very well and the post was reached about 4:00 PM.

The squadron is now engaged in the normal period of fall training.

The summer months brought a great change in the officer personnel of the squadron. Lieutenant Colonel Rees left on July 30th to attend the Army War College in Washington, D. C., and Lieutenant Colonel Constant took command. Captain C. C. Jadwin and Captain R. W. Barton left in June for a short leave at the end of which they are both to report to the Command and General Staff School at Fort Leavenworth, Kansas. Captain J. K. Mitchell now commands Troop B, and Captain T. C. Wenzlaff, Troop A. First Lieutenant E. W. Sawyer left in June for a short leave and will report at Fort Riley in time to attend the Cavalry School. Lieutenant L. H. Cross one of the six officers assigned to the squadron for training under the Thomason Act for the year 1938-1939. won his commission as a second lieutenant in the Regular Army and is again on duty with the squadron. Lieutenant Foster a R.O.T.C. honor graduate from Massachusetts State College is under orders to report to the squadron for duty. The following named lieutenants are now on duty for training under the Thomason Act: Lieutenants Benjamin, Beaton, Lippincott, Hewitt, Stone, and Ward.

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6th Cavalry—Fort Oglethorpe, Ga.

COLONEL JOHN MILLIKIN, *Commanding*

The regiment and garrison extended a welcome to the new commander, Colonel John Millikin from Boston, Massachusetts, September 16th as replacement for Colonel George Dillman, who, after a short leave of absence, has proceeded to his new assignment in San Antonio, Texas. Lieutenant Colonel John A. Weeks has been in command of the regiment in the interim.

In addition to sending its share of officers to the C.& G.S. and Cavalry School as reported in the previous JOURNAL, this regiment will lose during September, Captain H. Jordan Theis who has been reassigned to duty with the Massachusetts State College, Amherst, Massachusetts, and First Lieutenant William R. Prince, who has been detailed in the 2d Balloon Squadron with station at Fort Bragg, North Carolina.

Second Lieutenant Frank E. Glace, Jr., after an illness at Walter Reed of approximately seven months has proceeded to his home to await retirement, September 30th.

The additional duties thrust upon the stay at homes has been relieved in a measure by the recent arrival of Major Candler A. Wilkinson, Captains Gordon B. Rogers, Brendan McK. Greeley, Elmer V. Stansbury, and Charles E. Morrison and their families. These welcome additions to the social life of the garrison will be further enhanced by the arrival in the early fall of Captains William O. Heacock and Thomas F. Taylor and their families.

The following second lieutenants have arrived from West Point: David B. Goodwin, Thomas B. Bartel, William G. Dean, Howard V. Cooperider, and Benjamin M. Bailey, Jr. In addition, the following second lieutenants have been assigned and have reported for duty: Lemuel E. Pope and Richard L. Irby.

A very active summer training period for the civilian components closed on August 20th.

From June 15th until July 14th 800 C.M.T.C. trainees were encamped in the concurrent area. At the same time 46 R.O.T.C. students were here in training. Officers of the 309th Cavalry conducted the training of the C.M.T.C's.

From July 16th to 30th the 55th Cavalry Brigade (less 109th Cavalry) were here for their field duty period, followed by the 109th Cavalry from July 30th to August 13th. The 127th Engineer Squadron (Ala. N.G.) and the 105th Veterinary Company attended the encampment of the Cavalry Brigade during the period July 23d to August 20th. The following reserve units were also trained here: Between July 23d and August 20th: 313th Cavalry, 310th Cavalry, 463d Reconnaissance Squadron, and 403d Engineer Squadron.

All reserve officers on active duty at this station were quite enthusiastic and most of them expressed their desire for redetail the following year. The National Guard used over 300 of our horses and were loud in praise of the fine quality of mounts and the coöperation from the regiment.

The hunting season will open officially about October 10th. Drafts of finely bred hounds have been received from the Essex Foxhounds (through the generosity of our good friend Captain Don Carleton, now on duty in New Jersey) and from the Radnor Drag. These drafts together with the pups we managed to raise bring the entered hounds up to 17½ couples. The cubbing season has brought several good runs on fox and we expect to have good sport, both, on fox for those who like to watch hounds work and do not mind bad weather and disappointments now and then, and on drags for those who "hunt to ride."

A large new section of farm land is being added to the hunt country. The staff for the season is as follows: Master, Major H. E. Kloepfer: Huntsman, the Master: Whippers-In (honorary). Captain Murtaugh, Rogers, Greeley, and Hoffman, and Lieutenant Collins, Veterinary-Reserve; Kennel Huntsmen, Corporal Linder and Private Holcomb. The Hunt keenly regrets the loss of our good friend and staunch supporter Lieutenant Colonel Fiske, Field Master, who has been ordered to Washington.

Troops of the 6th Cavalry are participating in a regimental baseball league which gives promise of being the best season in years. Troop F and Headquarters and Service Troop are now in a deadlock for first place. Upon completion of the regular playing schedule a play-off under the Shaughnessy system will be started to determine the regimental champions for 1939.

A new softball field, equipped with modern lighting system has been installed and troops are now thoroughly enjoying this new phase of athletics. Due to the lateness in completing the lighting system for the field, not much competition is expected this year, but all are looking forward to next season at which time a fast pitch and two slow pitch leagues will be started, giving practically all members of the regiment an opportunity to participate in this sport.

The Fort Oglethorpe polo team played a series of five games at Fort Oglethorpe, Georgia, with the Governor's Horse Guards from Atlanta, Georgia, during July and August. The Fort Oglethorpe team fortunately came out on top, winning three games and the Horse Guards two.

The regiment during July and August lost several of their first string polo players, but it is expected to recuperate shortly as several of the officers who are to join the regiment have had polo experience. The officers that are to join are as follows: Major C. A. Wilkinson, Captain Charles E. Morrison and Captain Gordon B. Rogers, all have had previous polo experience.

Seven new second lieutenants have recently joined the regiment and it is expected to develop some of them into good polo players inasmuch as they have all expressed the desire to play polo.

We are fortunate in having Lieutenant Colonel Howell M. Estes and Captain Elmer V. Stansbury, two officers with previous polo experience, who have consented to act as referee for all games at Fort Oglethorpe.

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7th Cavalry—Fort Bliss, Texas

COLONEL WILLIAM W. WEST, *Commanding*

The regiment having just completed a most successful target season is now conducting extensive training in preparation for the coming fall Division Maneuvers to be held in the vicinity of Tovahvale, Texas.

Machine Gun Troop and Troop B each have the distinction of 100 per cent qualification. First Sergeant Wilbur P. Jackson of Troop A, a former member of the Cavalry Rifle Team, was high shot with the rifle making a score of 241. Machine Gun Troop's known distance firing was accomplished at the new Castner Range and Captain Ladue reports that the results were highly satisfactory and believes the range to be far superior to the old Fort Bliss Target Range in Dona Ana County, New Mexico. It is understood that necessary arrangements are being com-

pieced to permit the firing of all rifle, pistol, and machine gun at the new Castner Range during the next annual target season.

Having failed to receive much exercise during the month of August, the animals of the regiment, as well as the men of the regiment, will require considerable conditioning before October 2d when the Second Cavalry Brigade is scheduled to leave Fort Bliss en route to the maneuver area. Every effort is being made to permit all physically fit personnel to accompany the regiment and training in all phases of cavalry combat is being equally stressed to assure that this organization is ready to satisfactorily perform any mission assigned to its during maneuvers.

Remount training is progressing nicely under the guiding hand of Captain Ladue. Several remount polo prospects have been assigned to polo-playing officers who are devoting considerable time and effort to the developing of these animals.

Headquarters and Service Troop and Machine Gun Troop will, in all probability, move into their new quarters soon. The men in these organizations are looking forward to the move to new barracks with a great deal of enthusiasm.

The following changes in officer personnel have occurred in the regiment:

Lieutenant Colonel Edward F. Shaifer has been ordered to recruiting service at Chicago, Illinois. First Lieutenants John S. Growdon, Francis J. Murdoch, Jr., Caesar F. Fiore, Andrew J. Boyle, and Benjamin W. Heckemeyer have been assigned to duty as students at the Cavalry School.

Lieutenant Colonel Rinaldo L. Coe was assigned to the regiment on August 21st and has assumed command of the 2d Squadron.

Captain Charles H. Noble was assigned to the regiment on August 11th and has assumed command of Troop B.

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8th Cavalry—Fort Bliss, Texas

COLONEL INNIS P. SWIFT, *Commanding*

The 1939 C.M.T. Camp opened on July 6th and closed on August 4th, of which the 8th Cavalry and the 82d Field Artillery were the parent organizations. The camp included the buildings formerly used by C.C.C., R.O.T.C., and National Guard of New Mexico.

Eighty trainees attended of which fifty were cavalry and thirty field artillery, organized into one cavalry troop and one field artillery platoon.

At the end of camp a boxing tournament was held. The swimming meet was easily won by Trainee Edwin D. Selby, who won four of the five events. He is the son of Major John E. Selby, P.M.S.&T., N.M.M.I., Roswell, New Mexico. Visitors' day was held on August 3d.

During the period July 5-20, the following named lieutenants were assigned to the regiment for one year's duty under the Thomason Act:

Ira B. Richards, Jr., Rodeo, New Mexico; Alvin P. Utterback, Jr., Brackettville, Texas; Arthur K. Whitehead, Tucson, Arizona; Sidney S. Woods, Comerton, Arizona; Glenn S. Finley, Jr., Claremore, Oklahoma; Domenick G. Troglia, Bisbee, Arizona, and F. Raymond King, Tucson, Arizona.

The regiment was pleased to receive the news of the promotion of Lieutenant Colonel Jos. P. Aleshire to colonel on July 12th, and Major Clinton A. Pierce to lieutenant colonel on August 14th.

During the period July 16-29, the regiment was combined with the 7th Cavalry to form a war strength regiment known as the 312th Cavalry, to facilitate the training of Reserve officers of the 156th Cavalry Brigade. Eighty Reserve officers reported for duty, and were under the direct supervision of Lieutenant Colonel John T. Minton, Cavalry, who is unit instructor stationed in Tucson, Arizona. The morning periods were devoted to tactical exercises, while the afternoons were used for various demonstrations and instruction in troop duties.

The war strength regiment, with a battalion of field artillery attached, left the post at 7:00 PM on July 24th and went into bivouac in the vicinity of Ysleta, Texas, with the mission of reconnoitering the Rio Grande north of El Paso. The bivouac was so well camouflaged that when an airplane from Biggs Field flew over it several times the following morning the observer was unable to locate the bivouac.

At 8:00 PM on the 25th the regiment again made a night march to the C.C.C. Camp north of Ysleta and spent the remainder of the night there, and at 11:00 AM the 26th proceeded again toward Nations South Well. The entire reinforced regiment, supported by the artillery, was in action on high ground in the vicinity of Carlsbad Highway, against an outlined enemy. Bivouac for the night was made at Nations South Well, and at 9:00 AM on the 27th the regiment moved via Nations East Well to the Hueco Mountains to cover the debouchment of the remainder of the 103d Division from the pass in the Hueco Mountains. The return march to Fort Bliss was started at 5:00 PM, and the regiment arrived at 10:00 PM. Many of the Reserve officers stated that they had had a very interesting and instructive training period.

The regiment participated in a review on July 24th honoring Colonel Francis W. Glover, Cavalry, on his retirement from active service.

A regimental review was held on July 29th, the guest of honor being First Sergeant Van C. White, of Troop A, who retired on June 30th after completing 30 years of service, the last 17 years being with Troop A. Sergeant White was retired with the rank of second lieutenant. During his service in France, Lieutenant White was a member of the Army Team participating in the Inter-Allied Games in Pershing Stadium, Paris, France. Upon his graduation from the Cavalry School in 1917, his diploma was signed by Captain Innis P. Swift, Director of Horsemanship, who is our present regimental commander. In 1916 Sergeant White was a member of the Army Team travelling throughout the East with Buffalo Bill's Wild West Show.

Firing of mounted and dismounted pistol practice was done during the first part of August, on the Winfree's Nose Range in the vicinity of the post.

Much interest has been displayed on the part of officers and men in the new calibre .22 miniature combat range recently constructed not far from barracks. An article fully describing this miniature range has been submitted to the JOURNAL.

Lieutenant Colonel Edwin E. Schwien who recently joined the regiment has been placed on temporary duty with the Umpire Detachment for the Division Maneuvers near Balmorhea and Toyahvale, Texas. First Lieutenant Frederick H. Gaston, Jr., has reported for duty, and been assigned to command of Headquarters and Service Troop. Major James S. Rodwell, recently from the Command and General Staff School, has been placed in command of the 1st Squadron.

A regimental horse show was held on August 26th which consisted of four classes, results of which were:

Class I—The Barrienspringer. (This class is a very popular class in Europe, and is usually the feature of any of the large Continental shows.) Its introduction to Fort Bliss proved quite interesting, as well as bringing out a fine performance on the part of the winners. Six post and rail jumps were spaced 36 feet apart, with a maximum height of 3 feet 9 inches. In the jump-off several of the jumps were raised to 4 feet 6 inches. Corporal Austin, Troop E, riding *Kaiser* placed first with no faults. Private Crowley, Troop F, on *Reveille;* Sergeant Sanders, Troop F, on *Stroll Along;* Private Gardner, MG Troop, on *Buddy;* placed second, third, and fourth respectively.

Class II—Thomason Officers' Jumping over a course of eleven jumps not exceeding 3 feet 6 inches was won by Lieutenant Woods riding *Reveille,* who cleared all jumps with no faults. Lieutenant King on *Hickory,* Lieutenant Whitehead on *Clonsilla,* and Lieutenant Finley on *Kane* captured the remaining three prizes.

Class III—Enlisted Men's Hacks, for men of less than one year's service, was judged by Colonel Innis P. Swift on seat, hand, and general horsemanship of the rider. First prize went to Private Moseley, Troop E, riding *Rascallion.* Private Acker, Headquarters and Service Troop, on *Harmon;* Private Eades, Troop A, on *Sadie;* and Private French, Troop E, on *Otman,* placed in that order.

All of these young cavalrymen displayed excellent horsemanship and show prospects of future Division Horse Show riders.

In the Open Jumping over a course of 16 obstacles, at a height of 4 feet, competition was very keen. Lieutenant Cole, riding *Bashful,* was highly elated to clear all jumps with no faults and captured the coveted first prize. He again displayed his excellent horsemanship when he placed second on *Colonel* in a jump-off with Lieutenant O'Brien on *Westerman,* who was then contented with third place. Corporal Austin, Troop E, on *Kaiser,* nosed out Corporal Jones, Troop A, on *Baalbec,* for fourth place after the jumps had been raised to 4 feet 6 inches.

During the first years of the 8th Cavalry the troops were stationed throughout the territories of Arizona and New Mexico protecting the scattered towns and settlements from marauding Indians. In glancing over our regimental and troop histories, one finds many accounts of encounters with the Apache Indian. The Apache roamed the hills and mountains of Arizona and New Mexico territories, under the leadership of Chief Geronimo, burning ranch homes and driving off live stock of the settlers.

For the past several days members of the regiment have been on "location" with Paramount Pictures from Hollywood, filming the picture "Geronimo."

Paramount moved in with all its paraphernalia, and Fort Bliss was a beehive of action similar to Hollywood.

Officers and men were furnished with the old time "Blue Uniform," replete with all its gold braid, red sashes, etc. With their long shaggy hair and mustaches the men surely looked the part of the old "forty-niner," of which the regiment was mostly composed at that time.

Even the horses had forgotten what a saber looked like and shied away when the rider approached with it attached to his belt. Nor did they like the carbine on the off side of the saddle.

The younger cavalrymen had no difficulty in learning the movements of the saber manual, a weapon of which they had heard, but now see only in collections of relics. Only a few minutes were required for the old-timers to again flash that famous cavalry weapon as they did in the "Old Army."

The regimental supply sergeant was so efficient in issuing of uniforms and equipment, that the Paramount representative immediately endeavored to get him to "buy out" and return to Hollywood with the company.

Colonel Aleshire, on his elevated platform, under an umbrella, with his microphone looked like a veteran director.

Everyone is now anxiously waiting the showing of "Geronimo" at the War Department Theatre, to "See yourself as others see you."

It is with regret that we see First Lieutenants Henry T. Cherry, Jr., Bruce Palmer, Jr., and Roy W. Cole, Jr. depart on leave of absence, upon the termination of which they will report as students at the Cavalry School.

Now that the summer training camps are over, the regiment is working to get men and animals in condition for the coming maneuvers of the 1st Cavalry Division to be held in the vicinity of Balmorhea and Toyahvale, Texas, during the month of October.

Officers and ladies of the regiment enjoyed a regimental dinner at Ralph Brown's Steak House on the evening of August 29th.

Second Lieutenant Ira B. Richards, Cavalry-Reserve, was relieved from active duty under the provisions of the Thomason Act, on August 30th, and accepted a commission as second lieutenant in the Regular Army on Sep-

tember 1st. Lieutenant Richards has been assigned to duty with the Machine Gun Troop.

12th Cavalry (Less 2d Squadron)—Fort Brown, Texas

COLONEL ARTHUR E. WILBOURN, *Commanding*

Since the last issue of the CAVALRY JOURNAL, the regiment has been training for the First Cavalry Division Maneuvers. It has engaged in a series of problems to test its efficiency and to point out to organization commanders where their training efforts could be best directed.

The following officers have joined us since last publication: Lieutenant Colonel Eustis L. Hubbard, Cavalry; Lieutenant Colonel Ralph I. Sasse, Cavalry; Major Ernest C. Adkins, Quartermaster Corps; Captain Clarence K. Darling, Cavalry; Second Lieutenant Michael S. Davison, Cavalry; Second Lieutenant Arthur W. Allen, Jr., Cavalry, and Second Lieutenant James LeR. Rogers, Cavalry.

We have received two new members into the regiment who were unable to produce orders from the War Department: a son to Lieutenant and Mrs. McPherson LeMoyne and a daughter to Lieutenant and Mrs. Alexander D. Surles, Jr.

In addition to the usual post social activities was the reception given by Colonel and Mrs. Wilbourn for General and Mrs. Wainwright on their visit to the post early in September. Another outstanding event was the picnic and boat outing down the Brownsville ship channel, when Colonel Wilbourn had as his guests a group of Mexican officers from the garrison of H. Matamoros, Mexico, just across the Rio Grande from Brownsville. General Leopoldo Vasquez Dorantes was the guest of honor.

The regimental commander has made frequent trips to Fort Ringgold to coördinate the progress of the two squadrons of the regiment.

Under Major Harry A. Buckley's supervision, the horse show and polo teams are shaping up nicely, and should be ready for the intense competition expected from the brigade and later from the division.

26th Cavalry—Fort Stotsenburg, P. I.

COLONEL ROBERT BLAINE, *Commanding*

During the month of June the 26th Cavalry was engaged in regular garrison training.

On June 29th the regiment started on a practice march to Manila and returned July 7th. All marching was done during the early morning hours and camp was established before 8:00 AM each day. The orderliness and efficiency with which this regiment breaks camp and march during hours of darkness is remarkable. The regiment participated in Independence Day parade in Manila on July 4th. The creditable showing made by all ranks was commented upon by high officials, both military and civilian.

On July 8th, Colonel Joseph W. Stilwell, Infantry, delivered an address to the officers of Fort Stotsenburg on his experiences in China as military attaché. His remarks were enlightening and extremely interesting.

The officers of the regiment tendered a farewell party to Colonel Dougherty on July 15th at the Stotsenburg Club. Colonel Dougherty departed on the July transport for duty at Headquarters, 2d Corps Area.

Our new regimental commander, Colonel Robert Blaine, arrived on the July transport. Colonel Blaine was with the 26th Cavalry six years ago as executive officer. The regiment is fortunate in having in command an officer who is familiar with the conditions in the Philippines.

On July 27th Fort Stotsenburg received 118 remounts and 30 mules. The 26th Cavalry is charged with the training of these animals, after which some of them will be sent to other stations in the department.

Captain L. C. Vance, Captain T. J. H. Trapnell, First Lieutenant Wm. E. Chandler, and Second Lieutenant R. B. Praeger arrived on the July transport.

OFFICERS' ROSTER OF 26TH CAVALRY

Colonel
Blaine, Robert, CO.

Lieutenant Colonels
Buchly, Walter E., Ex. O.
Finley, James R., SD—Post Exchange Officer.
Pierce, John T., SD—Post Exchange Officer.

Majors
Haldeman, William T., SD—Post P.&T. O.
Hood, John D., DS CO Camp John Hay. P.I.
Clayton, Philip C., S-3.
Hawley, Donald C., S-4.
Nelson, Frank, CO 2d Sq.
Dodd, Heywood S., CO Prov. Sq.
Blankenship, Jacob A., CO 1st Sq.
Wilson, Garnett H., S-1.

Captains
Baclig, Eustaquio S., (PS) DS w P.I. Army.
Moran, Juan S., (PS), S-2.
Burcham, Clyde A., CO MG Tr.
Burnside, Walter, CO Hq. Tr.
Vance, Lee C., Transportation O.
Bradley, William J., SD Post QM.
Forde, Harold M., CO Tr. E.
Winn, Norman M., DS HP Dept.
Trapnell, Thomas J. H., CO Tr. F.
Disney, Paul A., CO Tr. B.
Hathaway, James L., Com. O.
LaPpage, John J., SD Asst. Post Adj.
Stevenson, Hugh W., CO Tr. A.

First Lieutenants
Howze, Hamilton H., Tr. E.
Lichirie, Cornelius A., Tr. F.
Chandler, William E., MG Tr.
Bartlett, William G., Tr. A.
Arnette, Robert E., Jr., Tr. F.
Bayne, Robert H., SD, CO 65th and 66th QM. Pk. Tn.
Alger, James D., CO Scout Car Plat.
Haines, Robert E., MG Tr.
Rhoades, John F., Regtl. Pk. Tn.
Walker, Charles P., Tr. E.

Second Lieutenants
Barker, Joseph R., 2d. Tr. B.
Praeger, Ralph B., Tr. A.

103d Cavalry—Tyrone, Pennsylvania

COLONEL BENJAMIN C. JONES, *Commanding*

On June 17th, the first day of the 1939 field training period, the various redesignations of units and reassignments of officers made necessary by the plan for organization of the 22d Cavalry Division were accomplished.

The regiment went through camp in much different form from that of the past ten years. It had lost all of its Philadelphia units; it had lost its troops at Bellefonte and DuBois; it had gained four rifle troops from the 104th Cavalry, one of which had been converted into Headquarters Troop and the other into Machine Gun Troop; it had gained a newly organized Medical Department Detachment.

The field training program was carried out with enthusiasm and efficiency. Units being introduced to new and strange duties entered into them with vigor and acquitted themselves most creditably. After the first few days of shaking down into new assignments, the various sections of Headquarters Troop functioned as though they had been operating in their new capacities for many months. The Machine Gun Troop proved itself as sturdy a unit with its Brownings as it had been as a rifle troop. The new Medical Department Detachment made splendid progress and performed praiseworthy service.

Beginning with tactical exercises involving rifle platoons and proceeding through similar exercises involving troops and then squadrons, the field training period culminated in a three-day maneuver in which the regiment functioned as part of the 52d Cavalry Brigade in a reconnaissance problem. The camp period passed without serious accident within the regiment; the weather was cool and pleasant; and sufficiently marked improvement was shown in all phases of cavalry training as to lead officers and men alike to feel that the 1939 field training period was the most profitable ever.

On July 1st units of the regiment returned from camp to their various home stations which are now the following: Regimental Headquarters, Tyrone; Headquarters Troop, Altoona; Machine Gun Troop, Tyrone; Medical Department Detachment, Sunbury; Band, Northumberland; Headquarters 1st Squadron, Altoona; Troop A, Clearfield; Troop B, Lock Haven; Headquarters 2d Squadron, Sunbury; Troop E, Sunbury; Troop F, Lewisburg; Headquarters 3d Squadron, Philadelphia; Troop I, Punxsutawney; Troop K, New Castle.

The following promotions and appointments made just prior to camp or just following camp, most of which were occasioned by the various redesignations and reassignments, are announced with pleasure:

First Lieutenant Jesse C. Davis to be captain, assigned to command Headquarters Troop; First Lieutenant Charles W. Roberts to be captain, assigned to Regimental Headquarters as Suppy Officer; Captain Robert E. Allen, ING, to be captain, MC, and assigned to Medical Department Detachment as commanding officer; Captain Maximo J. Tornatore, MC-Reserve, to be captain, MC, and assigned to Medical Department Detachment; First Lieutenant Theodore M. DeVries, VC-Reserve, to be first lieutenant, VC, assigned to Medical Department Detachment; First Lieutenant Robert A. Walborn, DC-Reserve, to be first lieutenant, DC, and assigned to Medical Department Detachment; Second Lieutenant Warren L. McKinney to be first lieutenant, and assigned to Machine Gun Troop; Second Lieutenant Lester A. Shull to be first lieutenant, and assigned to Regimental Headquarters as Personnel Adjutant; First Sergeant Allen K. Hile to be first lieutenant, assigned to Headquarters 3d Squadron as Adjutant; Sergeant Irvin F. Mitchell to be second lieutenant assigned to Machine Gun Troop.

Within the past year certificates of eligibility to higher grade have been granted by the National Guard Bureau to a number of officers of the regiment as follows:

Lieutenant Colonel Samuel B. Wolfe as colonel; Major Benjamin I. Levine as lieutenant colonel; Captains John H. F. Bittner and William A. E. Leitzinger as majors; First Lieutenants Hall F. Achenbach, John K. Dufton, and Frank S. Buchanan as captains; Second Lieutenants Thomas G. Lewis and Adelbert A. Arter as first lieutenants.

104th Cavalry—Philadelphia, Pa.

First Lieutenant Joseph M. Williams, Machine Gun Troop, 104th Cavalry, Philadelphia Post, shooting member of the Pennsylvania National Guard Rifle Team, at

the National Rifle and Pistol Matches, Camp Perry, Ohio, 1939.

Lieutenant Williams is the individual winner of the United States Cavalry Cup, and the United States National Guard Association Trophy, with a score of 145 out of a possible 150, as follows:

Two hundred yards offhand, 47; 600 yards prone, 50; 1,000 yards prone, 48; total, 145.

Out of the 2,000 competitors in the President's Match, Lieutenant Williams finished in twelfth place, he also placed well up in the Marine Corps Cup Match, the Leech Cup Match, the Wimbledon Cup Match, and the National Individual Match, all of which were individual rifle matches.

Lieutenant Williams is a graduate of the Advance Course, Small Arms Firing School, Camp Perry, Ohio, 1939, as conducted by the United States Army, and he has worn the United States Distinguished Marksman Badge, for rifle, since 1925.

* * *

106th Cavalry—(Illinois Component)

MAJOR RALPH G. GHER, *Commanding*

The Illinois units of the 106th Cavalry returned to home stations on July 15th after a successful tour of field training at Camp Williams, Wisconsin.

This tour of duty was the second time the entire regiment (consisting of Illinois and Michigan components) functioned as such, the first being during the Second Army Maneuvers in Michigan in 1936. The character of the Second Army Maneuvers made it somewhat difficult for the Illinois and Michigan units to become acquainted, but the 1939 tour of duty offered an opportunity for close contact and association. Officers and men of the Illinois units are high in their praise of the Michigan component, and have expressed the opinion that all future training will see both states together as one regiment.

Colonel Harold T. Weber, commanding the regiment, was confronted with the problem of having a regimental staff divided between two states, and it was due to his splendid executive ability that the staff functioned smoothly with no overlapping of duties.

Much of the credit for the success of the tour is due Lieutenant Charles W. Hughes, Chaplain, of Detroit, who had charge of the recreation and athletics of the regiment. Chaplain Hughes organized an excursion for enlisted men to the Wisconsin Dells where five chartered boats carried them on a fifteen-mile trip covering the scenic wonders of the Wisconsin River.

The regimental CPX was quite instructive, and reflected the serious thought of Captain Frank J. Wise, S-2, who prepared the problem.

Lieutenant Colonel James G. Moniham, Major E. A. Franklin, and Major Otto R. Stillinger, regular army instructors on duty with the regiment, rendered valuable assistance.

Nine Reserve officers were assigned to the regiment for training, and performed the duties of troop officers in a very commendable manner. The following officers of the Springfield, Illinois, units participated in the Midwest Amateur Horse Show on June 3d and 4th: Captain W. A. Crookston, and Lieutenants J. T. Walker, C. N. Greenup, C. R. Bean, J. T. Temple, J. M. McCarthy, and J. Bradley.

Captain Mark Plaisted and Captain M. G. Peter functioned as judges.

While in Wisconsin, the regiment made a two-day practice march to the village of Necedah, Wisconsin, a distance of thirty miles each way. The regiment returned to Camp Williams without any casualties among horses and men. While in Necedah the band conducted a concert in the village which attracted a large crowd from the neighboring country. The citizens of Necedah extended a hearty welcome to the troops, and the president of the Bank of Necedah provided facilities for shower baths and entertainment for the officers. The mayor extended an address of welcome which was accepted by Colonel Weber.

The 107th Veterinary Company (Michigan) was attached to the regiment for the tour of duty, and under the command of Captain Harry C. Cotton, this company won a place in the hearts of the Cavalrymen.

With the exception of the Veterinary Company, the regiment functioned alone, which was quite a change from the usual tour of duty while attached to the 33d Division in Camp Grant, Illinois, consisting of 10,0000 troops.

The troops in Illinois are discussing with interest the official reports regarding the new allotment of cavalry to this state, consisting of the Division Headquarters Troop and the Reconnaissance Squadron (mcdzd) as well as a number of members of the staff of the 23d Cavalry Division. There is considerable speculation as to the future training of the regiment and it is felt that the days of training with an infantry division are over.

* * *

111th Cavalry—New Mexico National Guard

COLONEL CHARLES G. SAGE, *Commanding*

Following the retirement on July 7th of Colonel Clyde E. Ely, Lieutenant Colonel Charles G. Sage was placed in command of the 111th Cavalry, promoted to colonel and federally recognized as of July 23d. Colonel Ely was retired with the rank of brigadier general, having served for more than twenty-five years in the New Mexico Guard. He had commanded the 111th Cavalry for six years. Colonel Sage has been an officer in the 111th Cavalry for more than eighteen years. He was a lieutenant of field artillery during the World War.

Effective September 1st headquarters of the 111th Cavalry were moved from Silver City to Deming, home of the new regimental commander. Other changes effective that date were: Captain Oliver B. Witten, Deming, from Regimental S-4 to S-1; Captain Eugene B. Baca, Sante Fe, from Regimental S-1 to commanding officer Troop B; Captain Alphonso Melendez, Santa Fe, from commanding officer Troop B, to Regimental S-4; First Lieutenant Claud W. Stump, Deming, from Adjutant 2d Squadron to Regimental Personnel Adjutant.

Major Harry M. Peck, Albuquerque, veteran officer of the New Mexico Guard, was promoted July 23d to be lieutenant colonel of the 111th Regiment. On September 1st Captain Albert F. Marth, commander of Headquarters Troop, Albuquerque, was promoted to major and assigned to command the 1st Squadron, formerly under Colonel Peck. First Lieutenant James H. Hazelwood was promoted the same date to captain, and assigned to command Headquarters Troop.

The 111th Cavalry held its annual field training at Camp Maximiliano Luna, Las Vegas, August 6-20, carried out an intensive program that included reconnaissance, counter-reconnaissance, night marches, and defensive and offensive operations. Most of these exercises were two-sided, one reinforced squadron opposing the remainder of the regiment.

The highlight of the training period was the platoon leadership contest, which saw two platoons of each rifle troop take the field for two days. A musketry exercise, marching, camping, reconnaissance, attack by armored vehicles, airplanes, and dismounted groups and the reconnaissance of a village were features of this test. The competition was close in every phase. First Lieutenant Lucien S. Wells, Cavalry-Reserve, leading a platoon of Troop K to top honors. Next year's program probably will include a follow-up of this platoon test, which proved very popular and provided some excellent training for all concerned.

The 111th Cavalry horse show, annual feature of the regiment's field training period, was carried off successfully again this year, although it had been reduced to a one-day affair. A number of civilian entries competed and the crowd was treated to some thrilling and interesting exhibitions. Unfortunately rain interfered with the afternoon session, causing spectators and contestants considerable discomfort—but the show went on in spite of this handicap.

Lieutenant Henry R. Pacheco, Troop B, Santa Fe, won the point-to-point race, the prize for which was the personal saber of the late Colonel Norman L. King, former commander of the 111th Cavalry.

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112th Cavalry—Dallas, Texas

COLONEL CLARENCE E. PARKER, *Commanding*

On June 30, 1939, two new troops for this regiment, I and K, authorized by the War Department, were mustered into federal service. The home station for Troop I is at Texarkanna, Texas, and for Troop K at Abilene, Texas.

The officers who have received federal recognition to date to lead these two new troops are as follows:

Troop I—Captain Roy W. Davis, commanding; First Lieutenant Sam L. Hunnicutt, and Second Lieutenant Roy Lilley.

Troop K— First Lieutenant Clyde E. Grant, commanding and Second Lieutenant John L. Minter.

The regiment welcomes our new additions and feels that it is very lucky in obtaining such fine officers for the new troops.

Both troops have a very high type of enlisted personnel, and could have doubled the authorized strength, at the time of muster.

Major McCord McIntire, who recently received his promotion as major, will command the new 3d Squadron and First Lieutenant Reeves R. Houghton, who was recently appointed first lieutenant and called back from the inactive list, will be the adjutant. "Congratulations, Mac and Reeves."

Mac states that with a little time he will have the best squadron in the regiment, and judging from his excellent work as S-2-3 of the regiment during the past four years, this might be no idle boast. Maybe the older squadron commanders had better keep on their toes, eh what?

The regiment completed a most successful two weeks field training period on August 22d. In fact many old-timers were heard to remark, that despite the heat, that was 100 degrees or above every day of the training period, this year's camp was the best they had attended to date, as far as training results were concerned.

During the first week of camp the training consisted of field exercises for small units, where leadership qualities of the commanders were stressed. These exercises commenced with the squad and progressed up to include the troop.

The leadership test for small units conducted by the regiment during the past armory training period proved its worth in this field training period as the leadership ability of junior officers and noncommissioned officers was a marked improvement over last year's field exercises.

The field exercises for the second week consisted of a free maneuver with the squadrons of the regiment operating against each other, as divisional cavalry attached to an infantry division. Each squadron was reinforced with machine guns and sufficient trucks to enable it to supply itself in the field.

The brigade prepared the directive and general situation for the maneuver, but the regimental command and staff were given the responsibility of preparing the special situations and the actual control and conduct of the maneuver.

This was excellent training for all concerned, especially for the squadron commanders and the additional officers, from the troops of the regiment, attached as S-3 and S-4 to the squadron staffs.

All units of the regiment participated in the maneuver, played the game hard, despite the terrific heat, and executed the missions assigned in a most satisfactory manner. The excellent manner in which the 2d Squadron, commanded by Major W. P. Cameron, executed its mission

of delay and defensive action is worthy of special mention. Major Cameron never forgot the principle of mass, and had his squadron well in hand ready to strike where his information seeking units disclosed the enemy's main effort would be made.

On the last day of the maneuver, the 1st Squadron, commanded by Major Dunlap made a march over country that a civilian remarked he did not think a goat could negotiate, which proves the fact that: *"On all kinds of terrain and in all kinds of weather the good old horse is still the most mobile thing on the battlefield."* In this particular situation, which might happen in any war, mechanization would have been useless.

At a very impressive regimental ceremony held in Pyron Hall on July 15th the prizes were presented the winners of the competitions held in the regiment during the 1938-'39 armory training period. These consisted of the Leadership Test for Small Units for all troops, the Squad Test for the Medical Detachment, and the Individual Test for the Band.

General Pyron, the brigade commander, Colonel Cheney, the senior instructor, 56th Cavalry Brigade, and Colonel Parker, the regimental commander, were the principal speakers. They all congratulated the winners, stressed the value of competitions, to keep up interest during the armory training period, and remarked on the fine results produced by the competitions.

Colonel Parker, as the winner's name was called, presented the cash prize and Major John B. Dunlap, presented an appropriately engraved button to each winner, which he very kindly purchased out of his own pocket.

Somebody remarked that when First Lieutenant Manley E. Hood led his winning platoon up to the platform to receive the large cash prizes for winning the Leadership Test for Small Units, that he was a mighty proud-looking lieutenant. Well, Lieutenant Hood has a right to be proud of his platoon, as winning that test was something to be proud of.

They say "Bo" Phillips, commanding Troop F, was like a father at graduation when his boys stepped up to get their diplomas. He had a grin a mile wide.

Colonel Joseph A. Atkins, officer in charge of National Guard affairs, Eighth Corps Area, honored us by his presence during the entire field training period. This gave all the officers a chance to meet and know Colonel Atkins which would not have been the case had he only stayed the usual two days. The whole brigade was delighted to have him with us and hope he can arrange to come again next year.

During the 1939-'40 armory training period a test will be conducted to determine the best all around troop in the regiment. All troops will compete.

This will be called the Pyron Trophy Test, named after our beloved brigade commander, and patterned after the Goodrich Trophy Test that was conducted for the Regular Cavalry a few years ago.

The purpose of the test is: To encourage attendance at drills and schools: To better the personal appearance of officers and enlisted men at all formations: To promote more interest in proper care of horses, equipment, armories and grounds: To further the training of the troops of the regiment by testing the individual proficiency, the squad proficiency, the platoon proficiency and finally, the general combat efficiency of the troops as a whole: To keep all troops of this regiment continually "on their toes" during the entire period of armory training.

In order to keep the troops on their toes at all times, no warning orders will be issued as to the date or time any particular troop will be inspected or tested by the instructor or his assistant.

The weights assigned in general scoring system are shown below:

Attendance	5
Appearance	5
Administration	5
Care of horses, equipment, stables, armories	10
Individual proficiency	5
Squad proficiency	20
Platoon proficiency	10
Troop proficiency	15
Leadership, officers and noncommissioned officers	25

The winner will be the troop securing the highest percentage during the entire 1939-40 armory training period.

An individual prize will be awarded to each member of the winning troop and an envious troop trophy presented to the troop as a whole. This will be competed for each year until a troop has won it three successive times when it becomes its permanent property.

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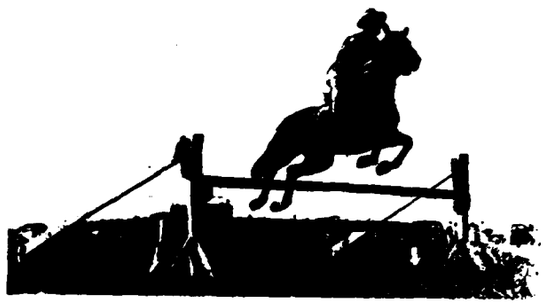
123d Cavalry (Kentucky National Guard)—Fort Knox, Kentucky

LIEUTENANT COLONEL JOHN A. POLIN, *Commanding*

Three weeks of strike duty in the mountains of Eastern Kentucky, just prior to the camp period, served to put both men and officers in good condition for field training at Fort Knox, June 25th to July 9, 1939. The animals, having had two weeks' duty with the 107th Cavalry, were also in excellent condition. All unserviceable horses in the regiment

On Parade at Advanced Rifle



Lieutenant Steve J. Meade on Linda Lou

having been replaced by the new allotment of remounts.

The general improvement in the horses was noticeable throughout the entire training period. Many compliments were heard about the appearance of the horses during the Governor's Regimental Review and Horse Show. In the jumping events several entries tied with perfect scores in both the Officers' Class and Enlisted Men's Class. The only complaint on horses came from the Band Master who had some difficulty, and in fact staged quite a rodeo act, before he was able to find remounts on which he could mount the kettle-drums and base horns.

The highlights of the 1939 field training were:

(a) The fine records made in combat firing, small arms firing and mounted pistol firing.
(b) The two-day maneuver, tactical problem and bivouac.
(c) The demonstration for Major General Pedro Aurelio DeGoes Monteiro, the Chief of Staff of Brazilian Army, on July 4th.
(d) The formal mounted guard-mount ceremonies.
(e) The use of the mounted band at all ceremonies.
(f) The Governor's Day Program on the second Friday.

Brigadier General Adna R. Chaffee, commanding general of Fort Knox, gave the 123d Cavalry the greatest cooperation and assistance from the regular troops and offered us all facilities of the post during the two weeks we were there. This, together with the aid of our fine staff of regular army instructors, made this one of the best training periods in the history of the regiment.

Only one event in the year brought sadness and disappointment to the regiment. That was the sudden resignation of the only commanding officer the regiment has ever known. Colonel Henry J. Stites left the guard at his own free will after thirty years of unselfish service, the last ten of which were directed to perfecting the 123d Cavalry under his command. Colonel Stites' resignation represents a distinct loss to the National Guard as a whole and this regiment in particular. At the regimental field day, Friday, July 7, 1939, in presence of the entire command and many of his friends who had gathered for the occasion, Colonel Stites was awarded his "Thirty Years Faithful Service Medal," by the Honorable A. B. Chandler, the governor of Kentucky. The new commanding officer of the regiment, Lieutenant Colonel John A. Polin, then presented him with a gold saber as a remembrance from the officers of the regiment. As he leaves the service, Colonel Stites carries with him the love and admiration of every officer and man in the 123d Cavalry.

* * *

124th Cavalry—Houston, Texas

COLONEL CALVIN B. GARWOOD, *Commanding*

The 124th Cavalry Regiment has won a Pershing trophy for the fourth consecutive time. This is the only regiment that has ever won this trophy every year since it has been offered. Upon the bulletin board in regimental headquarters is posted a commendation from Major General H. J. Brees, Commander of the VIII Corps Area, Colonel Garwood is particularly proud of this marvelous achievement.

On June 29th two new troops were ushered into this regiment. Troop I at Corpus Christi, commanded by Captain Tarlton Stafford, an ex-B trooper of the 112th, and Troop K, at Seguin, Texas, commanded by Captain W. K. Miles, a former war-time officer. These troops were enlisted and mustered in within one week from the official notification and are showing definite progress so that they will be in splendid shape by federal inspection. Congratulations to these two fine new troops. This squadron will be commanded by Major Jule R. Smith, formerly plans and training officer of this regiment.

According to our instructor, Lieutenant Colonel R. E. Willoughby, the field training of the 124th Cavalry was of great benefit. The problem consisted of two squadrons opposing each other being gradually brought together and ending in a fire fight. The squadron administration and supply was delegated to the separate squadrons, the squadron sergeant majors acting in the capacity of squadron supply officers. These positions were taken by Sergeant Levy of the 1st Squadron and Sergeant Tanner of the 2d Squadron.

On July 14th the brigade paraded for Governor W. L. O'Daniel who was a visitor at our camp. Following the parade, a regimental review was held for Master Sergeant David M. Jansma who was attending his last camp. Sergeant Jansma was in the reviewing stand accompanied by Mrs. Jansma and all officers of the 124th Cavalry, while the troops passed in review, commanded by Sergeant Joe Gurka of Troop E, Brenham, Texas. Sergeant Jansma has been sergeant instructor in Houston for sixteen years and will retire in 1940.

General Knox, the adjutant general of the state of Texas, was a visitor at camp and proved a very fine cavalryman, riding with the troops on the maneuver. We enjoyed his visit very much, and hope he will be back with us again.

In line with the policy of Colonel Garwood, maneuver

orders were written as a result of the combined recommendations of the various staff members, coördinated by the executive officer, Lieutenant Colonel Harry H. Johnson.

With our two new troops, which round out the best regiment of cavalry in the National Guard, Colonel Garwood is setting the sights higher for the standards of this regiment this year.

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62d Cavalry Division
305th Cavalry—Philadelphia, Pa.

COLONEL VINCENT A. CARROLL, Cav.-Res., *Commanding*

The active duty training of the regiment commenced early in July when Lieutenants Forrest Riordan and Harry T. Rosenheim were attached to the 462d Armored Car Squadron and reported for duty with the 1st Cavalry, Mecz., at Fort Knox, Kentucky. Both of these officers reported that the tour of duty was exceedingly interesting and instructive and expressed their appreciation of the efforts of Captains Sells and Dunn of the 1st Cavalry and of Major Yetton, who commanded the 462d Armored Car Squadron.

The regiment held a pre-camp dinner at the Anchorage on August 16th. Plans were laid for the active duty training at Fort Belvoir, Virginia, August 27th to September 9th. Over thirty officers had received their orders and were looking forward to the tour with high spirits.

The following is from a letter just received from the base of operations of the regiment relating the activities of the first week in camp:

"Fort Belvoir, Va., Sunday, Sept. 3d.

"The camp is so full of radio news flashes, it is difficult to keep one's mind on the business at hand here. The declaration of war by England must surely mean real business.

"Here is a brief resume of the events in camp this week:

"Sunday, 8/27/39—Physical examinations including fingerprinting for the F.B.I.; the camp at Belvoir is in splendid condition; permanent buildings; concrete floors for all tents; and troop streets well surfaced.

"Monday, 8/28/39—A reconnaissance ride under Colonel Wilson, who is senior unit instructor. Major Bell is in command of our regiment. The 61st and 62d Cavalry Divisions are both here and unite in training.

"Tuesday, 8/29/39—Platoon drill with rotating commanders. Finally Captain Naftzinger was chosen to organize a troop, the only captain to command it. (Hot stuff!) In the afternoon Major Towne conducted a dismounted combat problem—a good job. Everyone was exhausted by this time.

"Wednesday, 8/30/39—A squadron consisting of the officers of both cavalry divisions was organized under command of Major Bell for a tactical problem. Troop A, composed of men from the 62d Cavalry Division, was commanded by Captain Naftzinger. We finished with a dismounted attack. Colonel Palmer said that it was well done, but did not like the solution; he wanted a mounted action of some kind.

"Thursday, 8/31/39 and Friday, 9/1/39—Cavalry action in coöperation with ten light tanks in an effort to break through the engineer's defense of Fort Belvoir produced a lot of action. We had rotating commanders. Lieutenant Howley commanded a platoon composed entirely of 305th officers, part of a troop under Captain Irby of the 306th. On Friday afternoon, after the battle, we fired the light and heavy machine guns and the cal. .50 machine gun. No scores were kept, but most of the officers seemed to do well.

"Saturday, 9/2/39—We fired the mounted pistol course today and the following scores were recorded:

"Second Lieutenant Willis, 26; Major Streicher, 24; Second Lieutenant Iredell, 24; Captain Meehan, 23; Second Lieutenant Eaker, 23; Second Lieutenant Scarlett, 23; Captain Naftzinger, 22; First Lieutenant Weimar, 22; Second Lieutenant Walsh, 22; First Lieutenant Davisson, 21; First Lieutenant Crist, 21; Second Lieutenant Greenfield, 21; Major Towne, 19; Captain McKinley, 19; Captain Love, 19; First Lieutenant Renninger, 19; First Lieutenant Rife, 19; Second Lieutenant Walton, 19; Captain Young, 18; Captain Shaver, 18; Captain Morrow, 18; Captain Allen, 18; First Lieutenant Howley, 18; Second Lieutenant Freeman, 18; and Second Lieutenant Gutman, 18.

"Captain Watson developed an infected eye and has not fired. In fact he is in the hospital today.

"There has been talk that Colonel Wilson has been assigned to command the 14th Cavalry at Fort Des Moines, Iowa. If this is correct, it certainly will be a loss to the regiment."

For further activities see the next issue of the CAVALRY JOURNAL and be sure to get in your subscription if you have not already done so.

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306th Cavalry—Baltimore, Maryland

COLONEL MATTHEW F. JAMES, *Commanding*

The regiment was assigned the training of the C.M.T.C. this summer. Major Vernon J. Blondell was in command for the first two-week period and Major Edward A. Kane commanded for the last two weeks of this training. Other officers who served at this camp were: Captains Ernest J. St. Jacques and Carroll Wright; First Lieutenants Roue L. Hogan, Frederick P. Magers, and Paul E. Mitchler; Second Lieutenants William P. Cassedy, Merton E. Church, William S. Covington, James A. Dixon, Richard Hume, Gilbert B. Lavton, Richard W. Loheed, Thomas E. Jarman, Jr., and Ford E. Young, Jr. Although the schedule required everyone concerned to work from early morning to late at night, all were in accord that this was the most enjoyable and instructive C.M.T.C. camp that has been held.

During the second period of training from August 27th to September 9th the regiment was commanded by Lieutenant Colonel Wm. H. Skinner. Colonel Matthew F. James was again unable to train with us. Others who trained during this period were: Captains William I. Irby and Thomas H. Mundy; First Lieutenants Graham Dukehart, Josef E. Gellerman, and Kenneth S. White; Second Lieutenants William E. Burton and Charles H. Dunphy. The high point of the training was a maneuver by horse cavalry and light tanks against combat engineers. The use of the horse and mechanized team was clearly demonstrated and working in close coördination make a formidable opponent.

It was a great pleasure to have Lieutenant Colonel Edward B. Harry, formerly a member of the regiment attached for training.

Our unit instructor, Lieutenant Colonel Joseph L. Philips, attended both periods of training with the regiment.

Captain Ernest J. St. Jacques was recently promoted from first lieutenant and Second Lieutenant William E. Burton was transferred to the regiment from the field artillery.

* * *

308th Cavalry—Pittsburgh, Pa.

COLONEL GEORGE H. CHERRINGTON, *Commanding*

These notes are written while twenty-one of the officers of the 308th Cavalry are in fourteen days' active duty training at Cavalry Camp, Fort Belvoir, Va. It was a pleasure to arrive at Belvoir to find the camp facilities tremendously improved by permanent brick buildings—kitchens and mess buildings, administration building, post exchange, wash houses with hot and cold showers, concrete floors for all tents and permanent sheds over the picket lines. The buildings are well built and attractively designed, gravelled walks and drives dispel fears of mud-producing rains, and grounds cleared of underbrush make the whole camp most attractive. The training schedule, with an emphasis on tactics, is interesting and worth while and the administration of the schedule and the camp itself is operating more smoothly than ever previously. In addition to the twenty-one officers at the regular summer camp, the 308th had two field officers ordered to the First Army Maneuvers and one troop officer ordered for fourteen days' active duty at Fort Knox, Kentucky.

At this writing the Cavalry Reserve officers at Fort Belvoir have just completed a most interesting maneuver, prepared and supervised by Colonel Bruce Palmer, Cavalry. In this operation the cavalry force was constituted of Reserve officers of the 61st and 62d Cavalry Divisions making up a squadron of two troops with enlisted machine gun personnel and four armored cars from the 3d Cavalry and six infantry tanks attached from the 66th Infantry at Fort George G. Meade. The enemy was composed of 450 officers and men from the Engineers, Engineer Reserve officers and enlisted personnel from the 5th Combat Engineers. The engineers were in prepared position to prevent tanks being moved to loading docks on the Potomac River. The mission of the cavalry was to clear the way for the tanks to the docks. Unit instructors and other Regular Army officers acted as umpires and advisers. At the conclusion of the problem the participating Cavalry Reserve officers agreed they had gained valuable experience not only in missions accomplished but also making and observing mistakes.

The biggest event of the month of August, aside from active duty training, was the reporting of our new unit instructor, Major Leslie F. Lawrence, who comes to us from Fort Knox, Kentucky. The regiment cordially welcomes Major and Mrs. Lawrence to Pittsburgh and we sincerely hope we can make their stay most pleasant. We should say that Major Lawrence got off on the right foot with us were it not for the fact that he had only been in Pittsburgh a few days when he evidently got off on the wrong foot; he unfortunately slipped and broke a bone in his ankle, preventing his going to camp with us, to our regret.

Another hospital case was Lieutenant A. B. Thomas who was trying out his new horse, *Rincon*, or was *Rinky* trying Tommy out? Anyway *Rincon* proved he had some good bucks in him—but at that Lieutenant Thomas got himself in shape so that his camp orders were not cancelled, and now he's riding right along with the regiment with no evident distress.

The regular Wednesday night and Sunday morning rides at the 308th Cavalry Post at Aspinwall have this summer covered a carefully planned schedule of drill and tactical problems covering subjects on the active duty training period schedule and prepared by officers of the regiment. This method has been so successful, instructive, and interesting that it is now proposed to be continued during the coming inactive duty training.

New improvements at the post include a mounted pistol course, an archery course enjoyed by officers and their families, a public address system with a fine selection of appropriate military music—and more jumps. It is said that whenever any member of the 308th Cavalry sees a loose telephone pole or likely looking stick of timber lying about he immediately rounds up a detail, including Lieutenant Bill Pfahl and his pet, the little 308th O.D. pick-up truck, and they go to building more jumps.

The string of horses is being built up and added to so that now we have sixteen horses, all privately owned by members of the regiment, making a good looking turnout when we all leave the stables in uniform at one time.

* * *

309th Cavalry—Atlanta, Ga.

COLONEL A. G. CONOLEY, *Commanding*

The officers of this regiment received their active duty training the past summer by duty in the C.M.T.C. at Fort Oglethorpe, Ga., June 13th to July 17th. Seven officers served throughout the camp and forty-four others received their two weeks' training in one of three overlapping periods. This duty proved to be most interesting and instructive.

The national standard and regimental standard of the regiment, which were just received last year were formally presented by a very colorful ceremony in an "Escort to the Standards." Following this the C.M.T.C. regiment was paraded; Colonel A. G. Conoley reviewing the troops.

Major James C. Fargo, 309th Cavalry, Aiken, South Carolina, has been recently assigned to the regiment and to command the 1st Squadron.

* * *

313th Cavalry—Culver, Indiana

COLONEL ROBERT ROSSOW, *Commanding*

The officers of the 313th met at Culver Military Academy on Sunday, July 16th, to honor our instructor, Major E. A. Williams, who is leaving to report to his new station at Washington, D. C.

The committee in charge of arrangements consisted of Lieutenant Russell V. Ritchey, chairman; Captains Kenneth I. Hittle, treasurer; Louis Fletcher and C. W. Moores, arrangements. Officers who attended were Colonel Robert Rossow, regimental commander; Major C. A. Whitney, commandant of Culver Cavalry School and regimental S-3; Captains L. Stone, William J. Manby, and William Schideler, and Lieutenants McGregor, C. H. Daghuff, Jr., Wm. Middleton, H. A. Killner, Jr., George Buskirk, Robt. Shimmin, Paul Futz, A. Osborne, R. W. Arnold, J. Graham, George Schuttler, and D. J. Kingman.

The activities for the day included a two-hour cross-country ride in the morning on the mounts of the Black Horse Troop, swimming for an hour and then the dinner in honor of Major Williams at the Maxinkuckee Inn. Boat riding in the afternoon, inspection of the academy buildings and a review of the corps of cadets ended the activity.

Major Williams will be missed, not only by his fellow officers, but also by countless numbers of friends he has made through his work in the Indiana Saddle Horse Association. He was always in the field visiting the various riding clubs and added much toward the promotion of horseback riding throughout the state. All who know him wish him the best of luck in his new post.

The regiment held its summer training at Fort Oglethorpe, Ga., from July 23d to August 5th. The camp consisted of 23 officers from the 313th, six from the 314th (Ohio) and two from West Virginia. Equitation, horsemanship, squad, platoon, troop drill, and conferences on various subjects occupied most of the first week's training schedule. Dismounted pistol firing at both 15 and 25 yards, mounted pistol firing and both heavy and light machine gun firing occupied the early part of the second week. On Wednesday of the second week a 35-mile tactical ride was taken, the last seven miles back to camp being made under cover of darkness. Of the four groups starting back at dark, three succeeded in arriving back in the allotted time and at the proper assembly point. The fourth group after covering a lot of territory arrived back in camp about an hour after the rest. A regimental CPX, which involved both offensive and defensive action, occupied the rest of the week. At 1 PM, Friday, August 4th, pay call was sounded and the officers left soon after for their home stations.

Monday evening, July 31st, a regimental party was given in the camp area with various officers of the 6th Cavalry in attendance. The officers and ladies of the 6th Cavalry entertained the regiment Tuesday evening, August 1st, with a buffet dinner and dance, which was thoroughly enjoyed by all.

The departure from camp was with regrets. Many new friendships were formed. Not enough praise could be given to the entire personnel of the 6th Cavalry for the manner in which they looked after our many needs. It was the unanimous opinion that we had all been at the best training camp we had been privileged to attend.

The regiment congratulates its executive officer, Lieutenant Colonel L. S. N. Phillips, on his graduation from the Command and Staff School this spring. Congratulations also to Captains Schideler and Moores on their well earned promotions. Welcome to Lieutenants Arnold and Schreiber on their joining the regiment.

We await our new unit instructor and the fall training program full of pep and ready to go.

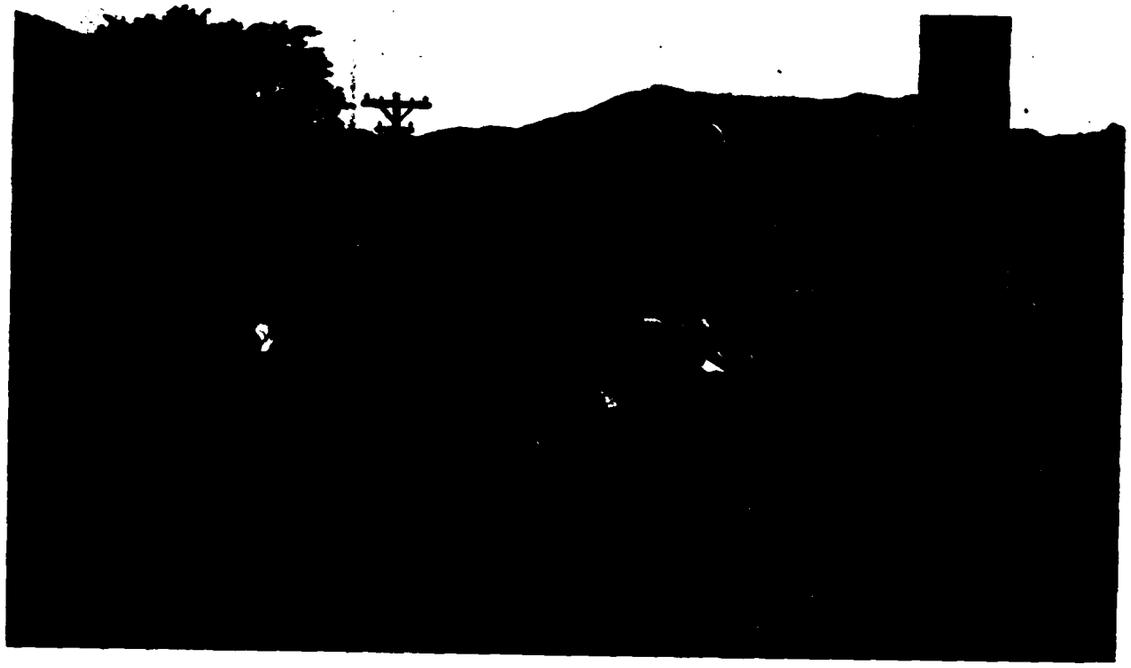
May it be said that there was 100% membership in the Cavalry Association among those officers who were in camp. Need any more be said as to the spirit manifested in the cavalry by the officers in attendance?

* * *

315th Cavalry 1939 Training Camp

Early in June of this year, the map of New England became strangely distorted in the eyes of some hundred and fifty Cavalry Reserve Officers who suddenly decided that all roads must lead at long last to the Field Artillery

Regimental Staff, 315th Cavalry.



Major Leonard Nason gets the 315th Cavalry lined up for "Squadron Attack."

Range which lies fifteen miles east of Fort Ethan Allen, Vermont. For the 315th Cavalry, with sufficient numbers of assigned and attached personnel to officer an *entire brigade*, was once more under orders from the President to be employed upon active duty for an all too brief fortnight of training.

All things considered, the 1939 *rendezvous* of the "315th Horse" may be set down in the annals of the regiment as the eminently successful and constructive period of its instruction. Almost perfect weather throughout the two weeks made it possible to carry out a carefully planned training schedule without resort to even a single substitution because of "inclemency." Moreover, the generous and unstinting coöperation extended at all times by Colonel Roy W. Barker, FA, Commanding Officer of Fort Ethan Allen, and the officers and men of the 7th Artillery and the 3rd Cavalry who had been detailed to the Artillery Range proved invaluable from every standpoint, and was a source of gratification to every Reserve Officer present.

This year's tour of duty will unquestionably stand out in bold relief in the training of the regiment by virtue of the effective emphasis on automatic weapons. Never at any previous camp for Cavalry Reserve Officers in the First Corps Area, even in the days of the now defunct 158th Machine Gun Squadron, has such a comprehensive course of instruction in the mechanical intricacies and tactical employment of machine guns been made available. Thanks to the efforts of Major Thomas J. Heavey, Cavalry, adjutant of the 2nd Military Area and acting regimental instructor, ample supplies of calibre .30 ammunition were provided and every officer had an opportunity to do sufficient firing so that he could really get acquainted with the light and heavy machine guns. Also, most of us for the first time had the chance to appreciate the actual potentialities of the .50 calibre weapon against tanks and mechanized Cavalry, and by firing a few rounds apiece, to realize its astonishing accuracy.

But from the viewpoint of our tactical training as Cavalry officers, the outstanding contribution to our store of military knowledge is a far better understanding of the characteristics and tactical use of the light machine gun which, after all, is the real backbone of Cavalry fire power. Unquestionably, we can now approach the extension course lessons and map problems in our training on inactive status far more intelligently and with increased capacity for visualization as the result of Major Heavey's demonstrations and intensive instruction in the employment of the light machine gun.

By early afternoon of Sunday, June 11th, a good hundred reservists had already reported at the former CCC camp near BM 985 on the NASHVILLE-LEE RIVER ROAD. At 3 o'clock began the usual round of physical examinations, and various Medicos, all highly inquisitive gentlemen, displayed notable interests in regard to weight, blood pressure, sugar, albumen, and other definitely personal matters. As a group we seem to have been chronically healthy, for only one man fell by the wayside. A second contingent, some forty in number, all newly fledged second lieutenants from the graduating classes at Norwich University and Massachusetts State College,

were delayed by their respective Commencements, and did not arrive until two days later on Tuesday when their fortnight's training began.

Although essentially a unit camp of the 315th Cavalry, now allocated exclusively to Massachusetts, the eighty odd officers of that regiment were reinforced by a delegation of thirty from the 316th Cavalry, which is drawn from the other five New England states. In addition, another thirty or so were ordered to duty from the 3rd Cavalry RAI, the 158th Brigade, and the Corps Area Service Command. Thus, with some one hundred and forty in attendance, this camp goes on record as the largest Cavalry group training as yet held in the First Corps Area for reserve officers, and probably the largest in the country.

For the period of training, a provisional regimental organization was established. Lieutenant Colonel Harold C. Thomas, Cav-Res. of Hartford, Connecticut, formerly of the 315th Cavalry and now assigned to the Corps Area Service Command, was the senior Reserve Officer present and assumed command. Major Herbert Sears Potter, regularly assigned as executive officer of the 315th, continued to exercise that function during the camp period. Other staff officers included Captain E. H. Springford, S-1; Captain G. Donald Meserve, S-2; Captain Allen Davis, S-3; and Major Louis H. Bell, S-4. The three squadrons were commanded by Major John E. Davisson, Major Leonard H. Nason, both of the 315th, and Major John Brainerd, 316th Cav. in the order named.

It was a matter of regret to the regiment that Major Howard S. Patterson, the present commanding officer, was unable to attend the 1939 camp.

Three officers from the Regular Cavalry, Lieutenant Colonel Lucien S. Berry, Lieutenant Colonel Harrison Herman, and Major Thomas J. Heavey, were ordered to camp as instructors, and to their advice and guidance may be attributed no small part of the satisfactory results accomplished. Colonel Berry served as camp commander while Major Heavey was adjutant. Incidentally, the ground work was so thoroughly laid out in advance that the duties of the regimental staff, except for the executive and the adjutant, were hardly more than nominal.

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THE SEVENTH CAVALRY BRIGADE IN THE FIRST ARMY MANEUVERS

By Brigadier General Adna R. Chaffee

Commanding the Seventh Cavalry Brigade

As early as December, 1938, information was received to the effect that at least part of the Seventh Cavalry Brigade would engage in the First Army Maneuvers which were scheduled to take place during the month of August, 1939. Whether or not the Brigade would participate in its entirety was predicated upon the amount of funds which were to be made available.

Later on in the winter it was announced that the whole brigade would take part in the maneuvers and that the maneuver area would be in the vicinity of Plattsburg, New York, instead of at Pine Camp as planned originally.

As plans for the maneuvers progressed it was found that the funds allowed the First Army for gasoline and oil expenditures would be insufficient to permit the track and half-track vehicles of the Brigade to march overland to and from the maneuver area, but that an ample allotment for rail movements did exist. Therefore, it would be necessary to ship the above vehicles by rail.

During the first part of June two Brigade Staff Officers made a reconnaissance of the proposed route of march from Fort Knox to the maneuver area. En route the suitability of roads was determined, camp sites were selected and arrangements made for the purchase of supplies. While in the maneuver area the Brigade Commander, who had flown to Plattsburg, and these officers selected the camp site which the Brigade was to occupy during the maneuvers. Although the First Army Supply personnel were not present at Plattsburg so far in advance, it was found possible also to make preliminary contracts for gasoline and oil to be supplied during the maneuvers, and to make arrangements with the railroad authorities for the unloading of the track and half-track vehicles upon arrival at Plattsburg.

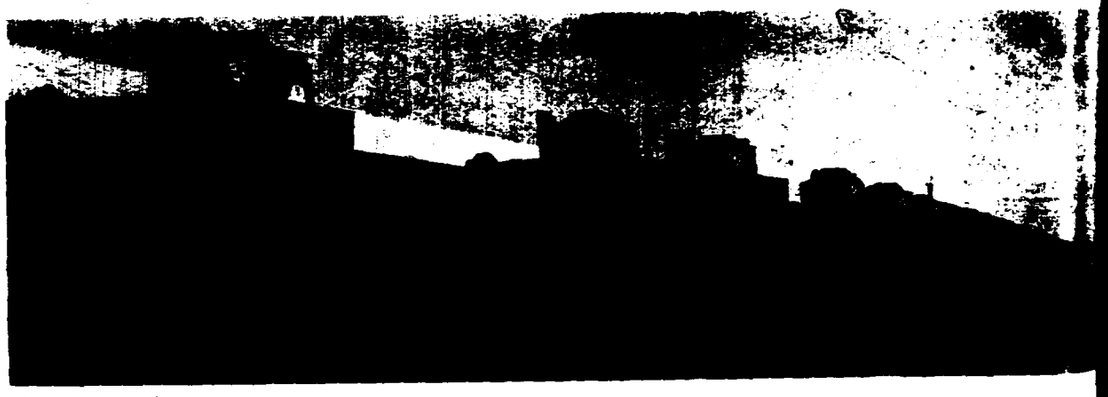
Since the railroad loading facilities at Fort Knox were inadequate for such a movement, it was decided to load all vehicles to be shipped in Louisville. Accordingly, on August 1st, 112 Combat Cars from both cavalry regiments, 21 half-track Machine Gun Personnel Carriers of the 1st Cavalry and 28 Half-track vehicles of the 68th Field Artillery with the eight 75-mm. Howitzers belonging to the two half-track batteries, were marched to Louisville and loaded for shipment on 77 flat cars.

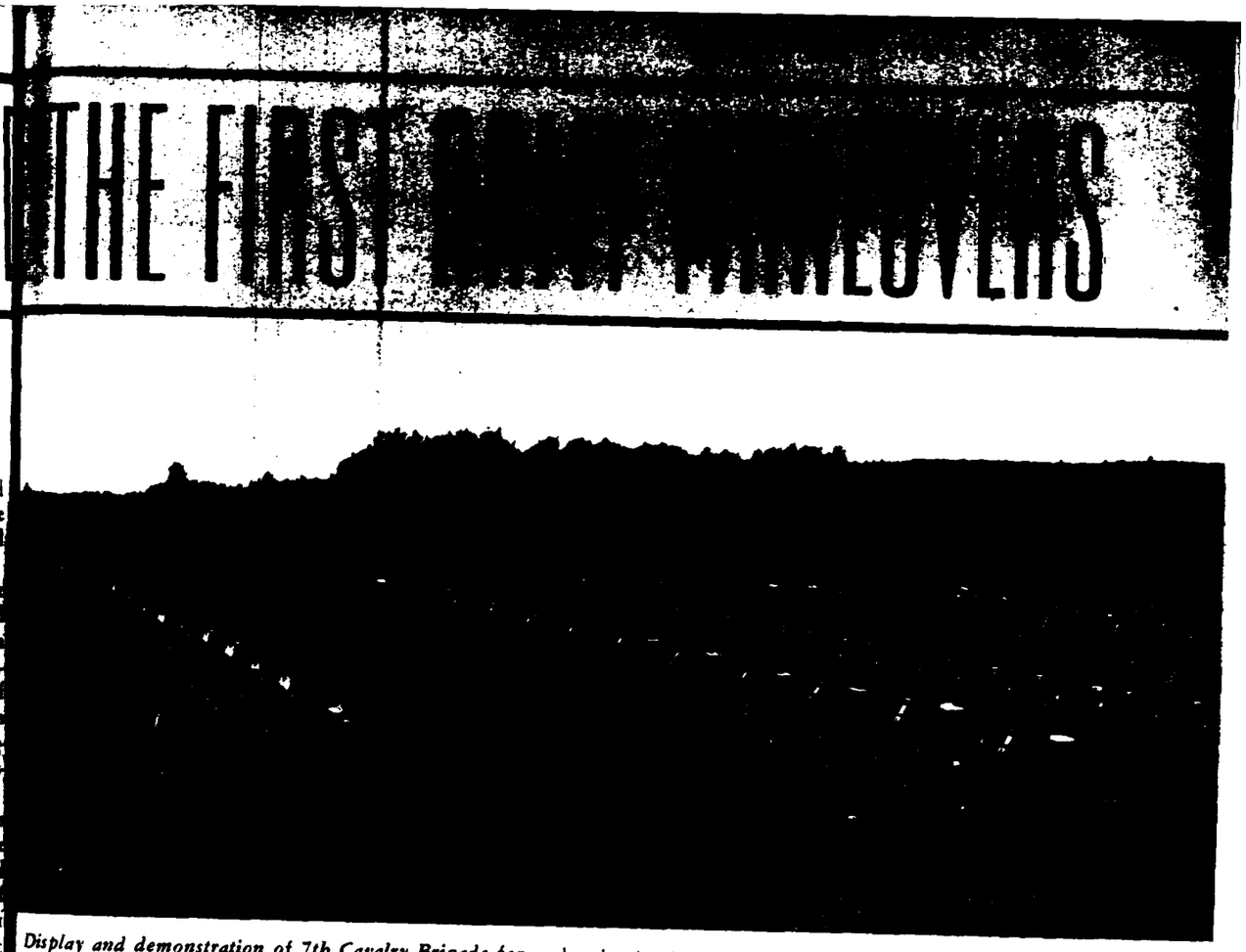
The next day, August 2nd, the Brigade commenced its march overland to the Plattsburg Area with all of the wheeled vehicles, and with the personnel of its track and half-track vehicles carried in trucks. There was a total of 480 vehicles in the column; and the total distance of 1,010 miles was completed in six marches. The strength of the Brigade was approximately 2,300 officers and men. The following was the itinerary:

August 2nd—Fort Knox to Hamilton, Ohio—175 miles.

August 3rd—Hamilton, Ohio, to Ashland, Ohio—175 miles.

Combat cars as they arrived at Jeffersonville Depot, Indiana





Display and demonstration of 7th Cavalry Brigade for 1st Division

August 4th—Ashland, Ohio, to Erie, Pennsylvania—166 Miles.

August 5th—Erie, Pennsylvania—Layover.

August 6th—Erie, Pennsylvania, to Rochester, New York—164 miles.

August 7th—Rochester, New York, to Pine Camp, New York—172 miles.

August 8th—Pine Camp, New York, to Black Brook, New York—145 miles.

Terrain of the Maneuver Area

The Maneuver Area was a strip of land approximately 80 miles from east to west and 30 miles from north to south located west of Lake Champlain. The eastern portion along Lake Champlain was gently rolling country gradually sloping away and upward into the Adirondack Mountains to the west. The mountainous section which constituted about two-thirds of the area, was heavily forested and extremely rough and broken. Three more or less parallel river valleys—the Ausable, Salmon and Saranac ran east and west through the area. (See Sketch No. 1.) All in all this country, with its extremely limited amount of free maneuverable area, surrounded as it was by dominating mountains, and with its numerous rivers and lakes, constituted about as difficult a locality as could have been chosen for mechanized operations.

Units Participating

The following units participated in the 1st Army Maneuvers:

Provisional Blue Corps:
- 1st Division
- 18th Infantry Brigade
- 7th Cavalry Brigade:
  - Brigade Headquarters and Headquarters Troop
  - 1st Cavalry
  - 13th Cavalry
  - 68th Field Artillery
  - 12th Observation Squadron
  - 19th Ordnance Company, Maintenance
  - Co. E, 5th Quartermaster Regiment, Maintenance
  - Detachment Medical Corps
  - Co. E, 1st Engineer Regiment (attached for Maneuvers only).
- 97th Observation Squadron
- 2nd Battalion, 25th Field Artillery.

I Corps:
- 26th Division

43rd Division
II Corps:
27th Division
44th Division
Miscellaneous Army and Corps Troops:
101st Cavalry
101st Signal Battalion
197th Coast Artillery (AA)
212th Coast Artillery (AA)
Battalion 66th Infantry (Light Tanks)
29th Ordnance Company
8th Photo Section
1st Radio Intelligence Company
51st Signal Battalion.

On account of the expansion requirements of the Air Corps there was no combat aviation of any kind available for the maneuvers.

Only arms and equipment as authorized by the Tables of Basic Allowances were used. No assumptions were permitted.

After the arrival in the maneuver area the period August 9th to 20th inclusive was spent by the Brigade in establishing camp and conducting Troop, Squadron, Regimental and Brigade problems. In addition the Brigade gave demonstrations for the 1st Division, the 18th Infantry Brigade, and the 26th, 27th, 43rd and 44th Divisions.

Corps Exercise

August 21st and 22nd

Two separate Corps Exercises were held simultaneously on August 21st and 22nd. One exercise was confined to the western half of the maneuver area and the other to the eastern half. Elements of the 7th Cavalry Brigade participated in both problems. (See Sketch No. 2.)

In the Western Portion

The 18th Brigade, with the mission of preventing the advance of a hostile force into the Saranac and Salmon Valleys, opposed the 1st Division (Motorized) as shown in the sketch. By 9:00 A.M. 21 August the 18th Brigade was heavily pressed.

The 7th Cavalry Brigade (less the 13th Cavalry, reinforced), on being made available to the Commanding General, 18th Brigade, made a rapid 18 mile march from its assembly area via Elsinore, and attacking at 10:00 A.M., secured the high ground north of Redford, closing the Saranac Valley to the hostile advance. Two batteries of the 68th Field Artillery were attached to the 25th Field Artillery to augment the artillery support of the 18th Brigade. Initially, mechanized reconnaissance elements only operated on the south of the 18th Brigade, the bulk of the Mechanized Brigade being held on the north flank.

During the afternoon it was found that the hostile main effort had developed on the south and was pushing east along the Salmon River Valley. The Commanding General, 7th Cavalry Brigade, was directed to leave a strong detachment in the Saranac Valley to hold the line Clark Hill-Pickets Corners and to move rapidly with the remainder of the command and check the hostile advance on the south flank.

After initial successes around Peasleyville, the situation became stabilized at dark. About midnight, persistent infiltration by the enemy through the wooded rough slopes flanking the valley threatened our artillery position, and the Brigade withdrew four miles to the east to a delaying position which it was occupying at the termination of the exercise. From this position it was prepared to counter-attack to the south.

In the Eastern Portion

During the same period the 13th Cavalry, with a battery of field artillery and detachments of engineers, air, maintenance and Medical Corps attached, was operating with the II Corps against the I Corps. The mission of each Corps was to secure a bridgehead over the Saranac River. (See Sketch No. 2.)

The 13th Cavalry (reinforced) with the 101st Cavalry attached, was released from its assembly area west of Schuyler Falls, one hour after the infantry was allowed to move. It quickly overran advance hostile motorized elements and seizing the high ground northwest of Beckwith School, held this dominating terrain until relieved by friendly infantry sent forward in trucks. It then moved to the northwest and operated against a hostile force which was supported by tanks in the vicinity of Woods Mills.

After dark the regiment withdrew into a night bivouac. At dawn it moved again to the north and located the hostile main effort advancing southwest against the I Corps which had succeeded in securing crossings over the Saranac River and was marching to the north. One squadron was dispatched immediately toward Woods Mills to assist friendly infantry in delaying the hostile advance at that point. The remainder of the regiment, consisting of one squadron of combat cars, part of the Machine Gun Troop, the Mortar Platoon, with one battery of field artillery and a regiment of horse cavalry (less 1 squadron) attached, made a coördinated surprise attack against the exposed west flank of the hostile marching column just as the exercise terminated.

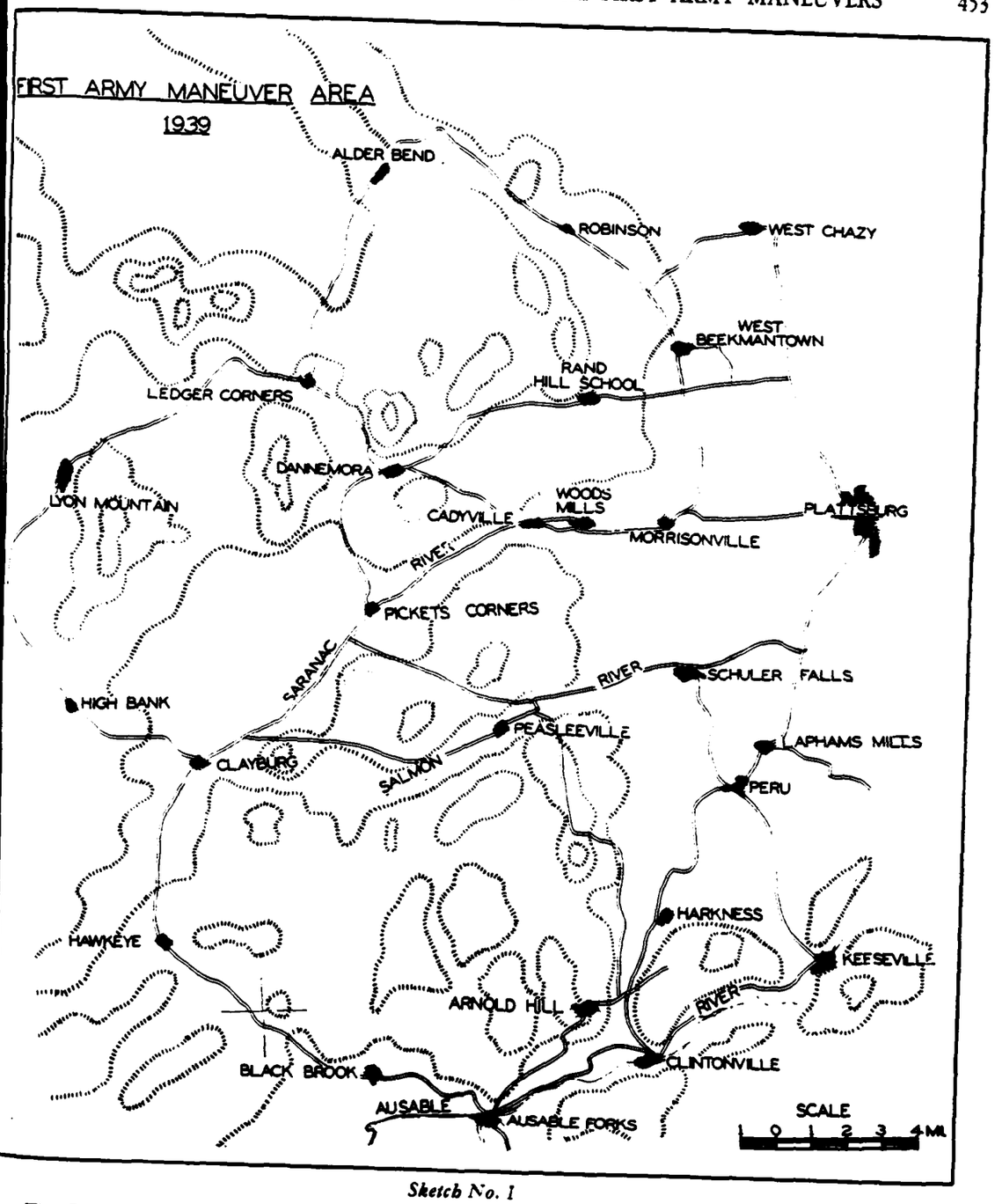
Army Exercise—23-25 August, 1930

(See Sketch No. 3)

General Situation: Without going into all the background, the General Situation for the Army Maneuvers was as follows:

A Black Army of two Corps which had penetrated to the west shore of Lake Champlain was preparing for further advance to the west. The Blue 18th Brigade which had been gradually falling back in front of the Black Force, was reinforced by the highly motorized 1st Division and a Provisional Corps was formed.

At the start of the maneuver the 18th Brigade was near Saranac and the 1st Division in the region south of Redford. The Corps decided to march to the east and attack to gain the high ground on the line Woods Mills—Ma-

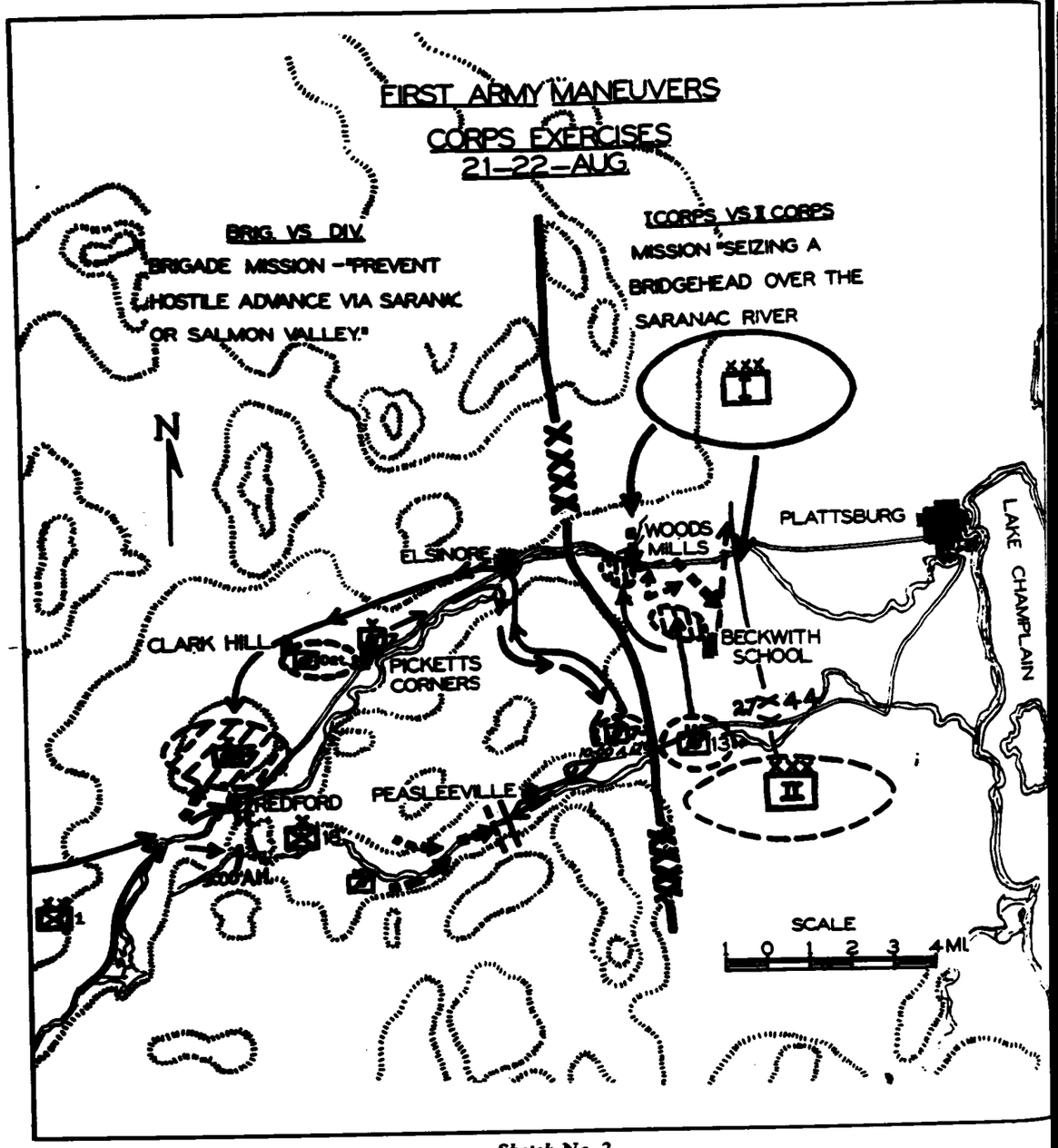


Sketch No. 1

ma. The Corps moved out at 12:00 Noon, 23 August. lements of the 1st Division in motors were soon near easleyville.

Under the conditions of the problem, the 7th Cavalry igade arrived at Black Brook at 12:00 Noon, 23 August d came under the control of the Provisional Corps. The ission given the 7th Cavalry Brigade was to march to the northeast prepared to attack the hostile left (south) flank or rear.

As to the operation of the 7th Cavalry Brigade in the Army Maneuver, it is thought that it would be more interesting for this account to come from a source other than a member of the Brigade. Major Rufus S. Ramey, Cavalry, an instructor at the Command and General Staff



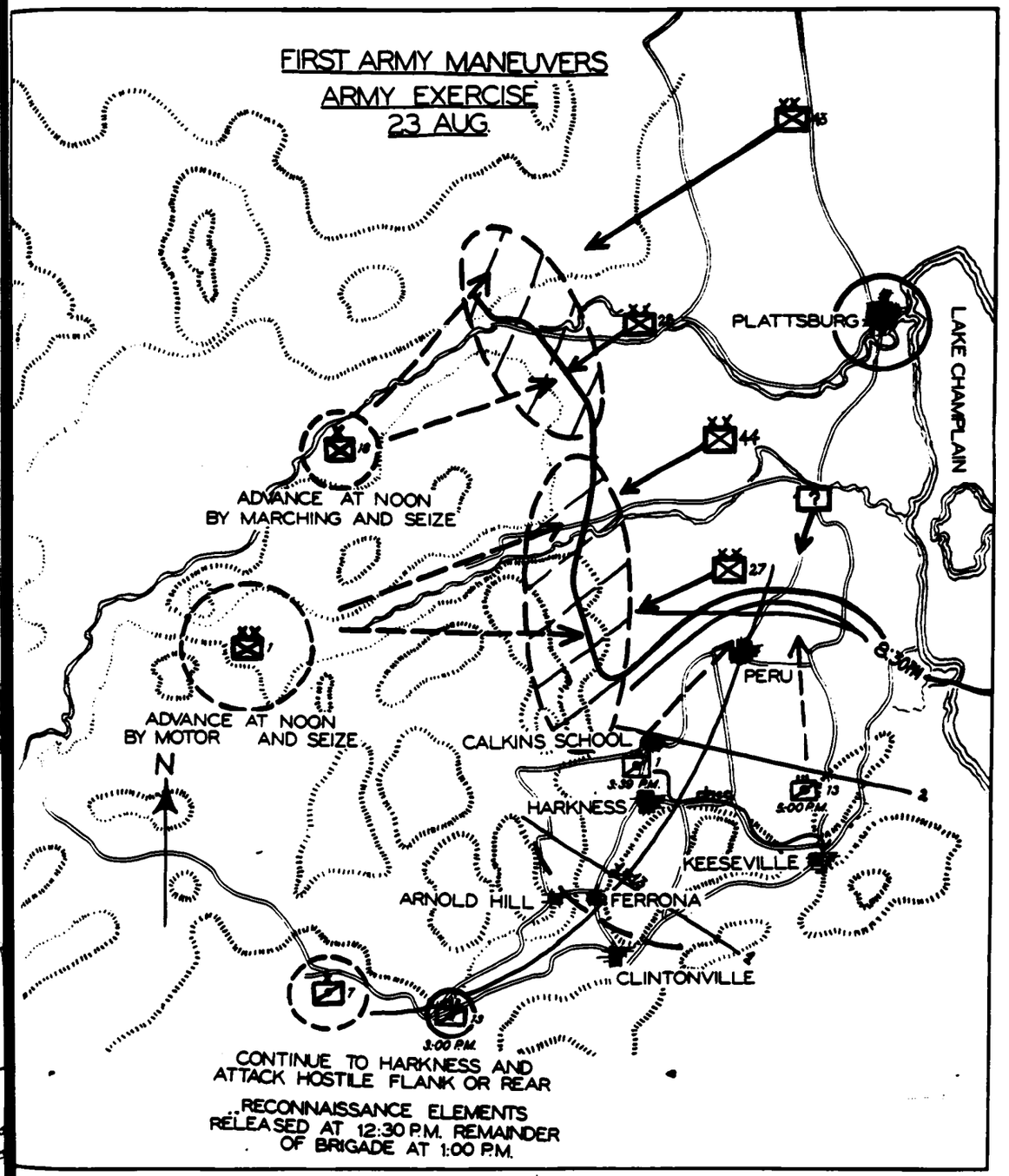
Sketch No. 2

School, was detailed by the War Department for duty both as an umpire and as an observer, and has kindly given his consent for the following extract from his report to be quoted in this article:

"It had been anticipated that Black would make a strong thrust north of the Saranac. Since a river crossing in the vicinity of Elsinore was required as a training exercise it became necessary to stop, arbitrarily, the rapid advance of elements of the 18th Infantry Brigade north of the Saranac. Immediately south of that river, however, the Black 101st Cavalry moved rapidly to the west, gain contact with the 18th Infantry Brigade and very effectiv delayed its advance throughout the afternoon.

"On its front the 1st Division made very effective of motorized detachments by way of the Salmon Ri Valley, Patton School and Calkins School, at which po junction with the 7th Cavalry Brigade was establish about 2:30 P.M., 23 August. (See Sketch No. 3.)

"In its front the 7th Cavalry Brigade reconnaissan elements quickly made contact with Black motorized



Sketch No. 3

chments in the vicinity of CLINTONVILLE, to the orth thereof and near HARKNESS: and developed the ct that the CLINTONVILLE-HARKNESS defile was ffectively blocked by demolitions, where Black had apparently concentrated his antitank efforts. However, the arallel trails to the east and west of this defile, over COLD SPRING MOUNTAIN and ARNOLD HILL were neglected and permitted the mechanized cavalry to debouch into the more favorable terrain to the northeast of HARKNESS.

"While reconnaissance elements had cleared the CLINTONVILLE-KEESEVILLE defile of hostile motorized

and anticank detachments and were operating well to the north toward LAPHAM MILLS, the Mechanized Brigade Commander determined late in the afternoon to concentrate his effort to the northeast towards PERU and eventually against the south flank and rear of the hostile main force. The afternoon had seen a succession of isolated actions against enemy delaying detachments operating in the almost continuous defiles of this section.

"Shortly before dark on the 23rd, the 13th Cavalry was moving to the northeast of COLD SPRING MOUNTAIN and covering the brigade right flank by detachments in and north of KEESEVILLE. The 1st Cavalry, by a double envelopment was successfully occupying PERU. At this time (about 8:00 P.M.) the Commanding General, 7th Cavalry, by means of staff officers, directed that the combat elements withdraw at once, and move without lights, to concealed bivouacs in the general area: CLINTONVILLE-ARNOLD HILL-RJ 984-ROGERS for reservicing, rest and feeding in preparation for the following day's operations. (See Sketch No. 4.) The bivouac area was outposted and liaison with 1st Division maintained.

"Instructions had already been given by messengers for kitchen and fuel trucks to proceed to the bivouac areas when orders were received (as the troops were arriving in the bivouac areas) directing the Brigade to move to the west, thence to the north flank (north of the SARANAC RIVER) prepared for new operations at daylight 24 August. This movement called for the assembly of the brigade over difficult mountain trails, a night march of some 60 miles, all without lights, and after some 9 hours of strenuous operations.

"Previous orders were countermanded and new orders carried by staff officers. Assembly of march serials was completed and the march initiated at 11:15 P.M. (preceded by reconnaissance) with an amazing lack of confusion and minimum of delay. (See Sketch No. 4.)

"About 2:00 A.M., 24 August the Brigade was halted in march column between REDFORD and SILVER LAKE; kitchen and fuel trucks joined organizations to provide a hot meal and refuel. The march was resumed about 2:45 A.M. over a narrow road along the SARANAC, which was rendered hazardous by frequent temporary bridges and fills on a road which flanked the river.

"At SARANAC, regimental and similar commanders joined the Brigade Commander who issued instructions calling for the following:

"The Brigade to march via PICKETTS CORNERS to DANNEMORA. From there the Brigade, less the 1st Cavalry, reinforced by a battery of artillery and platoon of engineers, to march on RAND HILL; the 1st Cavalry to turn north at DANNEMORA, move via LEDGER CORNER on the line WEST BEEKMANTOWN-BEEKMANTOWN where it would report arrival and receive orders (a further wide swing of about 30 miles).

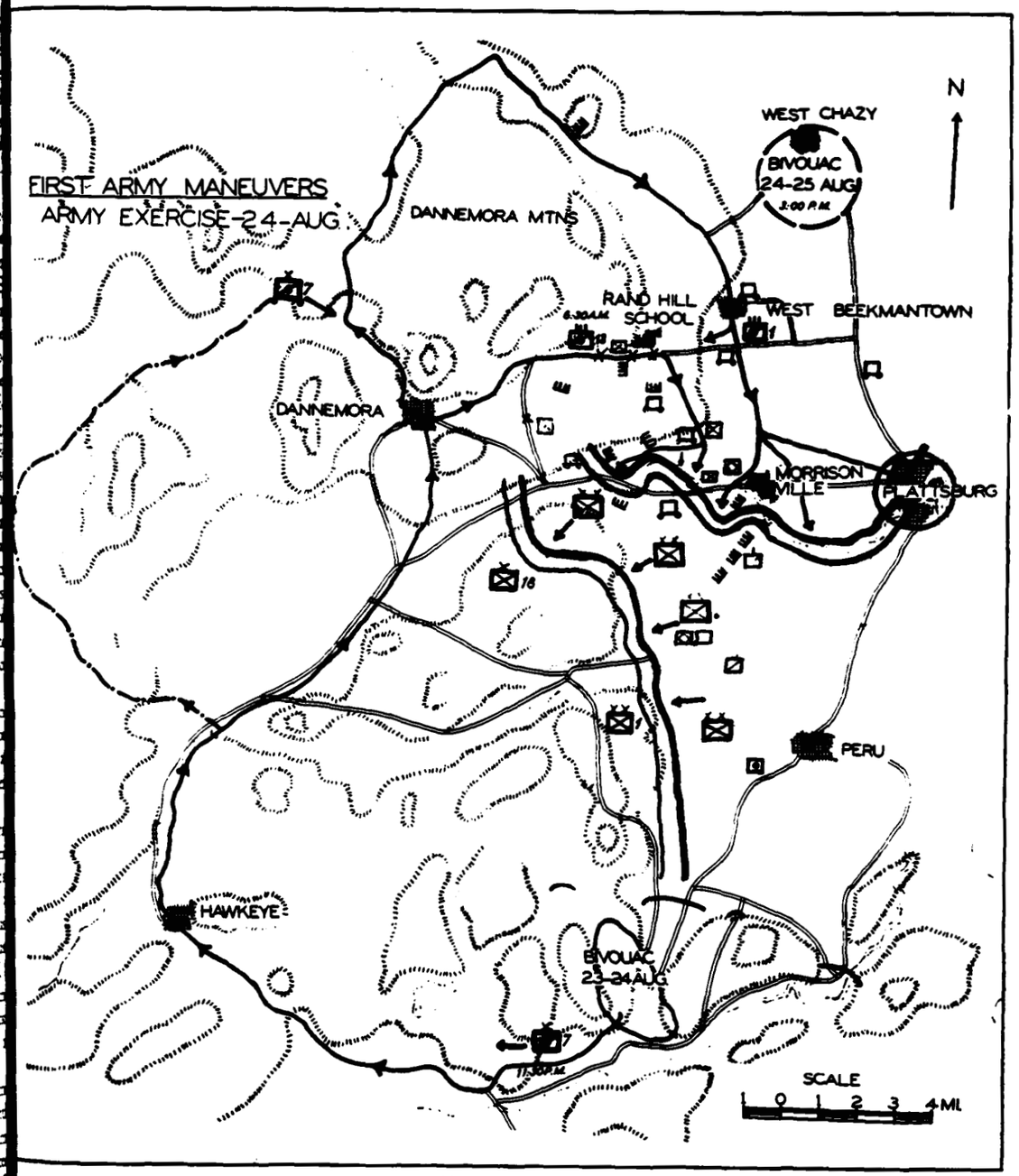
"On resumption of the march there occurred one of those contretemps which can so easily occur at night with all troops and especially with fast moving columns. A guide stationed at a cross roads near PICKETTS CORNERS became confused and directed part of the column on the wrong road. It was some time before the error was discovered and as a consequence the planned operation was delayed for more than one hour. Elements of the Brigade which had taken the correct route reached DANNEMORA at 5:15 A.M., but it was after 6:00 A.M. before the remainder of the column arrived.

"The unfortunate delay had two immediate consequences. Information was received about 6:30 A.M. that Black troops were crossing the SARANAC on two bridges to the west of ELSINORE and CADYVILLE respectively and that there was a large truck movement in the same vicinity. (This was the 43rd Division, the Black Army reserve, which was undertaking an envelopment directed against the north flank and rear of the Blue position.) The 13th Cavalry moved east from DANNEMORA in the direction of the hostile river crossings. About 2 miles east of DANNEMORA progress was effectively halted by hostile demolitions and anti-tank gun positions hastily provided after daylight. Earlier an armored car platoon had been in possession of the defile at CR 1161 (over CANFIELD BROOK) but for some reason had been withdrawn. As a consequence the advance of the 13th Cavalry for the next two hours was a succession of limited objective flanking actions against antitank dispositions in a continuous defile. Combined trains and service parks were halted at DANNEMORA where they operated until late in the afternoon of the 24th.

"By 9:00 A.M. the 13th Cavalry had succeeded in pushing to RAND HILL but was held up by a Black battalion strongly supported by artillery. The 1st Cavalry was ordered to assist by flanking action from the east, then resume its advance.

"Following the combined attack to complete the occupation of RAND HILL, a terrain feature which dominated the entire northeast of the SARANAC, the 1st Cavalry was directed to seize the high ground about 2 miles northeast of WEST PLATTSBURG in order to assist the movement of the 13th Cavalry to the southeast (in a zone immediately east of SANDBURN BROOK). There was another purpose behind this plan—to clear the area in order to permit the movement of the fuel trucks which were urgently required for the replenishment of fuel.

"By the middle of the morning it was apparent that the entire area north of the SARANAC was infested with Black anti-tank detachments ranging from single 75-mm guns supported by infantry to entire batteries supported by battalions of infantry. These detachments were instituting road blocks and completing assumed demolitions on the frequent defiles. From this time to the end of the maneuver the impression was gained that Black efforts were directed more to protection against the mechanized cavalry than to any offensive action. Actually it is believed that close to fifty per cent of the Black 75-mm. artillery was dispersed as antitank guns in his rear areas. By 10 A.M., the Blue Mechanized Cavalry was deep in the



Sketch No. 4

ack rear area, moving rapidly from north to south across e rear installations.

By 12:30 P.M., 24 August, the main body of the 1st valry had reached the road: MORRISONVILLE-ATTSBURG, with reconnaissance elements south of e SARANAC (which was readily fordable in a great any places southeast of MORRISONVILLE). About 12:30 P.M. the 1st Cavalry surprised a Black tank company going into what would have been an excellent ambush. In the ensuing action, the hostile tanks were ruled out. *Undoubtedly this head-on engagement would have been costly to both groups of vehicles.*

"By this time (shortly after noon the 24th) the Mechanized Cavalry Brigade had been continuously in action

Cadets at West Point inspecting equipment of the 7th Cavalry Brigade

since 1:00 P.M. the preceding day. Only part of the units had had one hasty meal. Necessary refueling and maintenance had been most limited. All ranks, but especially combat vehicle drivers, were fast approaching exhaustion though still filled with admirable enthusiasm and aggressiveness. Accordingly, orders were dispatched to withdraw all elements of the Brigade well to the north to the vicinity of WEST CHAZY for rest, reorganization and refueling. (Actually it is believed that this move was in conformity with the desires of the Maneuver Director in order to prevent the complete collapse of the remaining scheduled exercises—the extension of the Black envelopment combined with a night attack, Blue night withdrawal, and a daylight attack by Black on the 25th.) (See Sketch No. 4.)

"The 7th Cavalry Brigade completed its assembly in the WEST CHAZY area late in the afternoon in a torrential rain, trains joined units, all elements refuelled, the area was outposted, much needed rest was gained, and plans were announced for a resumption of the advance early the 25 August.

"The plan of operations for the 25 August provided:

"The Brigade to advance to the south, force a crossing of the SARANAC, seize the high ground as far as the SALMON RIVER, then turn to the southwest to strike the Black left flank and rear. (See Sketch No. 5.)

"Regiments to advance abreast in more than one column, the 13th Cavalry on the right; advance guards to cross the outpost line at 5:00 A.M.; reconnaissance detachments to move at 2:00 A.M.

"One Combat Car Troop 13th Cavalry to follow the 1st Cavalry as reserve.

"Trains to assemble and await orders in bivouac area (vicinity of WEST CHAZY).

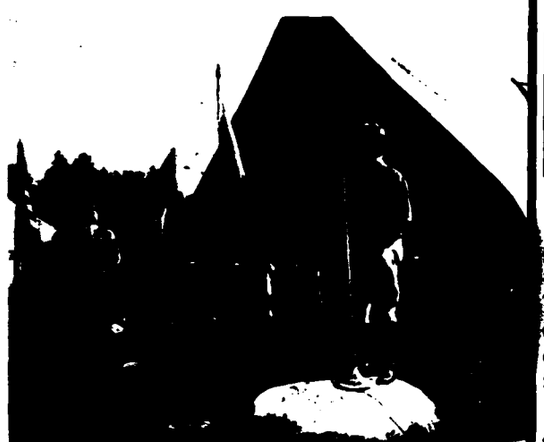
"The advance to the south was initiated as planned. By daylight, reconnaissance elements had crossed and were south of the SARANAC. North of the SARANAC the main Brigade columns encountered frequent antitank 75-mm. guns and groups of machine guns which were promptly reduced by flanking maneuver and by artillery fire. By 6:30 A.M. the 1st Cavalry was crossing the SARANAC at the bridge immediately northeast of BM 294 (about 5 miles southwest of PLATTSBURG). Shortly afterwards the 13th Cavalry encountered serious resistance at the bridge at MORRISONVILLE (consisting of two batteries of 75-mm. guns and machine guns which was being reduced when the exercise terminated. Here at MORRISONVILLE the 1st Cavalry surprised and captured important Black Army headquarters installations. The 1st Cavalry and reconnaissance elements were moving to the south of the SARANAC deep in the Black rear. The exercise was terminated shortly after 7:00 A.M. 25 August.

"Since the 7th Cavalry Brigade assembled promptly and marched immediately across the Black rear in returning to the base camp at BLACK BROOK, an opportunity was presented to observe Black protective dispositions in his rear areas. In addition to the bridge defense at MORRISONVILLE, there was a large concentration of all arms just north of BECKWITH SCHOOL with 75-mm. guns disposed for antitank defense. A similar disposition was observed northwest of SCHUYLER FALLS and frequent 75-mm. guns and infantry detachments observed as far south as PERU. This is mentioned to indicate the psychological effect of the mechanized cavalry as well as to emphasize the dispersed nature of the Black antitank defense.

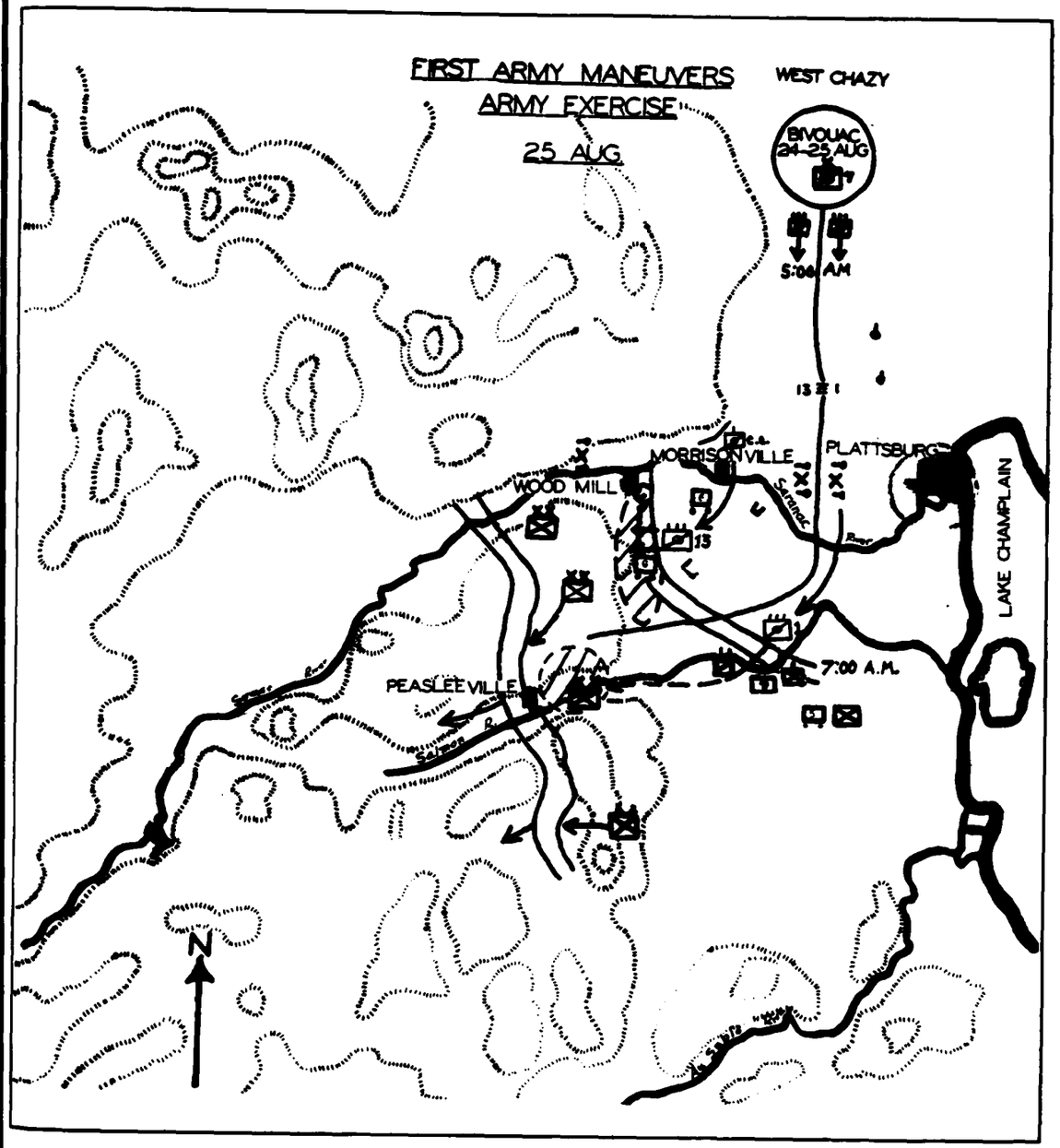
"The following comments on the Army Exercise are deemed important:

"The rapid night march of the 7th Cavalry Brigade without lights, from the south to the north flank, demonstrated the great strategical mobility and value of this unit.

"Continuously demonstrated was the serious need for reconnaissance and support echelon for the Mechanized Cavalry Brigade—to consist of reconnaissance elements and a fire support group of machine gun and rifle units. Such a composite unit would provide the necessary bri-



Lieutenant General Drum addresses Officers and men of the 7th Cavalry Brigade



Sketch No. 5

gade reconnaissance elements, protection for trains, and required mobile fire support.

"Night movement of the Brigade without lights (except for concealed indirect rear wheel illumination) demonstrated that rates as high as 15 miles per hour on fair roads (except in dust) is feasible.

While the total lack of suitable antitank weapons exercised a decided influence, yet one lesson stood out—that was the necessity for careful coördination of antitank protection and the maintaining of mobile antitank units. Piecemeal demolitions, road blocks and dispersal of antitank means is entirely ineffective.

"The rapidity of mechanized cavalry action, the speed with which units energetically lead may disperse against targets of opportunity, was recognized by the Brigade Commander who guarded against such action by assignment of successive objectives and frequent phase lines from which units reported, then advanced therefrom only on Brigade orders.

"Experience in these maneuvers demonstrated the need

Combat car in action during maneuvers

for a greater number of trained assistants in the operations section of Brigade Headquarters who may be used as liaison officers. The kaleidoscopic change of the situation in mechanized cavalry operations makes necessary the dispatch of orders, frequently by officer messenger. Also, adequate, timely and correct appreciation of the existing situation can be gained only through staff officers' conferences with advance commanders and reports of observations.

"While the maximum mobility and effectiveness of mechanized cavalry is only obtained in favorable terrain, the broken terrain of the PLATTSBURG area demonstrated that terrain must be difficult in the extreme to constitute a complete barrier to mechanized units.

"The umpiring of mechanized cavalry operations is a difficult problem. In this maneuver, umpires were provided down to include the squadron. It is believed necessary that sufficient umpires be provided with mechanized cavalry to include the troop unit because of the many isolated actions which develop in reconnaissance and in maneuver against antitank dispositions.

"Similarly umpire communications with umpire headquarters and contact umpires is a difficult problem in mechanized cavalry operations. Pigeons were used by the senior brigade unit umpire as a means of communication with Umpire Headquarters.

"In conclusion, it is desired to pay tribute to the high degree of training and leadership demonstrated during the operations of the 7th Cavalry Brigade. The enthusiasm, the devotion, and efficiency of all ranks and units, displayed throughout an arduous period of one month, was an inspiration. The existing mechanized cavalry brigade is an extremely well trained unit which, in the First Army Maneuvers, forcibly demonstrated its effectiveness in mobile exercises—though operations were often in terrain far from favorable to the exploitation of mechanized cavalry capabilities."

During the maneuvers, Mayor La Guardia of New York City made a request for the presence of the Brigade at the New York World's Fair. This request was approved by the War Department and on August 28th, three days after the close of the Maneuvers, the Brigade, including its track and half-track vehicles, commenced its march of 350 miles to New York City where it was to camp just outside of the World's Fair. En route it passed through West Point where it was reviewed and inspected.

The entire column of over 600 vehicles was received in New York City by the Mayor and Lieutenant General Drum. From the George Washington Bridge it marched down the west side of New York, north up Broadway and Fifth Avenue and over the Queensboro Bridge.

Leaving the camp at the World's Fair at 1:00 A.M., September 8th, after again loading its track and half-track vehicles, the Brigade reached its home station, Fort Knox, on the 13th of September.

During the last 36 hours of the march the brigade travelled 390 miles. This included a short bivouac at Hamilton, Ohio, and five-hour halt in Jeffersonville to unload its track vehicles and reorganize. The last 40 miles of the journey were made by the brigade with all its vehicles.

Upon arrival at its home station, the Brigade, exclusive of maneuver operations, had marched a distance of 2,235 miles in 15 marching days.

Conclusions

Mechanized Cavalry is a highly technical weapon, and in order to function efficiently requires experienced, well trained personnel in all grades. Due to its high mobility and great radius of operation, its supporting troops must be familiar with its tactics and technique. This familiarity can be attained only by constant combined training.

Mechanized Cavalry is a powerful striking force capable of operating effectively even over very difficult terrain. It is also capable of making long strategic moves rapidly under cover of darkness, and without lights.

A Mechanized Cavalry Brigade should be employed as a combat team in order to realize the full value from its air service, ground reconnaissance, combat car, machine gun and artillery elements. It is a mistake to divide the Brigade and a greater mistake to divide the regiment which is the basic combat unit.

Mechanized Cavalry should be assigned to those missions of mobile combat which are most important to the success of the Army. Its successes or failures are capable of affecting the operation of the entire Army.

Mechanized Cavalry must be preceded by adequate reconnaissance, both ground and air in order to locate obstacles, ambushes and anti-mechanized weapons. Likewise it must be covered by security detachments to prevent surprise and provide freedom of action when hostile forces are encountered.

Mechanized Cavalry must leave roads and move cross country when within the range of hostile artillery.

Mechanized Cavalry should not be assigned the mission of holding extensive sectors during darkness, particularly in terrain which severely restricts vehicular maneuver. It should be relieved at dusk and withdrawn for the purpose of feeding the personnel and the refueling and maintenance of vehicles. Under cover of darkness it should then be moved to a point from which it can launch an offensive blow at daylight. *The personal rather than the mechanical factor controls the limit of endurance.*

Mechanized Cavalry gains surprise by:

Secret marches at night without lights.

By the use of feints and demonstrations while the direction of the main effort is kept concealed.

By rapid movement even though observed. Time and space factors often do not permit the enemy to make or change dispositions in time to counter a mechanized thrust.

Mechanized Cavalry, due to its great fire power, rapidity of action and striking ability, has a decidedly adverse effect on the morale of other ground troops who realize the comparative ineffectiveness of their small arms fire against rapidly moving armored troops.

Not only infantry regiments and divisions, but the rear areas of Corps and Armies must possess adequate means for anti-mechanized defense.

In order to provide for defense against the threat of the Mechanized Brigade in the recent maneuvers the Black Army was forced to use its organic artillery. This resulted in the supporting fire of many battalions being lost to the front line units at times when their fire support was sorely needed.

When infantry is equipped with adequate means for anti-mechanized defense, and makes dispositions which would afford protection against mechanized attacks from any direction, such as a cordon defense, it is in danger of losing its mobility and becoming defensive minded. The same may be said of horse cavalry.

Infantry tank units do not possess the auxiliary means of reconnaissance and support to successfully oppose a strong force of mechanized cavalry.

Reconnaissance from unarmored vehicles is often of doubtful value and very liable to be most costly in men and vehicles.

The majority of the road blocks encountered during the maneuvers were not sufficiently extensive or defended strongly enough to be more than temporarily effective. The bulk of the mobile anti-mechanized units should be held centrally located and in readiness for quick dispatch and employment in previously reconnoitered positions upon receipt of timely information from air and ground reconnaissance.

The best defense against a powerful mechanized cavalry is a similar mechanized unit.

Both horse cavalry and motorized infantry are ideally suited to support mechanized cavalry and to operate in conjunction with it. Horse Cavalry is capable of operating more rapidly when the distance is short; motorized infantry when the distance involved is long.

Prior to September, 1939, the question as to what part mechanization was destined to play in large scale modern warfare was largely an academic one. This question, however, was answered most conclusively on the battlefields of Poland within a few days after the close of the 1st Army Maneuvers, when the German Army, using its mechanized divisions so successfully and decisively conquered a valiant army of a million men in the amazingly short period of two weeks. The lessons brought out by the maneuvers of the 1st Army and other such maneuvers have been confirmed by war.

An Observer at The First Army Maneuvers

By MAJOR T. J. HEAVEY, *Cavalry*

Corps Exercise, August 21st–22d, The Western Portion 1st Division (Blue) vs. 18th Brigade (Black) reinforced by the 7th Cavalry Brigade.

In submitting any comments, it is well to keep in mind the old saying, that, hindsight is far easier than foresight. No criticism is in order, nor intended. However, it is felt that some tactical principles may be reviewed.

To begin with, the result of the attack ordered on the north flank, ordered *in advance of the development of the situation*, resulted in a blow in the air. The Blue troops north of the river, at the time the attack order was issued, had proceeded south of the river by the time the mechanized attack was launched. But one company remained north of the river, and their primary mission was to hold the bridges. Regardless of the advance of the attack, the bridges at REDFORD and SARANAC were still denied to any Black units, as they had been prepared for destruction.

Prior to the actual attack on the north flank, the combat car elements of the 1st Cavalry were assembled stationary, for a period of about thirty-five minutes, while the attack order was issued. During this entire time they were under the alleged fire of some seven Blue batteries of artillery, firing with the assistance of air observation. Incidentally this situation was responsible for the umpire decision of but "partial" success. The lesson, I think, indicated here is the extreme risk taken by a unit of this type which halts for any considerable period of time within artillery range in a close formation. It is practically impossible to insure that a maneuver of a unit this size will not be picked up. Even without air observation, which was present in this case, the high dust clouds that accompanied the movement, whenever it was off hard surface roads, were plainly visible for miles. It appears that speed of action when an attack is imminent is essential for the success of a mechanized attack.

The breaking up of the combat team of the mechanized unit in this maneuver greatly hindered its possible effectiveness. Obviously, without any horse cavalry for flank protection the Black commander had no other choice. But it resulted in a piecemeal action, which although of great assistance on the south flank in the afternoon attack,

still denied the Black commander the fine opportunity of striking a powerful and even decisive blow against what probably would have turned out to be a too impetuous advance of motorized infantry.

The value of mechanized units on defensive missions *in darkness* seemed to be highly contentious. A number of umpires labored under difficulties in evaluating the situations that arose. Some held that it was impossible for infiltrating infantry to "capture" mechanized vehicles in the dark. Others simply ruled that the mechanized vehicles were captured, and being senior umpires, this decision held. The development of tactical principles on this moot question seem to be in order. It is my opinion that a reasonable number of bayonets and pistols are certainly a strong counter to the limited number of "Tommy guns" that can be utilized in the pitch darkness. If you add to the bayonets and pistols some gasoline bottles, a l'espagnol, as were vociferously claimed by the infiltrating infantry in some cases, the argument simply gets beyond control. Anyhow, on both flanks, the mechanized units withdrew, and I am under the impression that it was not by umpire direction, but a matter of choice. Possibly, I am again in error. But I do see practicable advantages to the accompanying of any mechanized unit on night security missions with some additional dismounted men.

The question of terrain comes in. The better terrain for the operation of mechanized units was north of the SARANAC river. Inasmuch as the 1st Division had little anti-mechanization weapons other than its own artillery, this would *not* be the obvious place for them to operate, and the Blue division commander apparently had the same thought. While the terrain south of the river was tough going, the *capability* of Blue action here, I believe, should have been given weighty consideration before the mechanized units were committed to the north. But I candidly admit that this is "hindsight" at its worst.

There were some other impressions gained from observing this maneuver. It should be mentioned that the 1st Division is a homogeneous unit, and had been able, prior to the maneuvers, to get some staff training. The smooth operation of the entire combat team was edifying. Orders were very quickly issued and distributed; incidentally, necessary duplicating means were available and worked to perfection. The orders were short, concise, and usually accompanied by overlays that were in sufficient quantity for proper distribution. The use of motor transportation for troop movements functioned without trouble, or confusion. Also, it may be mentioned that this division was completely motorized according to present tables. On the other hand, the 18th Brigade was still our old type infantry. When the necessary transportation for housekeeping needs were taken, none was left for tactical purposes. The brigade was assembled for the maneuvers and few facilities existed for staff training. The value of teamwork and familiarity of staff officers with units, etc., was evidenced by the results of the maneuver. The speed of operation of the 1st Division was greatly underestimated by the 18th Brigade initially, but they did a great job in extricating themselves from an intolerable situation in actually getting away with a daylight withdrawal in the face of an enemy force of twice their strength, which had the tremendous advantage in mobility due to trucks. The conduct of the advance at night, and the night attack by the three battalions of the 1st Division was exemplary. Contrary to the written documents on this type operation, units did not get badly mixed up, and were ready to push on in good order at dawn, and they did this over very rough ground. The maneuver also was one of the rare ones without any artificial control. After the initial situation the action was free to develop as the situations arose, and was of far greater instructional value than the later "controlled" maneuver.

During this exercise there was a squadron of regular Cavalry on "housekeeping" duty at the umpires' camp near Schuyler Falls. Perhaps I may be pardoned by thinking of them in connection with this exercise. After all it was not a "pay" problem for either side, nor for me, so flights of fancy I trust are in order. Had the CG, 18th Brigade, had such a force, I am pretty sure he would have followed the plan of action I roughly outline. (In fact, during the exercise I overheard this General make some remarks as to what he could do IF he had horse Cavalry . . . but I refrain from any direct quotation, inasmuch as the language was just a bit more frank than is usually printed.) Of course the horse Cavalry, once contact was made would have been on the flanks of the 18th Brigade, with some scout cars further out. A small horse cavalry force on the north flank would have been just as valuable to the 18th Brigade as the blow in the air of the mechanized unit, in so far as the main action of the Blue defense was considered. The bulk of the squadron would beyond a reasonable doubt have been on the south flank. The horse units would not have been any great help in stemming the quick and violent thrust of the 1st Division initially, but I can not conceive of the movement around the south of the 18th Brigade by motors IF the squadron (less a troop) had been here. There was but one road, woods on both sides, and sufficient clearings to give ideal delaying and ambush actions. The advance, of course, could have been made in due time, but very little of it by motor. Now, having delayed this advance, as I feel sure would have happened, I could not keep from picturing the possibilities of utilizing the entire mechanized force to smack into this advance on the south just as it got well going in the comparatively narrow Salmon river valley. One combat car troop did strike it at 3:00 PM. and with considerable success. What the outcome would have been had the entire regiment, supported by the three batteries, been present is left to your individual imagination. I am glad to say that my imagination is very vivid on this point.

Another thought came to me during the night phase of this exercise. I have previously mentioned that the mechanized units withdrew on both flanks during darkness under the pressure of the infiltration tactics of the 1st Division. Had the horse units been available, of course they also would have pulled back, but they would have maintained contact and had a general picture to present the mechanized units at dawn. And I believe that the mechanized units, less perhaps their artillery, should have been well back anyhow. As dawn broke, August 22d, the possibilities of a quick push against the south flank of the 1st Division by a coördinated mechanized attack had almost limitless possibilities. Terrain was favorable, the main attack of the 1st Division would have been taken in flank, and again my imagination gets out of hand. In the problem as it worked out, this counterattack as indicated was actually ordered by the commander of the 18th Brigade. It was fortunate in a way that it did not take place. The assembly point of the mechanized units had been spotted by air observation at dawn, and its advance would have been met by a deluge of artillery fire. From eight to ten 75-mm. guns were quickly rushed up for anti-tank direct fire missions, and a battalion of Infantry in trucks, were in position to meet any mechanized advance shortly after daylight. Had the attack been launched as ordered it would have been quite a scrap. No element of surprise was possible, and the bulk of the 1st Division artillery was within range to meet it. In addition to the individual guns ALL the Blue artillery had been warned to meet it.

In winding up the discussion on this exercise, the big lesson to me was that great opportunities were presented for the combined use of horse and mechanized cavalry. However, the attempt to use solely mechanized cavalry on all distinctly cavalry missions resulted in dispersion of force, piecemeal actions, loss of organization, and was a severe handicap to the mechanized forces available in their efforts to function as a combat team.

The operations in this maneuver were initially very interesting to the Blue units. However after the artificial control entered, the tense "play the game" attitude of all, from the lowest private up, decidedly ebbed. Although the rigid control of a maneuver may at times be highly desirable, still on the other hand, it is doubtful in my mind whether the loss of spirit, and lack of interest that is bound to ensue, is not too great a price to pay. Lessons learned through errors of omission and commission in peace time maneuvers are not paid for in lives, and are far more lasting in effect when actually let go to bring home to all concerned the appalling results. When the operation is smoothed out to save some individual's feelings, it is nothing more than mild kidding, which at this phase of the nation's welfare, is to me highly out of place.

The powers of horse cavalry to delay an Infantry advance were well illustrated in the initial advances of the 18th Brigade. It is mentioned that in the final critique on the maneuver one Black Corps commander warmly praised this regiment of horse Cavalry. I heard just as sincere comments from personnel of the 18th Brigade as to how much of a nuisance the opposing horse cavalry was. So it appears that this lone regiment of horse cavalry was duly appreciated, and respected by both friends and foe. Had the Blue force been able to use any horse Cavalry, I am quite sure that similar comments would have been heard as to its value. Where it would have been of particular value would have been on the north flank in feeling out, and definitely knowing, what the mechanized force would have to meet in its first attempt to work on the north flank. As the problem worked out, the mechanized units had to advance into an absolutely unknown situation that was very costly to its advance reconnaissance elements.

I would like to raise the issue as to whether we are not being wilful in putting entire reliance on the caliber .50 machine gun as our heaviest weapon. The assumption that we will never be engaged with infantry tanks is specious. Many foreign "tanks" carry more armor than our vehicles do. I am candid in stating that I believe serious consideration should be given to the study of putting a real anti-tank weapon on some of our combat cars. If the new 37-mm. gun is too big, there are lighter weapons in use by the Navy, that may not be too big. Of course, not all combat cars need these, but what about at least four to six in the regiment? With even this small number we would not have to run from medium tanks, and by limiting the number it should prevent any commander from getting too enthusiastic and asking us to pick a fight with medium tanks.

I have ventured a remark prior to this as to my imagination. Just to prove it I am closing with two other suggestions. The morale effect of the attacks of our combat cars was variously reported to me. Some criticism was heard of a column of vehicles coming down a road with sirens screaming, and some others as to what actual damage could be done even if the vehicles were off the road, etc. To be honest, I do not think that we have reached the ultimate in a combat car attack by any means at all. We have a $30,000 vehicle carrying three machine guns. The air corps has more expensive vehicles, but they do not limit their guns to this number in attack. Would we be foolish or wise to add two additional guns mounted on the combat car for attack purposes, these guns to be operated by the driver by an electric solenoid trigger mechanism such as the attack plane uses? I think we would be very wise. And what have we for "mopping up" as we reach the objective? Is it assured by any means at all that our vehicles will not be subjected to gasoline bottles *at the objective* as the Spaniards were? Too much reliance on a Tommy gun from a port may prove ill-advised. Let us suppose that our first line of combat cars all carried from twenty to forty grenades in a spring container that could be discharged as the objective is gained. Believe it or not I tried out a wrinkle of this type once, using potatoes in lieu of grenades. I was amazed at the beautiful pattern laid out when I pulled the string at 25 miles an hour, and also impressed by the number of potatoes that landed up in *low spots* on the ground. They rolled into ditches and chuck holes and STAYED there. If, in lieu of potatoes, three-second fuzed grenades were used, I am convinced that the bottle throwers would have lost interest.

Cavalry Division Maneuvers, October, 1939

By LIEUTENANT COLONEL E. E. SCHWIEN, *8th Cavalry,* Deputy Chief Umpire

The Cavalry Division maneuvers in the Balmorhea region which have just terminated were divided into four phases. The first and third of these phases were purely mechanical exercises and as such are of little interest to the reader of this article. The second phase consisted of a two-sided maneuver in which one brigade maneuvered against the other. Unfortunately in this exercise, the area of contact contained one important hill mass which immediately became the bone of contention. The maneuver started with the two brigades separated by approximately forty-five miles. Each brigade rushed an advance detachment forward for the purpose of seizing this Hill. The detachment of the Second Brigade was motorized and consequently reached the key terrain before that of the First Brigade. The remainder of this phase consisted in efforts of the First Brigade to dislodge the advance detachment of the Second Brigade and finally culminated in a mounted attack by the Second Brigade on the flank and rear of the First Brigade.

* * *

The real interest of the maneuvers can be found in a study of Phase IV, in which the whole Cavalry Division operated against a motorized Infantry Combat Team from the Second Infantry Division. This Combat Team consisted of the 9th Infantry with a battalion of truck drawn artillery attached.

In this review we shall first give a brief narrative account of the operations of Phase IV and then in conclusion attempt to enumerate the more important lessons which were brought out.

The instructions issued to both sides initiating the operations were as follows:

"SPECIAL SITUATION (BLUE)

Situation at 4:00 PM, 24 October. At 4:00 PM, 24 October, the Commanding General, 1st Cavalry Division, receives a message from the Commanding General, Third Army, an extract of which appears below:

* * *

"Reliable information indicates that a hostile motorized infantry regiment, reinforced by light artillery, truck drawn, is in bivouac at Kent. The Third Army commences retirement to a new defensive position along the general line of State Highway 17 from RJ 232 through PECOS *(northeast of maneuver area)*.

You will gain contact with the hostile force reported at KENT, and should it advance to the east on US Highways 80 and 290, delay its advance and maintain a passhead at the exit of the pass through the DAVIS MOUNTAINS on the MADERA SPRINGS ROAD.

The 1st Cavalry Division will operate south of the south boundary of the C. O. FINLEY land (exclusive).

No reconnaissance permitted prior to daylight (6:00 AM), 25 October.

ADMINISTRATIVE INSTRUCTIONS. For the purpose of this problem, it is assumed that the Madera Springs Road extends through the Davis Mountains to Marfa, Texas.

* * *

"SPECIAL SITUATION (WHITE)

Situation at 4:00 PM, 24 October. At 4:00 PM, 24 October, the CO, Infantry Combat Team receives a message from the CG, First Army, an extract of which appears below:

* * *

"Reliable information indicates that the Blue Third Army is maintaining its position with difficulty. Horse Cavalry estimated as a division (less a brigade) is protecting its west flank from a position astride US Highway 290 about three and one-half miles northwest of RJ 167 (1109.3-849.5). Another cavalry force estimated as a brigade is reported in the vicinity of WP 180.

Marching at 7:00 AM, 25 October, on US Highways 80 and 290, you will gain contact with the hostile cavalry on the south flank of the Blue Third Army, drive it to the southeast and secure the exit of the pass through Davis Mountains on the Madera Springs Road.

The Infantry Combat Team will operate south of the south boundary of the C. O. FINLEY land (exclusive).

No reconnaissance permitted prior to daylight (6:00 AM), 25 October.

* * *

ADMINISTRATIVE INSTRUCTIONS. For the purpose of this problem, it is assumed that the Madera Springs Road extends through the Davis Mountains to Marfa, Texas."

* * *

As a preliminary step on the afternoon of October 24th, prior to the beginning of the maneuver, the 9th Infantry Combat Team moved to a bivouac near Kent while the Cavalry Division (less First Brigade) went into bivouac approximately two miles northwest of RJ 167. The First Brigade moved into a bivouac near Water Point 180 where it was to remain out of the picture during the first part of the maneuver in order to give the Combat Team sufficient preponderance of means to enable it to take the offensive.

Early in the evening of October 24th, the Division Commander arrived at a decision to delay initially by placing the Second Brigade in position along the high ground about three and one-half miles northwest of RJ 167, astride Highway 290. His plans contemplated holding this position all day of the 25th if possible, withdrawing only under cover of darkness the night of the 25th-26th.

By 7:00 AM, October 25th the 2nd Brigade had occupied this position, with the 7th Cavalry north of the road and the 8th Cavalry south thereof. During the morning of the 25th the position was attacked by the advance guard battalion (3rd battalion) of the 9th Infantry. The latter

"Keep them rolling."

had moved up from Kent by motor. The main strength of the attack came against the left front of the brigade position, which was held by the 2nd Squadron 8th Cavalry. By noon the entire infantry advance guard battalion had been committed frontally and the action was stalemated. During the afternoon the infantry advance guard was reinforced by another rifle company and part of a machine gun company which started to infiltrate around the Brigade left flank. Late in the afternoon the infantry renewed the attack and about dark the 2nd Brigade began its withdrawal to a second delaying position on the high ground to the east and southeast of RJ 167. Some difficulty was encountered carrying out the operation due to the failure of units on the right to withdraw until practically surrounded by the enemy. The withdrawal however was completed about 10:00 PM.

It was the intention of the Division Commander to hold this second delaying position as long as possible during the day of the 26th. This plan was completely disrupted however by an unforeseen maneuver executed by the infantry. During the night the 9th Infantry Commander dispatched his 2nd Battalion reinforced with a battery of field artillery in a wide encircling movement through the Davis Mountains to the south via Fort Davis and Tovahvale on to the rear of the Division.

No effort was made to properly secure this movement with an advance detachment. The Infantry Commander took a long desperate chance in trusting that the cavalry would fail to properly defend this avenue of approach. The battalion covered this distance of approximately one hundred miles over an extremely rough route during the night and about an hour before dawn appeared on the rear of the division at the junction of Highway 290 and the Madera Springs road. The divisional reconnaissance troops, belatedly dispatched to the rear to take care of such an eventuality, suddenly and unexpectedly encountered this battalion near this road junction. The resulting melee afforded the division sufficient delay to enable it to withdraw its trains and initiate a hasty withdrawal of its combat units to a final delaying position further to the south.

In the meantime in order to prevent somewhat of a débâcle, the Chief Umpire decided to place the 1st Brigade at the disposal of the Division Commander. The latter then decided to withdraw the division (less 1st Brigade) to a position on the high ground northwest, north and northeast of the Quarry (1108-837) and to move the 1st Brigade from Water Point 180 northeast along the Madera Springs road against the infantry which had appeared on his rear. The 2nd Battalion 9th Infantry (encircling force) had received the mission of seizing and holding the high ground about two miles southwest of the junction of Highway 290 and the Madera Springs road. This it did in spite of the action of the Reconnaissance Troop. Fortunately for the division it then made no effort to interfere with the withdrawal of the latter to its final delaying position. In the meantime the 1st Brigade, hastily breaking bivouac, moved northeast up the Madera Springs road. Contacting the 2nd Battalion 9th Infantry, it encircled the latter and occupied a position between it and the remainder of the 9th Infantry.

During the morning, the remainder of the 9th Infantry engaged in the frontal pressure and moving by truck, followed up the withdrawal of the 2nd Brigade via the unimproved road just south of Cherry Canyon.

The 9th Infantry (less 2nd Battalion) and the Cavalry Division (less 1st Brigade) then engaged in a series of confused actions in the area north of the Quarry. Finally, the Division Commander ordered the 2nd Brigade to envelop the left (east) flank of this direct pressure force and at the same time he notified the 1st Brigade to leave a small containing force to watch the 2nd Battalion and

to move the bulk of its force in a wide envelopment to the north against the rear of the forces engaged with the 2nd Brigade.

This plan culminated in a converging attack against the left (east) flank and rear of the 3rd Battalion 9th Infantry. As a result of this attack this Battalion was ruled out of action and both brigades were assessed heavy losses.

During the night of the 26th-27th, the Cavalry Division withdrew the bulk of its forces to the south to reorganize. It left covering forces to maintain contact with the infantry.

Early on the morning of the 27th, both sides were issued a new situation reversing the rôles of the opposing forces. Extracts of their instructions follow:

BLUE (1st Cavalry Division)

* * *

"Out IV Corps attacks at daylight (maneuver time 1 November) making its main effort with its left. You will assist the advance of the IV Corps by attacking the motorized infantry force in your front and driving it to the west.

The Cavalry Division will operate south of the south boundary of the C. O. FINLEY land (exclusive)."

* * *

WHITE (9th Infantry)

"You will delay any advance of the hostile cavalry force now in contact with you and hold it east of draw running through RJ 167 (1109.3-849.5) until dark 27 October (maneuver time 2nd November).

The Infantry Combat Team will operate south of the south boundary of the C. O. FINLEY land (exclusive)."

* * *

During the night, the Commander of the 9th Infantry decided to regroup his two remaining battalions (the 3rd Battalion in the center had been ruled out leaving a gap between the 1st and 2nd). Consequently under cover of darkness he managed to withdraw his 1st Battalion from contact and moved it eastward to effect a junction with his 2nd Battalion which was still holding the high ground southwest of Phantom Lake.

In accordance with the new situation, the Cavalry Division Commander decided to attack the remaining infantry battalions southwest of Phantom Lake (1117-839.5) by ordering the 1st Brigade to move northeast on the Madera Springs road to fix the enemy frontally, while the 2nd Brigade was instructed to envelop the east flank and rear of the enemy position.

As a result of these instructions, the 2nd Brigade moved out shortly after 4:00 AM, via RJ 254; thence southeast around the hill mass southeast of RJ 254; thence north, crossing the Madera Springs Road just south of Phantom Lake. About one-half mile west of Phantom Lake the 7th Cavalry turned to the south and took a position about two miles south of Highway 290, engaging the infantry on the high ground southwest of Phantom Lake in a dismounted action. The 8th Cavalry moved about a mile farther to the west, then turned south along the general line Water Tank 181—RJ 254, in order to strike the withdrawing infantry in flank.

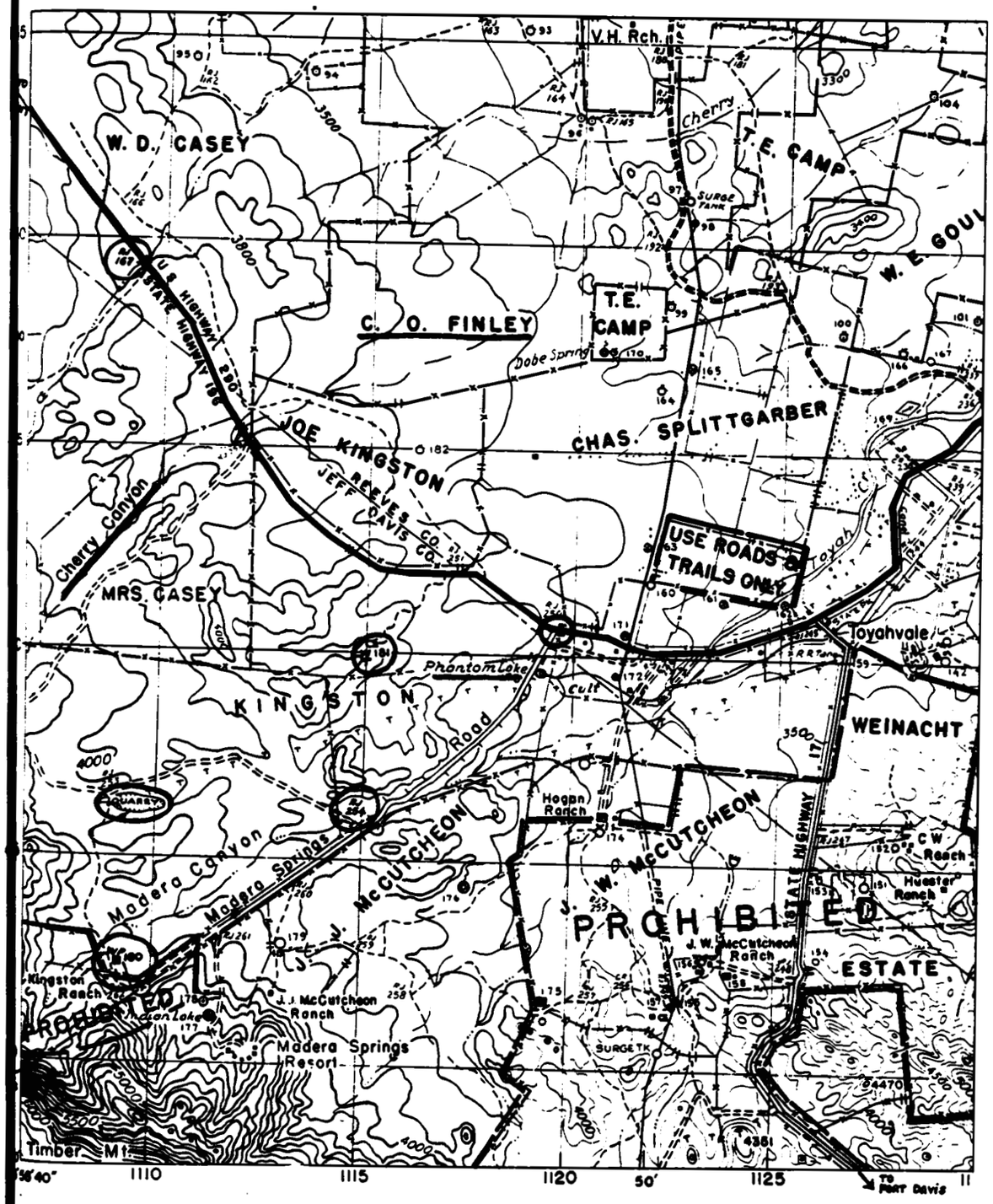
The 1st Brigade advanced astride the Madera Springs Road and executed a holding attack against the 9th Infantry position. The 5th Cavalry was on the right and the 12th Cavalry on the left of the road.

The 1st Brigade was pressing the attack when the maneuver ended at 10:35 AM, 27 October.

In general this completes a necessarily rather brief account of the operations of Phase IV. To attempt to go into greater detail would hardly be in the scope of this article particularly as the official records of the maneuver now being prepared contain a minute report of the same.

We shall therefore proceed to our conclusions which will sum up the tactical lessons brought out. Many of these points were emphasized in the critique given by the

Rough going



Corps Area Commander. Let us therefore terminate with their enumeration.

1. Mounted attacks appeared to be the rule rather than the exception. Against infantry heavily equipped with modern weapons, such tactics cannot be other than suicidal. Under such conditions, the only excuse for a mounted attack is when the enemy is completely surprised and can be so assaulted at close distance.

2. Mounted approaches practically ignored enemy weapons located within effective range. To attempt to approach mounted within six hundred yards of enemy machine guns and mortars over fire swept terrain is an

Motorcycle scout of the First Cavalry Division ready to defend himself when surprised on an observation mission.

absurdity of the first water. The use of collective cover and concealment was more or less ignored in both mounted and dismounted approaches.

3. Reconnaissance was rarely organized methodically by the Intelligence Sections of the various staffs. Every effort was made to substitute observation for detailed reconnaissance. Even at night, scout car reconnaissance was frequently substituted for horse patrolling. Obviously scout cars cannot replace horse patrols at night.

4. Security measures were largely neglected by many units. The most glaring example of this was the complete surprise of the division when taken in rear by the 2nd Battalion 9th Infantry. Every capability of the enemy must not only be considered but must be guarded against by adequate precaution. The division was well aware of the capability of the infantry to encircle its left flank and appear on its rear. This possibility was even discussed during the afternoon before. The only active step taken to counter this action however was to instruct the Engineer Squadron to demolish a bridge over a dry arroyo on the Fort Davis route without making an adequate reconnaissance to determine whether this destruction could be circumvented. This brings out very forcibly our next lesson.

5. Demolitions which are not covered by fire are worthless. Every road block, crater or other obstacle intended to cause delay must be defended by some sort of fire. Had this been done on the Fort Davis road, the infantry would not only have been long delayed but the division would have received precious information which would have enabled it to meet the threat.

6. There was a general inability to appreciate the greater power of the defensive over the offensive. Frontal attacks were therefore inadequately supported by fire and covered frontages far too wide for the units engaged.

7. Cavalry defense was generally too rigid and inelastic. A thin screen of machine guns could have amply performed the defensive rôle on the first delaying position while the rifle elements might have been grouped into a mobile reserve which could easily have neutralized the flanking threat of the infantry.

8. Aimless rapid movements tended to dissipate the reserve power of both horses and men. There appeared to be a tendency on the part of many officers to believe that the job at hand justified demanding the maximum effort on the part of horses and men with no thought as to possible future action. If such an attitude were taken under war conditions, the division would have been dismounted after a week's active operations.

9. Tactical operations seemed to obliterate thoughts of horsemastership and care of men. Watering, care of animals and feeding of men were frequently inadvisably neglected either because thoughts were focused on the tactical situation or because officers feared possible censure in the event the tactical situation changed during a time when they were engaged in these very necessary administrative functions.

10. Finally, but far from least, there was a surprising lack of initiative on the part of many officers to take the reins in their own hands and act in the absence of specific instructions. This was more apparent in the care of their organizations than in tactical situations. Nor were they altogether to blame. This condition cannot be corrected until our higher echelons of command realize the importance of fostering and encouraging initiative in subordinates. The latter should be praised whenever they take action requiring initiative regardless of whether this action as viewed by the superior is correct or incorrect. The German Army of 1911-1914 deliberately designed their tactical maneuvers to encourage subordinate commanders to violate missions—all in order to develop initiative. Until subordinate officers feel that they have the full unqualified support of their superiors in whatever action they may take on their own initiative, be it right or wrong, they will continue to await passively direct orders from these superiors before they will act in any sudden situation.

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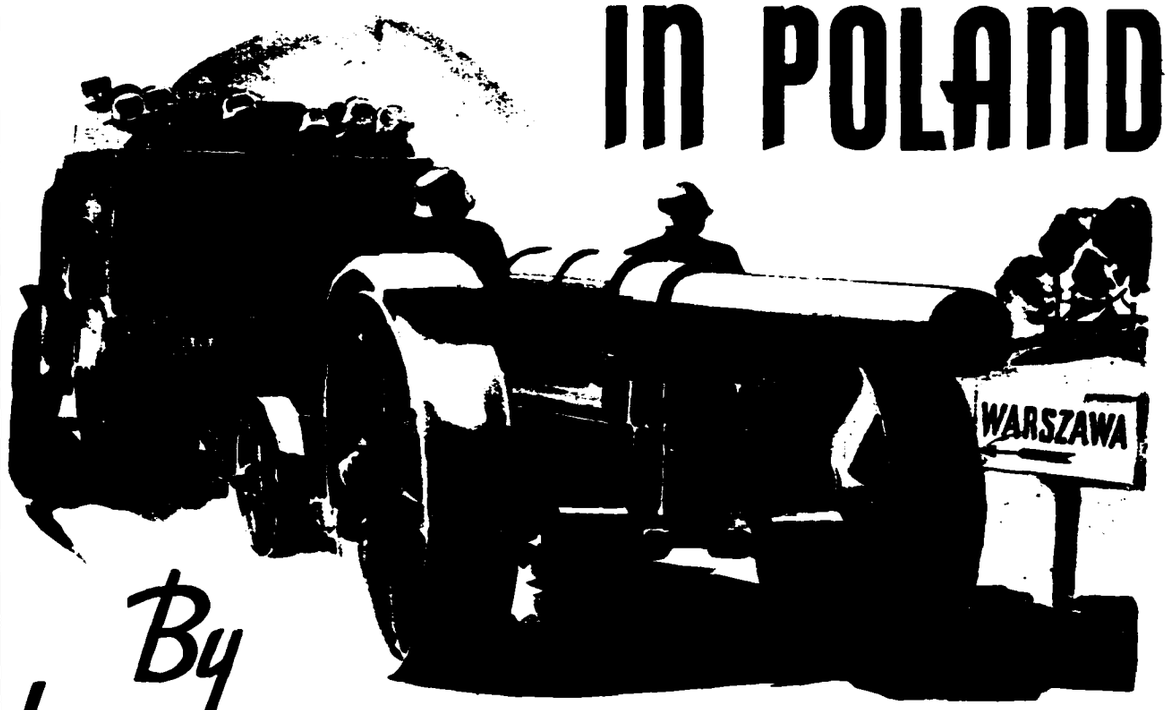
THE GERMAN CAMPAIGN IN POLAND



By Lieutenant Colonel von Wedel

General Staff Corps, German Army

This article confines itself to an account of the military campaign in Poland during September, 1939. It must be left to history to pass judgment on the entire ramifications of these events.

On the basis of der Führer's directives the commanders in chief of the Army, Navy, and Air Force launched and conducted the campaign.

The Land Operations

In compliance with instructions issued by Colonel General von Brauchitsch, commander in chief of the Army, the operations of the German forces began at 4:45 A.M., September 1, 1939. Two groups of armies had been organized to carry out the operations:

(1) The Group of Armies of the South, under the command of Colonel General von Rundstedt;

(2) The Group of Armies of the North, under the command of Colonel General von Bock.

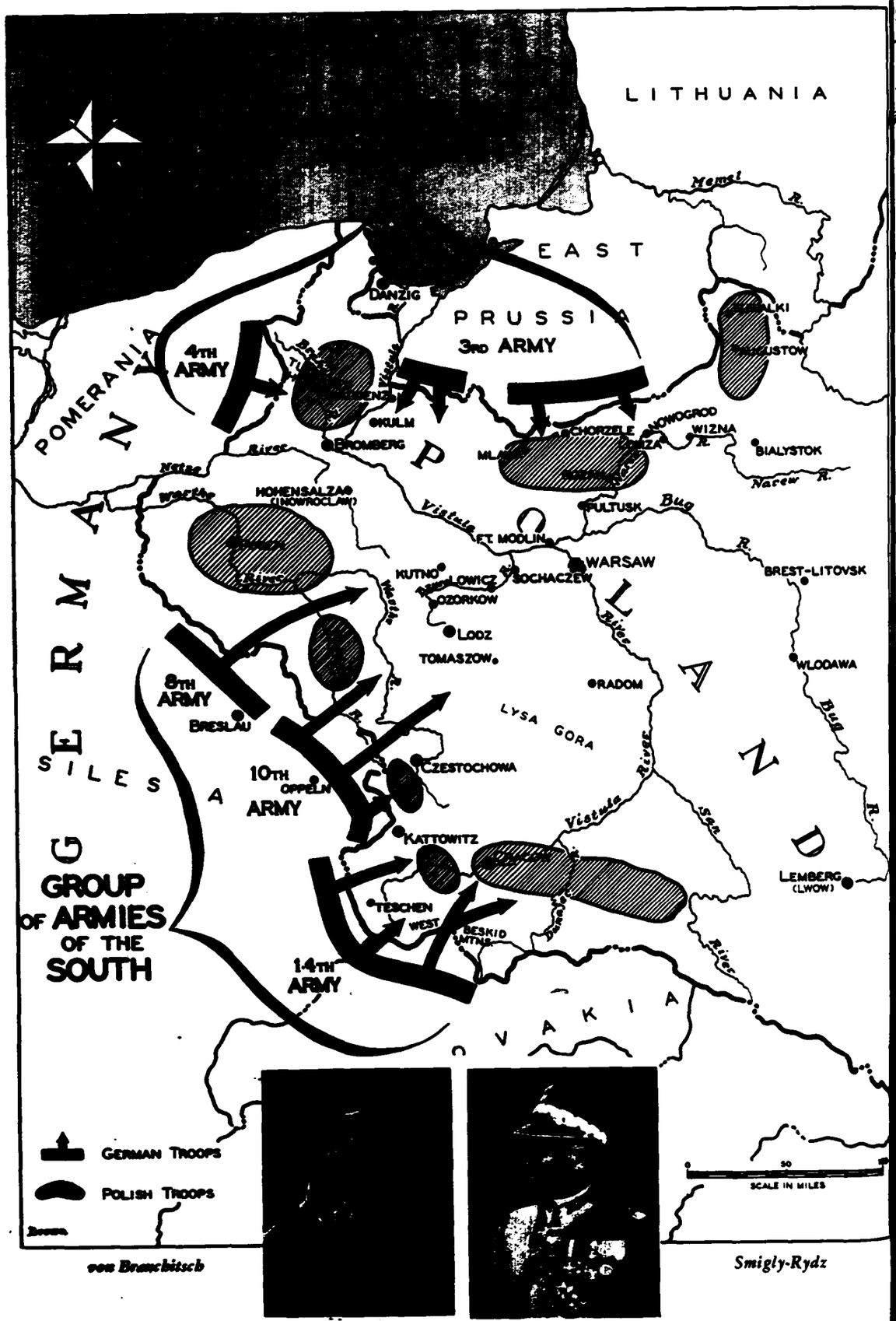
The southern army group comprised three armies: the Fourteenth Army, commanded by Colonel General List; the Tenth, commanded by General von Reichenau; and the Eighth, commanded by General Blaskowitz.

The northern group included two armies: the Fourth, under General von Kluge; and the Third, with General von Küchler in command.

The operations in Poland were designed to destroy as much as possible of the Polish Army in the territory west of the Vistula. Furthermore, by advancing the exterior flanks in the north and south so that they would extend to the country beyond the Vistula, the High Command intended to prevent from the outset any Polish attempt to establish a defensive line along the banks of the Vistula.

In a war which would find Germany engaged on two fronts, the Polish High Command had hoped to conduct a successful defensive until the support promised by Great Britain had taken effect. The Polish General Staff also intended to assume the offensive and defeat certain parts of the German forces on the Eastern Front.

Map 1: The Plan

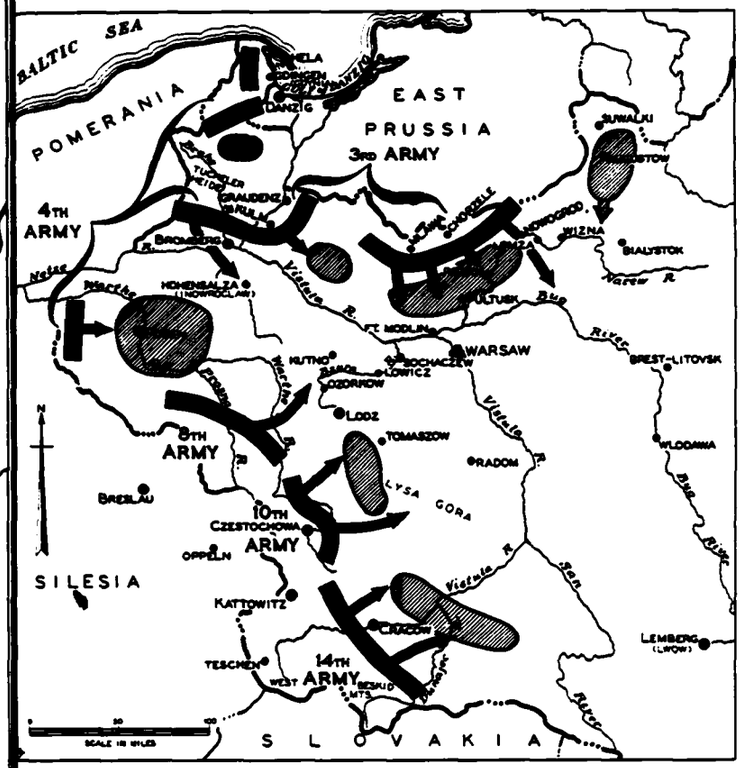


von Brauchitsch

Smigly-Rydz

Map 2: September 4th

To support the concentric offensive on Danzig and East Prussia, the largest Polish army was closely concentrated in the region of Posen. The province of Posen protudes into German soil in the shape of a blunt wedge, flanking the southern boundary of the province of Pomerania and the northern limits of the province of Silesia. Should the Polish forces in Posen retain the initiative during the early days of the campaign, they would be a serious threat to the flanks of any German offensive launched from the directions of Pomerania and Silesia. However, the German attack developed with such rapidity that it took the Polish forces completely by surprise. Thus threatened in flank and rear, the Polish contingents in Posen were forced to withdraw to the east before they had a chance to put up any serious resistance. The Polish Army of the South was concentrated in the area of Cracow and Lemberg (Lwow). Certain elements were assigned the mission of establishing a line of defense near Kattowitz, in order to protect the vital industrial district of Upper Silesia. The mission of this army was defensive. The Polish High Command apparently believed the Army of the South and the units designated for the protection of the industrial region to be strong enough to ward off any German attack on this front, especially since the terrain in many places lent itself well to defensive action.



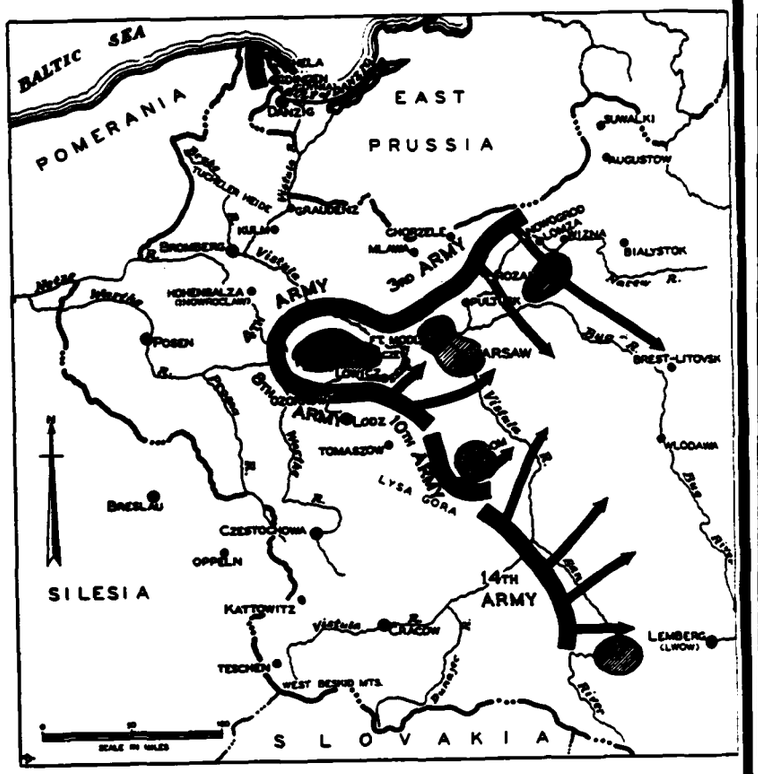
However, before the Polish High Command had a chance to convert its operations plan against Danzig and East Prussia into action, the German Army suddenly seized the initiative. The blow struck the individual Polish armies and the entire Polish dispositions in flank and rear and, from the outset of the operations, seriously

The Polish concentration took place in four armies. Resting on the strongly fortified line of the Narew, the Polish Army of the North concentrated its forces in the area between Lomza and Mlawa. German intelligence reports indicated that it intended to invade East Prussia from the south, simultaneously with an attack on East Prussia by another Polish force from the east—that is, from the approximate region of Suwalki and Augustow.

A second strong Polish army was concentrated in the Corridor. Its mission was apparently to take Danzig by surprise and subsequently to invade East Prussia from that direction, jointly with the attacks delivered from the south and east.

German infantry in combat formation on the edge of a town.

Map 3: September 14th



threatened the Polish lines of communications and railroads far in the interior.

The German operations developed as follows: Bavarian and Austrian mountain units of the Fourteenth Army, on the right of the Group of Armies of the South, shattered the stubborn defense of the Polish forces which were holding the passes of the West Beskids, and captured the line of fortifications extending on both sides of Teschen. Silesian and Austrian units penetrated the strongly fortified positions south of the industrial district of Upper Silesia after a brief but bitter fight. Keeping constant pressure on its opponent, the Fourteenth Army thrust the Polish forces across the Dunajec and the San. Cracow, Przemysl, and Lemberg were taken. The Tenth Army, composed of troops from all parts of Germany, took up the advance from the region east of Oppeln and pushed on to the Polish positions along the Warthe, after hard going through the border country which had been devastated. Overrunning the hostile front on the Warthe, the Tenth Army wiped out large Polish forces at Czestochowa and in the area south of that city. The army continued the pursuit into the region of the Lysa Gora and Tomaszow. An attack conducted astride the Lysa Gora blocked the retreat of Polish units that were trying to escape across the Vistula. Tank units penetrated the Polish lines at Tomaszow and headed for Warsaw, reaching the city by September 8. Within a week, the Tenth Army covered a distance of around 140 miles, as the crow flies, notwithstanding strong resistance in certain sectors. Moreover, the Tenth Army destroyed strong Polish elements in the vicinity of Radom.

Polish infantry en route to the front

The Eighth Army, advancing from the region east of Breslau, overcame the delaying action of Polish forces along the Prosna and forced the crossing of the Warthe, a natural defense sector reinforced by permanent fortifications. In close pursuit, the Eighth Army thrust back Polish forces on both sides of Lodz, forcing a withdrawal in the direction of Warsaw. The army then occupied Lodz and took up a position on the Bzura, between Lowicz and Sochaczew. This operation blocked the retreat from Posen and the Corridor. As a result there developed a great encircling operation: the Battle of the Bzura. Desperate attempts on the part of the beleaguered Poles to penetrate the German lines failed with heavy losses.

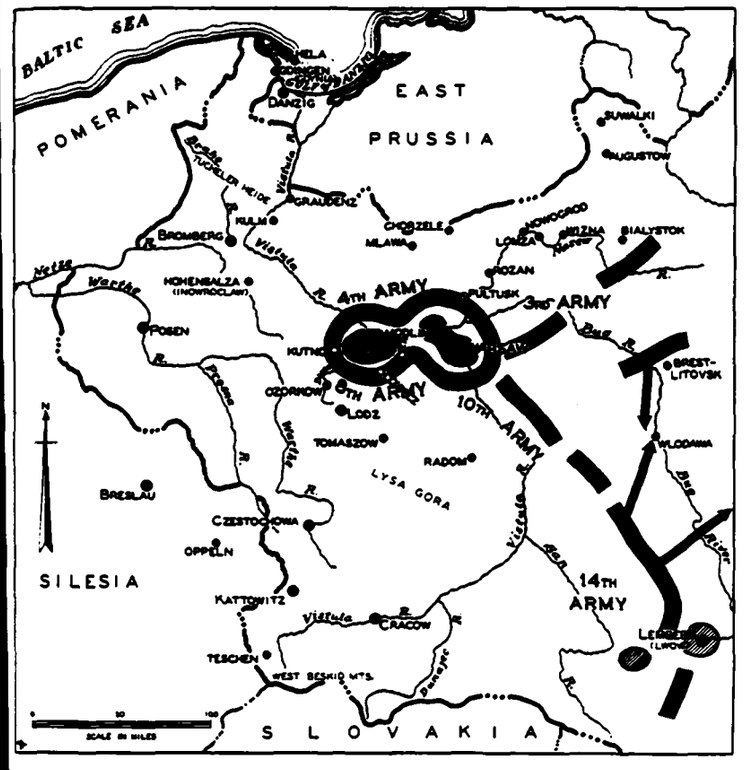
A joint operation of elements of the Fourth, Third, Eighth and Tenth Armies, under the direction of the commanding general, Group of Armies of the South, led to the destruction of the main force of the Polish army at Kutno and in the country northeast of that locality, where the Vistula bends to the west. This battle resulted from the effort of the Polish army concentrated originally around Posen to retire to the east and to head off the German advance on Warsaw. However, the Polish operation failed owing to the speedy advance of the German Tenth Army and its earlier arrival at the Vistula.

This ten-day operation of the German armies is a picture packed with drama. Moving from the direction of Bromberg, the Fourth Army kept pushing the enemy to the southeast by way of Hohensalza (Inowroclaw), where the Eighth Army had already blocked all passages south of the Bzura. The Third Army, advancing from the north, closed the circle and frustrated the last hope of escape by way of Fort Modlin. Finally, in the east, divisions of the Tenth Army closed the vast circle at the gates of Warsaw—thus shutting off entirely the largest Polish army. The encircled Polish troops tried desperately to shatter the ring. An initial attempt to break through at Ozorkow ended in failure. The Poles made a final attack in a southeasterly direction, and German troops now had to show their mettle on the defensive. Meanwhile, the Eighth Army had cut off Warsaw from the west and southwest. Beginning with September 25, this army conducted the attack on the city from that front. Warsaw surrendered forty-eight hours later. The Fourth Army, as part of the Group of Armies of the North, invaded the Corridor from Pomerania, in the area north of the Netze, and moved in the direction of the Vistula to a line on both sides of Kulm. Following in the wake of a tank thrust, the army gained the western bank of the Vistula to establish contact with East Prussia within forty-eight hours after outbreak of hostilities. Pomeranian and Brandenburg infantry broke through the heavily fortified Polish positions on the Brahe. A battle in the Tucheler Heide (Tuchola Heath) resulted in the destruction and capture of several Polish divisions and a cavalry brigade. In the northern part of the Corridor, Fourth Army units simultaneously isolated the Polish port of Gdingen (Gdynia, recently renamed Gotenhafen) and captured it later in joint action with naval forces. After seizing the city of Bromberg and crossing the Vistula with remarkable speed, the army continued the advance astride the river in the direction of Warsaw.

Parts of the Fourth Army were successfully taking part in the Battle of Bzura, but the great mass of this army was sent to the German left wing. After having proceeded on Bialystok and Brest-Litovsk, they established communication near Mlodawa with troops of the Fourteenth Army which came from the south. So a second wide outer ring closed around the Polish Army.

The Third Army, advancing from East Prussia, joined West Prussian units in bitter fighting and captured the Prussian infantry broke through the strong fortifications fortress of Graudenz. In hand-to-hand combat, East at Mlawa and the Polish line of positions along the

Map 4: September 18th



frontier south of Chorzele. Heavy fighting ensued at Pultusk, Rozan, Nowogrod, Lomza, and Wizna, where the Third Army forced the crossing of the strongly fortified Narew. East Prussian *landwehr* regiments distinguished themselves in these engagements. Continuing its rapid forward movement, the army forced the crossing of the Bug and pushed on in the direction of the Warsaw-Bialystok railroad. Then the main body turned toward the north and east fronts of Warsaw.

The German armies gained their objectives in a remarkably short period of time. The commander in chief of the Polish Army departed for Rumania, without awaiting the final outcome of the military operations. The garrisons of Warsaw and Modlin surrendered September 29. The naval base at Hela was the last strongpoint to surrender.

Approximately 700,000 prisoners, some 40,000 horses, 1,600 guns, almost 8,000 machine guns, 500 grenade projectors, and 120 antitank guns fell into German hands, besides a wealth of other war materials.

The Air Operations

Two air fleets of the German Air Force, commanded by Generals Kesselring and Löhr, participated in the Polish campaign. The mission of these two air fleets was to conduct strategic air warfare in coöperation with ground forces as directed by the commander in chief of the Air Force, Field Marshal Göring.

The air fleets struck first at the Polish air forces and their ground organization. The aviation units bombed one airdrome after another, both west and east of the Vistula. Their bombs damaged and destroyed hangars, barracks, flying fields, and grounded aircraft. Other attacks were aimed at aviation plants, ammunition depots, and so on. The Polish antiaircraft artillery and pursuit aviation were unable to hinder these operations. By September 2, the air force had full control of the air over Poland.

Beginning September 3, the air force units were employed in an increasing measure against Polish lines of communication on the front and in the rear. They destroyed railroad lines and stations, bridges and roads. By preventing the reinforcement of Polish units and their movement from one part of the front to the other, the air force lent highly effective support to the advance of the German armies.

The activities of the air force contributed largely to the speed with which resistance was overcome in the Polish fortresses, especially Warsaw and Modlin.

In addition to this indirect support, the air force also lent direct support to the ground forces. Both bombers and fighters constantly attacked artillery positions, fortified zones, troop concentrations, and troops on the march or detraining or detrucking. Air-transport squadrons supplied the friendly ground forces with motor fuel, ammunition, and rations.

This continuous employment of the air force made high demands upon the flying personnel and the matériel, and that force coöperated efficiently with the ground forces throughout the campaign leading to a rapid success.

The Naval Operations

Units of the German Navy blocked the Bay of Danzig and so prevented any communcation by sea with Polish ports. Virtually all Polish naval forces in the Baltic were destroyed or captured. The German training cruisers *Schleswig-Holstein* and *Schlesien* supported the land operations by firing on Polish coast artillery positions located south of Gdingen and on Hela Peninsula.

Conclusions

When compared with the results, the German casualties may be regarded as small. In this connection, Chancellor Hitler stated in his address to the Reichstag October 6, 1939: "According to figures available September 30, 1939 —which will hardly be subject to any major changes—the casualties of the Army, Navy and Air Force, both officers and men, are: 10,572 dead; 30,322 wounded; and 3,409 missing."

The losses of motor transportation, tanks, and so on, likewise were small.

To what may the surprisingly swift success of German arms in the Polish campaign be attributed?

In addition to the remarkable performances of the German forces, it was the splendid coöperation of all arms and especially the close coördination of the land and air forces which contributed to the speedy and successful conclusion of the campaign.

The Polish soldier was tenacious, stubborn and brave, yet he failed because of the incompetence of his leadership and the shortcomings of his organization.

All arms shared equally in the successful operations. Their peacetime training proved its worth during attacks on hostile positions quite a few of which were strongly fortified. In addition to the rapid advances by the mechanized and motorized units, the infantry's accomplishments both in combat and on the march were outstanding. The crossing of rivers and streams confronted the engineer units with most difficult tasks, owing to the destruction of many bridges.

The German combat regulations, aimed as they are toward instilling self-reliance and initiative in the individual, were found sound in every respect. The German soldier also showed superiority in the field of close combat. That means a great deal, for in many instances the Polish soldier revealed himself an obstinate fighting man.

The equipment of the German soldier likewise proved to be entirely adapted to wartime conditions. Whereas in 1914 the equipment of the German troops necessitated modifications after the very first engagements, we can say today that the arms, ammunition, and equipment of all arms fully meet the requirements of modern war.

In the campaign the troops did not have to revise the tactics they had learned in peace. Their combat training satisfied the demands of war. That was especially true of the systematic training of the individual soldier in the exploitation of the ground and in camouflage.

Operations of a German Armored Car Platoon in the Pursuit of the Polish Army

By Lieutenant Colonel Truman Smith, Infantry

The following is the account of the operations of a German Armored Car Platoon conducted during the afternoon and night of September 16, 1939, in the area south of BREST-LITOVSK. The story was told by the Lieutenant and a Sergeant of this platoon over a German short-wave radio station on the evening of November 6, 1939. The unit was not identified by the speakers, but from mention of its garrison it is known to be one of the armored car companies of the third motorized reconnaissance platoon garrisoned in STAHNSDORF, ouside BERLIN. This is confirmed by other information to the effect that the Third Panzer Division, of which this unit is a part, was operating on September 16th in the vicinity of BREST-LITOVSK.

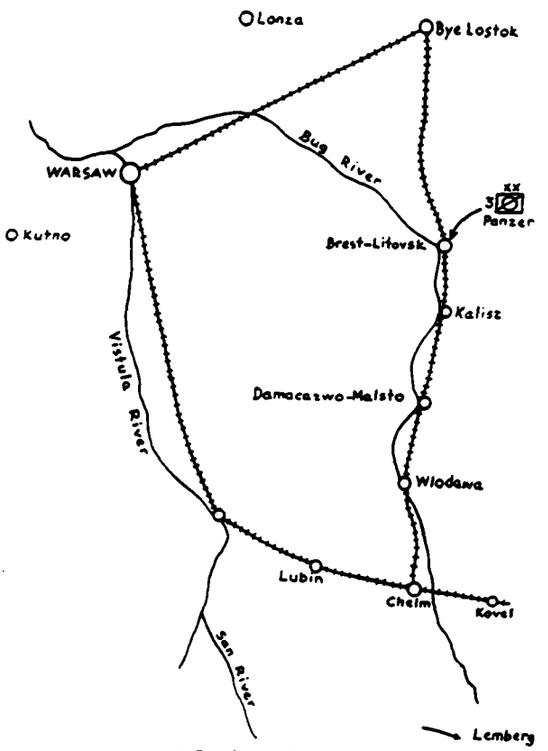
The German strategical situation on September 16th was as follows: Polish resistance had broken down over the entire front. The larger portion of the Polish armies were surrounded on this date near KUTNO and in the city of WARSAW. Coming from east Prussia, the Third Panzer Division and other German units had struck southeastward from LONZA and in an advance of unusual speed had reached BREST-LITOVSK on the 15th. The citadel of BREST-LITOVSK was still holding out on this day. South of WARSAW other German armies had crossed the VISTULA RIVER and were advancing on LUBLIN. In this area the Polish forces opposing the Germans had begun to disintegrate and were retreating in several isolated columns towards the BUG RIVER, which they hoped to cross to the south of BREST-LITOVSK. Far to the south in GALICIA German troops had already crossed the SAN RIVER and were advancing towards LEMBERG; the Polish forces opposing offering only slight resistance.

Story

The Lieutenant commanding the Armored Car Platoon stated that on noon of the 16th he received orders at BREST-LITOVSK to take his platoon and push southward on the west bank of the BUG RIVER towards WLODAWA and CHELM for the purpose of interrupting Polish east-west communications across the BUG RIVER. His platoon consisted of 5 armored cars, 3 of a heavy type and 2 of a light scout car model. The heavy cars were equipped with radio and were armed with a 2 cm. heavy machine gun and a light machine gun. The scout cars had 2 light machine guns each. There was attached to his platoon a Lieutenant of a pioneer battalion with 2 soldiers and a certain amount of demolition equipment. They left BREST-LITOVSK at about 2:00 p.m. and pushed southward towards the village of KALISZ, at which point there is a wagon bridge across the BUG RIVER.

In the village they found about 50 Polish soldiers, only half of whom were armed. No resistance was offered by the Poles who surrendered when called upon to do so. The Lieutenant left at this point one of his light scouting cars with orders to find some conveyances and take the prisoners back to BREST-LITOVSK. The wagon bridge across the river was found to have been destroyed by the Poles.

He then continued southward on the west bank of the BUG RIVER. At DAMACAZWO-MALSTO another bridge was found in a burned condition. Continuing southward he came, about 7:00 P.M., to the vicinity of WLODAWA. Here he found 2 bridges across the BUG; a wagon and a railroad bridge in good repair. He stopped his platoon and the Engineer Lieutenant and his men soaked both bridges with gasoline and set them on fire. While they were engaged in this work he heard a locomotive whistle to the south, indicating the approach of a train from the direction of CHELM. He at once directed his heavy armored cars to positions from which they could fire down the track. Within a few minutes a long train appeared from the direction of CHELM. The locomotive was at once engaged by the 2 cm. heavy machine guns of



A Section of Poland
(Sketch not drawn to scale)

the two leading armored cars. The boiler of the locomotive blew up after a few shots and the passengers of the train sought to get out as best they could on the side away from the armored car.

The lieutenant noticed, however, that at the rear of the train there was a second locomotive. He then directed the Sergeant commander of one of the heavy armored cars to move forward to positions from which this second locomotive could be put out of action. This was done and in the course of half a minute the second locomotive was blown up. A large number of soldiers now approached the armored car platoon with a white flag and offered to surrender. The Lieutenant, however, had no place to put them so after disarming them he told them they were free. He decided, however, to take two prisoners back to BREST-LITOVSK and forced them to ride on the running boards of two of his armored cars.

As it was now pitch black he decided to return to BREST-LITOVSK. This proved an extremely eventful trip. Twice during the return journey the platoon was fired at by Polish machine guns from ambush. The two Polish prisoners on the running boards were both killed. No anti-tank guns, however, were encountered and about midnight the armored car platoon arrived back at its unit at the outskirts of BREST-LITOVSK.

Comment

This little incident illustrates the possibility of the use of an armored car platoon in a pursuit phase of war when enemy operation has largely disintegrated and the opportunity is offered to small aggressive units to accomplish important strategic results. The destruction or damage of the two bridges at WLODAWA was in itself a strategic result of great importance to the German armies in that it burned to the retreating Polish army one of their main avenues of escape across the BUG RIVER. This strategic result was accomplished by a very small unit operating independently and much in the manner in which a cavalry demolition patrol would have acted in the past.

The distance covered by the patrol in 12 hours from BREST-LITOVSK to WLODAWA and back to BREST-LITOVSK amounted to approximately 120 km. (75 miles). This is far in excess of any distance which a mounted cavalry patrol could have covered in like time.

The lack of opposition offered by Polish detachments to this armored car patrol is probably indicative of the demoralization which affects all retreating armies. The Polish small arms were ineffective against the armor-plate of the armored cars and there were apparently no Polish anti-tank weapons in this entire rear area, hence the German Armored Car patrol escaped without casualties after the accomplishment of its mission.

It is also of interest that this armored car platoon found the roads in the Polish rear area undamaged and entirely passable for its vehicles. This is believed to be also typical of conditions in a pursuit when the pursuing troops have penetrated well into the rear areas of their enemy.

* * *

A Corrected Report

With reference to the demonstrations of new weapons which took place at the Aberdeen Proving Grounds on October 12th, the following remarks were noted in The *Washington Star*, October 13, 1939:

"To demonstrate its new weapons the Army yesterday used remote-controlled tanks of obsolete design as targets. Towing control wires which they unreeled as they went, these tanks lumbered across an open field. They first served as a target for a cavalry platoon from Fort Myer, Va., armed with 50-caliber machine guns, hitherto regarded as one of the most effective anti-tank weapons.

"The cavalrymen did their best. They sent a hail of heavy tracer bullets rattling like hail off the tank, which lumbered on, narrowing its range from 500 to 250 yards, when it had to be stopped by remote control, quite undamaged and entirely able to continue. Officers revealed that in previous tests this same tank had been hit 2,000 times with 50-caliber machine gun bullets out of 10,000 rounds fired and never had been stopped, except by cutting the control wires trailing behind it."

This report was most complete with the exception of the omission of the statement that modern armor piercing ammunition was not being used.

Accordingly, the following day this report was published:

The War Department's Ordnance Bureau yesterday came to the defense of the .50-caliber machine gun as an effective weapon against modern tanks and armored cars.

Some news reports of the recent demonstrations at Aberdeen proving ground stressed the fact that the fire from the machine guns was unable to stop a robot tank.

"This is an entirely erroneous conclusion," ordnance officials said. The firing at Aberdeen proving ground by a cavalry unit equipped with the .50-caliber machine gun was entirely for demonstration purposes, they explained, and no armor-piercing bullets were used. "It was considered that the demonstration very effectively accomplished its purpose," a statement read.

Tracer ammunition only was used, it was explained, so that the spectators could obtain a vivid picture of the high rate of fire and accuracy that could be developed against a rapidly moving tank. Armor-piercing bullets were not fired, it was said, to avoid the great damage and possible destruction of vital parts of the tank.

The .50-caliber machine gun was developed several years ago as a principal weapon against tanks. Because of the use of tracer bullets, which cannot pierce armor, ordnance officials discount the claim that the tank used in the demonstration "proved itself invulnerable to this weapon."

The Diesel Engine

By ARTHUR F. OCHTMAN*

What is a Diesel Engine?

About forty-five years ago Dr. Rudolph Diesel succeeded in building and operating an internal combustion engine of a type which eliminated any outside means of ignition. Ignition was obtained by heat resulting from compression of air in the cylinder.

We all know that compressing air generates heat. Thus, an air compressor must be either air or water cooled. The higher the compression is carried in pounds per square inch, the higher the heat generated.

This plan of heat generation was employed in the Diesel engine. The compression of the air in the cylinder by the piston on the compression stroke was made high enough to result in an air temperature that would ignite fuel either in a powder or liquid spray form.

The general construction and design of the engine is similar to that of a gasoline engine, except that the latter operates on low compression, using a separate form of ignition, usually a high tension spark from a magneto, or distributor and battery.

A general comparison of the two types of internal combustion engines follows: taking the popular four stroke cycle types as examples, which are most widely used today:

Diesel Engine

1. Suction stroke.—Air is taken in through the intake valve on the downward suction stroke.
2. Compression stroke.—The air is compressed as the valves are closed on the upward compression stroke. Near the top of this stroke fuel oil is sprayed under high pressure into the compressed air above the top of the piston, and is ignited by the heat generated during compression.
3. Power stroke.—The expansion of the burning fuel oil and air mixture pushes the piston down.
4. Exhaust stroke.—The exhaust valve opens and the momentum in the flywheel carries the piston up again, pushing the exhaust gasses out of the cylinder, ready for the suction to start again on the next cycle.

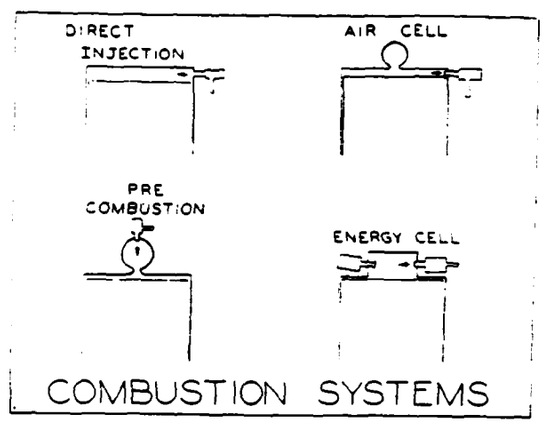
Gasoline Engine

1. Suction stroke.—A mixture of air and gasoline is taken in through the intake valve on the downward stroke.
2. Compression stroke.—The mixture is compressed as the valves are closed on the upward compression stroke. Near the top of this stroke a spark plug ignites the compressed mixture.
3. Power stroke.—The expansion of the burning mixture pushes the piston down.
4. Exhaust stroke.—The exhaust valve opens and the momentum in the flywheel carries the piston up again pushing the exhaust gasses out of the cylinder, ready for suction to start again on the next cycle.

Types of Diesel Engine Combustion Chambers

As the requirements for different applications of Diesel engines became known, suitable engines to handle these jobs had to be developed. This called for improvements in the injection of fuel and in the shapes of combustion spaces in which the mixture was burned.

The following diagrams cover four types of combustion systems used on Diesels:



1. The direct injection type is arranged like a gasoline engine having one combustion chamber above the top of the piston. The injection nozzle replaces the spark plug and fuel oil is sprayed directly into the one chamber.

2. The air cell type is like the direct injection except there is a separate small auxiliary chamber leading into the main chamber. Air is compressed in the chamber the

*Executive Engineer, The Buda Company.

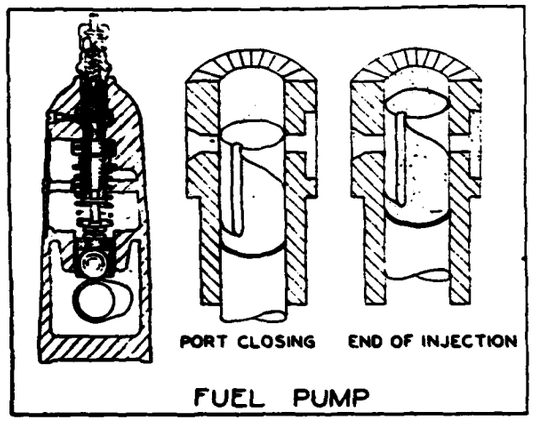
same as in the main combustion space on the compression stroke. On the power stroke this air is released when the pressure in the main chamber is less than that of the air cell, and the air rushing out creates a turbulence that aids in more complete combustion.

3. The precombustion type is a modification of the air cell type, except that the injection nozzle is placed in this cell instead of in the main chamber. In this type, combustion starts in the cell and the expanding gasses go out into the main chamber.

4. The energy cell type differs from the others in that the injection nozzle is placed in the main chamber on one side and a cell is placed on the other side opposite the nozzle. The cell has a small funnel shaped opening or venturi leading into the main chamber. When injection takes place the solid core or center part of the spray enters the venturi of the cell and is ignited in the usual way. Due to the small opening in the cell, the pressure within is built up rapidly. As the piston starts down on the power stroke, the expanding-burning gasses rush out of the venturi into the main chamber. Due to the peculiar shape of this chamber the gasses mix with the portion of the fuel spray left after injection, and are completely burned, due to the excellent turbulence.

Many engineers prefer the energy cell principle described in No. 4. This system has two decided advantages. First: due to delayed combustion action of the energy cell releasing its power to the main chamber, the peak pressure does not occur until after the piston starts down on the power stroke, thus eliminating excessive pressure and pounding action on the bearings. Second: the venturi of the cell holds back the pressure of the burning fuel so that it is not all released at once. This results in maximum combustion pressures on the piston being much lower than with the other types of combustion. Then we have what is called "Soft" or quiet combustion with less pressure and pounding action transmitted to the bearings.

Another advantage of this energy cell system is that piston temperatures are held lower and more even over the top of the piston, resulting in even piston expansion and lack of piston ring difficulties.

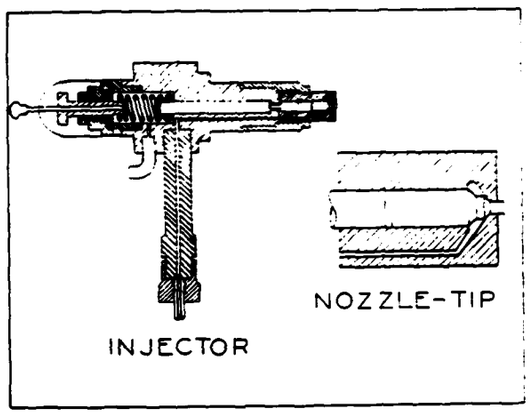


Fuel Injection Equipment

The high speed types of Diesels employ what is known as "Solid injection." Fuel oil is pumped by a high pressure plunger pump at a pressure of two thousand or more pounds per square inch, through a nozzle into the combustion chamber. This pump acts as the timer also, starting and stopping injection at the right moment. This governs the amount of oil injected. The amount of oil controls the speed of the engine, which is taken care of by a hand throttle or governor. The following diagram shows the cross section of a typical fuel injection pump. This shows a view of the mechanism for one engine cylinder.

The two enlarged views show the plunger of the pump in the barrel in two different positions. The curved portion of the plunger has the important functions of timing the injection and regulating the amount of fuel injected. This plunger, one to a cylinder, can be rotated through part of a circle so as to govern the amount of fuel injected. The stroke of the pump is always the same, and the excess fuel is led back into the system. There is one stroke of the pump for each injection.

The injector most commonly used is the "pintle" type. This is illustrated in the diagram below:



The small "pintle" which is shown in the large section of the nozzle tip is a valve held in place by a heavy coil spring. This spring tension is set by an adjusting screw so that the pintle will pull back and open the hole in the nozzle tip when the fuel pumped by the injection pump reaches the pressure that is required. As soon as the pump stops injection, the pintle snaps back onto its seat and closes the hole. This type of injection is reliable and self cleaning.

Advantages Over Gasoline Engines

A high speed Diesel engine has approximately the same weight per horsepower as a similar type gasoline engine.

The Diesel, however, has the following advantages:

1. No electrical ignition to cause radio interference on airplanes, or in vehicles.
2. Elimination of fire hazard.
3. Greater lugging ability when heavy loads are applied suddenly.
4. Lower fuel consumption.
5. Cheaper fuel used.
6. Fuel not subject to as much loss through evaporation.

Field of Applications

In the early days of the Diesel, heavy slow speed engines were all that had been developed. These were suitable only for marine and stationary use.

The Diesel today, however, is developed to a point where it may be built to operate at practically the same speeds as the gasoline engine and weigh but little more, for the same power. This has opened up a wide field of application, due to the many advantages, such as better lugging ability, fuel savings, elimination of fire hazard and greater dependability.

Following are a few of the interesting applications:

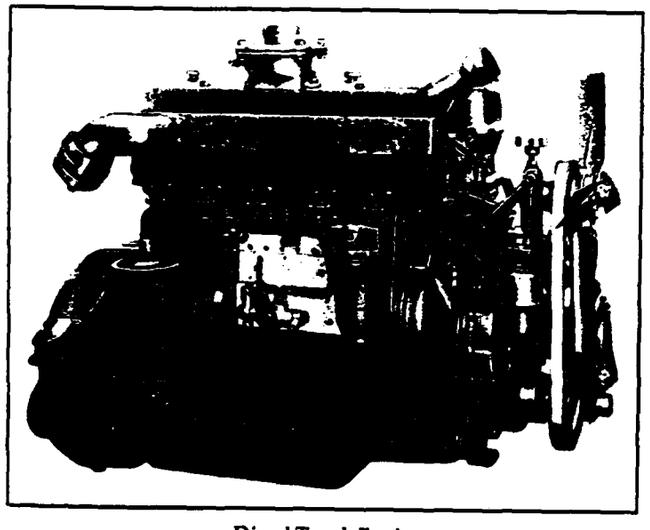
Trucks

Most truck manufacturers, realizing the demand, are offering Diesel models, as well as gasoline types. For long distance hauling or where trucks are used many hours of the day, the savings in operating costs are remarkable. The average Diesel truck will carry its pay load about twice as many miles on a gallon of fuel as a gasoline truck of the same power. The average cost of Diesel fuel is about half that of gasoline, counting a road tax on both fuels. Thus, the cost of fuel per mile travelled by the Diesel truck will be about ¼ of the cost, when operating with gasoline.

The Diesel truck will take the load through hilly country faster than the gasoline type, due to the better lugging characteristic of the Diesel engine under heavy loads.

In case of an accident on the highway, there is little chance of the Diesel truck catching fire, which is so common on the gasoline model, as the fuel is hard to ignite by ordinary means.

For Army use the Diesel truck is ideal. The most important factors being the elimination to a great extent of the fire hazard. Picture a fleet of trucks, with supplies, going across country under shell fire. A punctured gasoline tank would either cause an explosion or a serious fire, destroying the truck and contents, possibly together with other trucks close by. If it were a Diesel fuel tank that was punctured, there would be no explosion, and but very little chance of fire.



Diesel Truck Engine

The Army truck must obtain its supplies of fuel, either along the route, or from tank trucks. In the case of the Diesel, the truck can travel twice as far, without a refill of the fuel tank. To handle a whole fleet of Diesel trucks moving across country, there would be required only half the supply of fuel needed for the gasoline type.

Army Tanks

Considerable development with excellent results has been conducted by the U. S. Army with Diesel equipped tanks, during the past 3 or 4 years. This type of vehicle requires a lot of power in order to move its weight at high speed. The tank must be as small and compact as possible, with as much useful internal space as can be provided. In the conventional engine, either in Diesel or gasoline type having the required horsepower, much useful space is taken up with the power plant. By using the radial type of engine, the engine compartment can be made about half as long as when using engines having cylinders in line or "V" type.

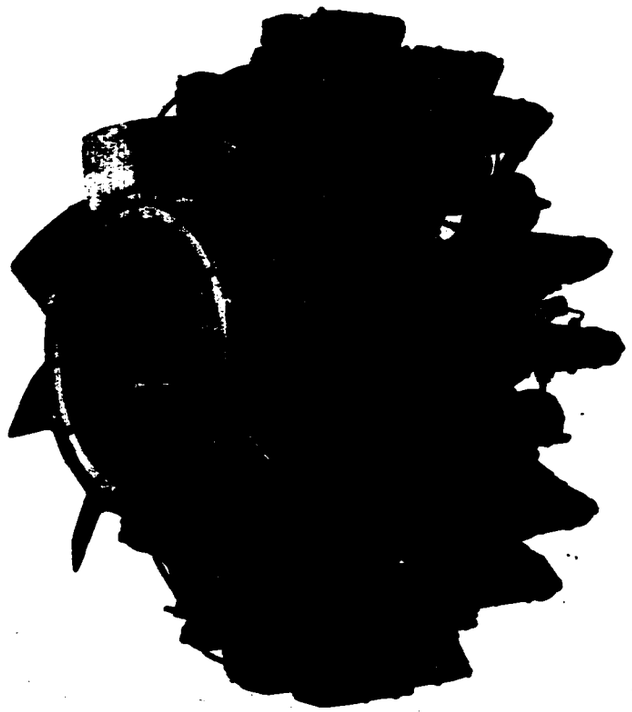
By the use of air cooling, a great hazard has been overcome. The tank must traverse very rough ground and it will be difficult to mount a large radiator and keep it from leaking as a result of the vibrations. The tank is also under fire and while the radiator is protected by steel plates, to some extent, there must be ventilation. Damage and loss of the cooling liquid may result, spelling failure, possibly at the time the tank is most needed.

By the use of the radial Diesel air cooled engine for the tanks, a number of favorable factors are obtained. First: the fire hazard is eliminated. The fuel will not explode or ignite, if the tank is overturned. There is very little chance of the fuel igniting if the fuel tank is damaged by shell fire. Second: The vehicle will be able to operate about twice as long on one filling of fuel, as compared to the gasoline type. Third: There will not be any radio shielding required to prevent radio interference from electrical ignition. Fourth: The accessories are less complicated and delicate on the Diesel, with less chance of jarring loose, as there is no ignition equipment. Fifth: The tank may travel through streams with the engine well covered with water as there is no ignition to drown out. The tanks using gasoline engines must seek shallow water or a bridge of some kind before crossing a stream. The Diesel tank can move through water at high speed as deep as the driver can negotiate, and still have his head above water. Sixth: by use of the

Radial type of Diesel, the tank will be shorter and a smaller mark for enemy guns.

Scout Cars

Many of the same comments in favor of the Diesel, as outlined before, will fall true with this class of vehicle also. Inasmuch as the use of Diesels in Army trucks and tanks is already here, it is only natural the other types of mechanized equipment will follow suit. This will simplify the fuel problem, as smaller quantities of a less volatile fuel need be transported through dangerous territory. The types of engines which have just been described cover broadly the general design used in other applications, such as locomotives, tractors, airplanes, earth-moving machinery, pumps, hoists, air compressors and oil well drilling machinery. The engines for these pieces of equipment may have a different arrangement of accesories and other forms of mounting to suit the particular applications. The Diesel engine has undergone rather slow development during the first twenty years, since Dr. Diesel started his experiments. During the last twenty years, however, this work has progressed very rapidly, where today the building of Diesel engines is one of the leading industries of the world.



Diesel Tank Engine

☆ ☆ ☆

Personal Experiences

The New York Chapter of the Military Order of the World War, 4 West 33rd Street, New York, is undertaking the project of accumulating a wide collection of personal experiences during the World War. In compiling this history they desire written anecdotes covering any stories, incidents, episodes which any military man may recollect and be kind enough to forward to them.

Russian Cavalry

EDITOR'S NOTE: These comments on Russian Cavalry are reprinted from *Military Strength of the Powers* by Max Werner. A review of this interesting volume, published in July, 1939, appeared in the September-October issue of THE CAVALRY JOURNAL.

German military literature has been proclaiming the resurrection of cavalry for some time now. Leading German military experts, General Brandt, General von Kockenhausen, and General Poseck, and the *Militar-Wochenblatt* itself are never tired of declaring that the epoch of motorization can and must resuscitate that honourable arm. Two conditions are put forward for the use of cavalry in modern warfare:

Cavalry must be used in great masses and not in small formations; and

Cavalry must be equipped with the latest weapons of modern warfare, and trained to coöperate in particular with tanks.

This German army thesis has been developed from the daily practice of the Red Army. What German military experts recommend in theory has been put into practice by the Red Army. In the civil war cavalry played a big rôle. Budienny, the Red cavalry leader during the civil war and later their Inspector-General, writes:

"Throughout the whole civil war two characteristic tendencies were observable in the use of the cavalry arm:

(1) an effort to use cavalry in masses; and

(2) the use of strategic cavalry for decisive aims."[1]

Cavalry is one of the most important offensive weapons of the Red Army. One can say, in fact, that today the Red Army has a monopoly of the mass use of cavalry under conditions of modern warfare. With its *34 Cavalry Divisions* in peace-time with 2 to 3 Brigades of 2 Regiments each, Soviet cavalry is stronger than the cavalry of Germany, France, Poland, Italy and Japan together. Whereas in the West, in Great Britain and France, cavalry is well on the way to being completely unhorsed and turned into lightly motorized formations, massed cavalry remains in full existence in the Red Army and it retains its own special tasks. Whereas in Poland, which has the second strongest cavalry army in Europe, cavalry represents a stubstitute for motorization, in the Red Army it represents a supplementary arm for use with motorized units.

Red cavalry has a double purpose:

It is used as an independent arm for offensive purposes, and in this case it is used as the core of the troops with which it coöperates. Field Service Regulations 1934 declare:

> "Strategic cavalry with its considerable strength in arms and technical equipment (machine-guns, artillery, tanks, armoured cars, and aeroplanes) is well able to carry out various tasks in battle (attack, defense, reconnoitering, raids) independently."

This idea has been expressed still more clearly in Soviet military literature:

> "In future wars cavalry will be given very responsible tasks to perform. Cavalry formations strongly supported by aeroplanes, tanks and armoured cars will have operative-strategic tasks to perform: wide encirclement of the enemy, and the capture of his most important strategic, economic and political centres—as well as tactical tasks: the final disorganization and destruction of retreating and defeated enemy troops."[2]

This was the case when the army of Deniken was destroyed in the civil war, and it was also the case during the Russo-Polish War when the chief forces of the Red Army on the South-West front consisted of cavalry supplemented by weak infantry formations, and of course at that time on a low technical level. Today the Red Army has much greater masses of cavalry ready for action and they are equipped with the last word in military technique. Such masses of cavalry represent a very powerful offensive weapon in the territorial conditions of Eastern Europe. The prominent Soviet military theoretician, Svietshin, points out very correctly:

> "Cavalry has not an intrinsic value, but one related to the territorial conditions in which the war is fought and in which cavalry will have to operate."

During the autumn maneuvers in West Russia in 1936 there was one phase of the struggle in which cavalry appeared as the core of an army, supported by tank units and aeroplanes, and a new combination of arms for future warfare became evident. Together with tank units and motorized infantry, the Red Army has powerful cavalry formations, a highly mobile weapon for an offensive blow or for maneuvering.

At the same time cavalry in the Red Army is trained to coöperate closely with tanks, and it has its place in the decisive operations of the powerful moto-mechanized units. It is the task of cavalry to follow up tank attacks, to occupy captured territory and mop up isolated enemy posts. It must never offer a good mark to the enemy, it must be highly mobile and be used against the man-power of the enemy whilst the tanks are destroying his fire concentration. In such a combination of arms the operation of pursuit can be carried out rapidly and with all energy, and the exploitation of successes can be carried out at top speed.

The Soviet Commander Krivoshein writes as follows in a book which was translated into German and created a sensation in German military circles, which regard it as a pioneering effort in the tactics of modern warfare.

> "Just as for cavalry, the pursuit of a defeated enemy is one of the most fruitful tasks of mechanized troops. The great mobility of cavalry is supplemented by the impetus and maneuvering capacity of the tanks, and therefore a mixed formation of cavalry and mechanized troops represents a very effective instrument of pursuit."[3]

The Red Army has rehabilitated the cavalry; the rider of the plains now takes his place, with modern equipment, side by side with the mechanized unit.

[1]Budienny, "Red Cavalry," in the *Bolshevist*, No. 4, 1935, p. 38.

[2]*Voina i Revolutsia*, September-October, 1933.

[3]Krivoshein, "Taktik schneller Vergande," published in a German translation by the *Voggenreiter-Verlag*, Potsdam, 1934.

Little Phil

PART II

The VI Corps took up the charge.

By Fletcher Pratt

Illustrated by HOWARD WILLIAMSON

When the word came Sheridan had moved a little up the Valley to Berryville. Early was camped west of him, before Winchester in a position where several roads came to a nexus among some jutting heights. Stonewall Jackson had won a battle there in '62; perhaps the Confederate commander felt it a place of happy augury to his side. Sheridan, who had visited the town during the early days of his Valley command, thought it radically defective as a military post, refused to put his own army there, and now planned to crush Early in it. At one o'clock in the morning of September 19, the men were roused from their beds, given a meal and hot coffee; at two, the whole army marched. Early had been moving his forces restlessly about during the previous days. Sheridan hoped to strike Winchester while only two of Early's four divisions were there, but planned to inflict a Leuthen on whatever he did find. The main road from Berryville to Winchester, a good metalled highway, runs for three miles through a narrow ravine, then crosses a little belt of plain country and mounts a low plateau, at the far side of which stands Winchester town, with the abutments of Little North Mountain soaring up behind it. A series of tracks, passable for infantry but not much else, roughly parallels the road through the hills south of the ravine. There are more hills, broken and knob-like, north of it, reaching to the very foot of the plateau before Winchester.

The rebels had a fort at the outlet of the ravine, and their camps lined the plateau behind it, which was not quite high enough to afford a good view over the hills, nor did they have any force out in those hills.

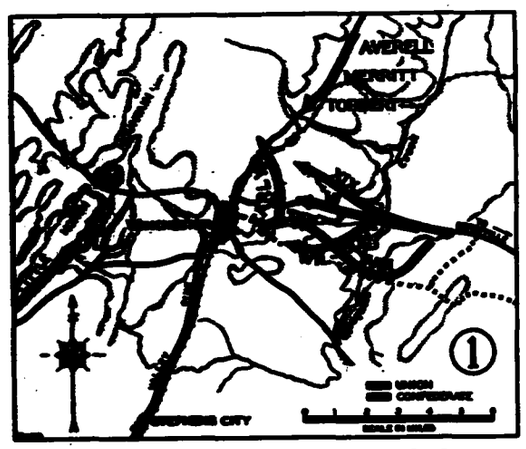
Sheridan's orders put Wilson's cavalry division at the head of the advance. This officer was to use his mobility to the full; as soon as he found himself within the walls of the three-mile-ravine press on at the gallop to seize the outlet fort, the only real danger to the movement. Behind Wilson, Wright's VI Corps was to march through the ravine to the edge of the plateau, attack and fix the Confederates there, while Wilson covered their left flank, filing off into some flat country southeast of the town. (See Map 1.)

The XIX Corps would follow the VI through the ravine, swing right around the foot of the plateau and deliver an oblique attack on the left wing of the rebels as they faced Wright. Meanwhile the VIII Corps would take the mountain tracks south of the ravine, strike in between Wright and Wilson on the right wing of the Confederates. Torbert with the division of Averell, which was already north of Winchester, and that of Merritt, which left during the night to join Averell, was to come down the main Valley Pike on the Confederate left rear into the town. It was a combination attack, but one that stood in no debt to time, which makes combinations fail: for Sheridan's main body would be always under his hand for a change of assignments. In fact, all accidents were provided against but the one that occurred after Wilson went galloping up the ravine with the first false dawn behind him, and dismounting his men, stormed the fort. General Wright, that capable but formal soldier, marched on behind Wilson to deliver a surprise attack with his full equipment of ambulances, wagons and baggage following the infantry. With break-downs and bunchings this transport jammed the road through the ravine; the XIX Corps could neither pass nor speed up (Map 2). It was already noon and the VI engaging the whole rebel army in a fire-fight of the most murderous character when Sheridan in person discovered what was wrong, ordered the teamsters to "get those damned wagons into the ditch" and brought the XIX Corps to the field.

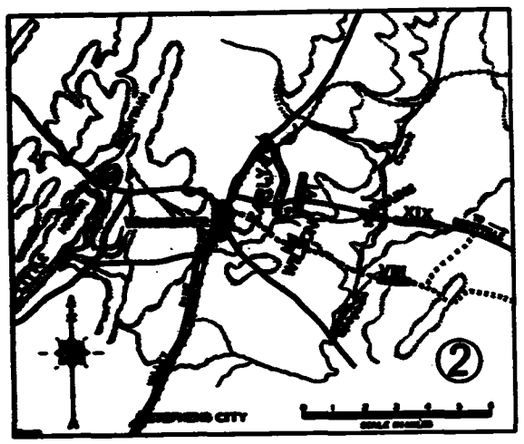
Now it was too late for them to oblique onto the Confederate left. Early had every man up; as the XIX Corps began to reach the field, he flung forward a storming column under his best officer, Rodes, against the right of the VI. One of Wright's brigades went; the attack rushed on till it was halted by a battery of heroes from Maine, who stayed to shoot things out—unsupported artillery against foot. They gained time enough for the XIX to reach the line, marching and firing across the rebel front, both sides suffering heavily in that open ground where there had been no time to take cover—suffering so much that by one o'clock the battle had sunk to a lull along parallel lines.

But one o'clock brought Crook and his VIII Corps. Boldly changing plans in the middle of action, Sheridan switched it across the rear of his front around the foot of the plateau to the right of the XIX, through the hills. Crook got his artillery onto a commanding eminence from which it would enfilade the rebel line. At three he delivered the attack meant for Emory under cover of the sudden, surprise fire from these guns. Among the Confederates Gordon's division was broken and driven in, the

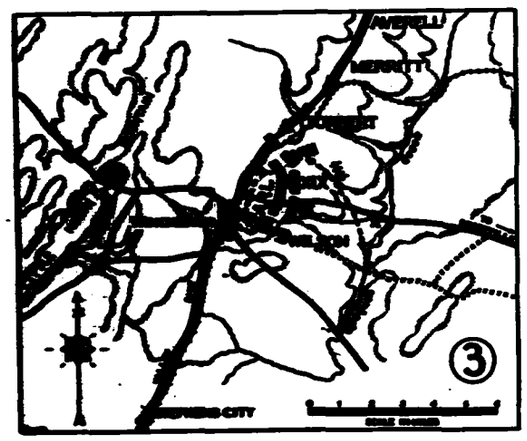
He ended the day of Napoleonic cavalry



Map 1: Winchester. Sheridan's attack plan.



Map 2: Winchester. The plan miscarries.



Map 3: Winchester. Situation at 4:30 p.m.

XIX and VI Corps took up the forward movement and it was only some distance back that Early managed to re-establish a right-angled line at 4:30. (Map 3.)

And now he found himself in still deeper trouble. Young Wilson had gotten his cavalry division into the saddle again after Wright took over the fort from him in the morning. All day now he had been circling through open ground south of Winchester, great masses of horsemen in full view but beyond gun-range of Early's men, reaching for their strategic flank, his action the perfect pattern for that of a motorized division. In the fog of war where decisions must be based on a glance, Early assumed that this was the whole Union cavalry force. He switched his own cavalry to fend it off, had nothing left to cover the left flank that was floating in air on the Valley turnpike when just at 4:30 Torbert came riding in at the head of five thousand horsemen.

As they appeared the Union men set up a whoop. Crook charged, Emory charged, Wright charged, the Confederate line was carried right away. "It was sad, humiliating, disgusting; I never saw our men in such panic before," wrote a Confederate officer who was in the wild rout that went tumbling through Winchester in the fading light. "God bless you," telegraphed Lincoln to Sheridan; for a moment all the voices of politics were stilled as this morning star of victory rose in the North, the brighter because it shone on the Valley, Stonewall Jackson's Valley, the rebels' great road of war.

That night Sheridan sent his tired, happy men to early rest. Next morning he had them on the roads with day. At Strasburg, where the Massanutten chain juts forth to split the Valley into twin tunnels, Early had taken his stand. The eastern half of this double Valley has bad roads and few from here south. Against an army it is necessary only to watch the other gap, and right across this behind Strasburg cuts a deep gorge whose rocky sides are ill work for even an unarmed man to climb, its western beginning being back among the folds of Little North Mountain. Early held a promontory on the far side of this gorge, called Fisher's Hill, and thought the position so strong that he sent his gun limbers to the rear.

On the night of September 20th Sheridan was already in Strasburg and had formed his plan of attack. As the Union troops filed in that evening the VI and XIX Corps were brought up with much parade and skirmishing to take position facing Fisher's Hill across the gorge. The VIII Corps, last in line on the roads, by Sheridan's order delayed its arrival, then came by a long circuit, concealed behind hills from the Confederate signal stations on the Massanuttens. Crook did not join the other corps, but made for the slopes of Little North Mountain. (Map 4.) It is all forest there; the VIII Corps men kept well back among the trees, scrambling all day of the 21st and 22nd among the slopes and around peaks till they reached a position, still in woods, behind the Confederate left rear. Even their weapons were wrapped in rags to hide the gleam and clang.

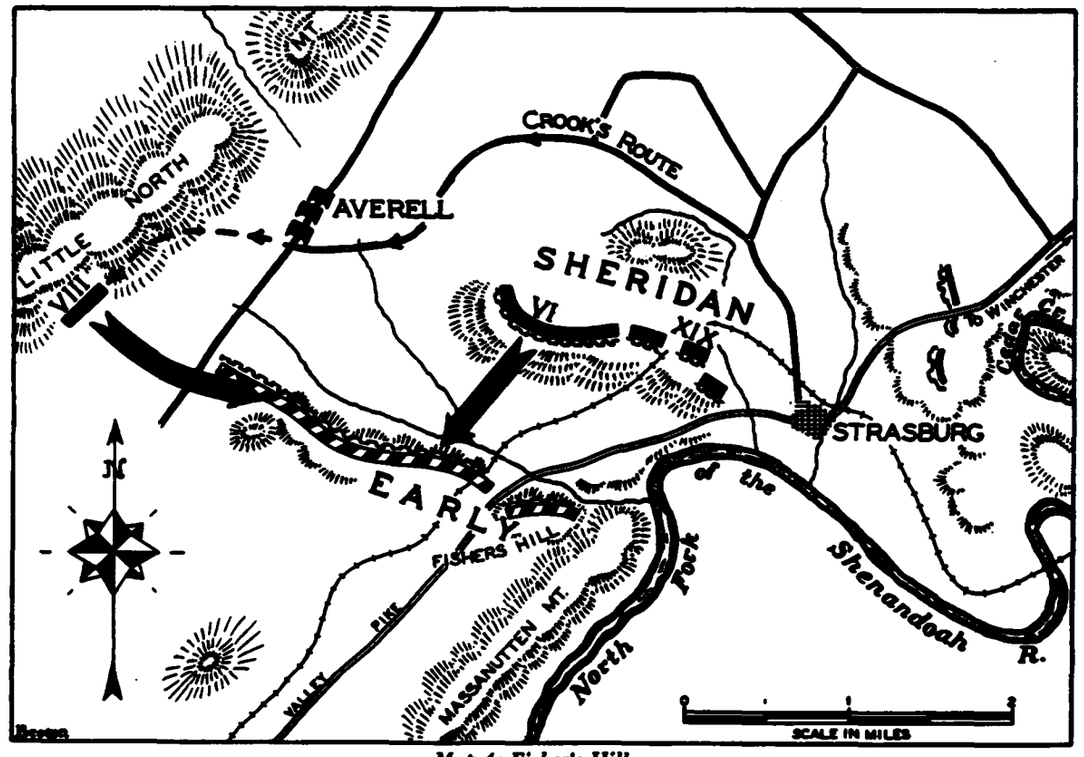
Along the side of Little North Mountain, past the front

where Crook's men lay concealed, runs a narrow road. Well back on it Averell's cavalry division was massed to draw the Confederate left as far forward as possible, and to ride in behind Crook after he had delivered his blow. Torbert meanwhile, with the divisions of Merritt and Wilson, was hurried forward up the road of the eastern Valley through Luray, a forty-mile march which only cavalry could make at speed. He was to get across the Massanuttens where they flattened at their lower end, seize New Market in Early's rear, intrench it and hold there. This march was the reason for delaying the main attack; Sheridan meant to make a clean sweep.

By evening of the 22nd September the cavalry had been given three days for its forty miles. The day had been spent in inconclusive skirmishing and artillery discharges around Fisher's Hill. The rebels were gathering round their campfires for supper in very good heart when the sun went down. It was the signal; through the long shadows that stalked across the valley, eleven thousand men of Crook's command dropped from heaven on the rear of the Confederate line. A shout went up, "We are flanked!" They broke, then began to run. The VI Corps took up the charge, scrambling across the wall-like ravine, with Sheridan in the middle of them, shouting "Forward everything! Don't stop! Go on!" whenever anyone asked him for instructions. Everything went forward; in the brief space between sundown and dark Early was driven in rout with the loss of part of his artillery and a big haul of prisoners.

The verdict of Winchester was confirmed. The North went wild with delight, and hundred-gun salutes were fired from every military post, but to Sheridan it was his most unsatisfactory battle. He had planned for destruction; he got only victory. Down the Luray Valley Torbert had encountered an insignificant Confederate force in an intrenched position. He was a good officer, but in the old style; though he had seen it at the Wilderness, the new tactic of cavalry charging on foot meant nothing to him. He kept his men in the saddle, uselessly jigging around, till the opportunity passed. At Fisher's Hill itself Averell committed an even worse fault. He waited respectfully for the infantry to clear the road ahead of him, and when they had not entirely done so by dark he went into camp. Sheridan instantly relieved him and gave the division to Custer.

Early meanwhile, was given no chance to rally. The infantry pursuit held so hot to his heels he was driven to the limits of the Valley. Washington, supported by Grant, wanted Sheridan to follow on and make a campaign against the rear of Richmond, but the latter turned this idea down—it meant long communication lines without any railroad support. Through the next three weeks, therefore, he moved slowly back north, burning out the ripe grain, driving off animals, and answering all protests by



Map 4: Fisher's Hill.

the bland statement that loyal citizens could bring claims against the Federal government.

II

His operations had caused as much consternation in the Confederacy as delight in the North. It was impossible to repair the physical damage the Army of the Shenandoah had caused, but for the moment this was less important than the question of morale to Lee and the Confederate high command. Desertions were rising at an alarming rate; the men needed the stimulus of a spectacular victory, preferably one that would severely punish Sheridan, since his was the only one of the Union armies that had gained clean-cut wins in offensive battle. Moreover, his work in the Valley was done; the Confederacy was not ignorant of the reports that the bulk of his forces would be returned to Petersburg.

It was thus that Lee came to detach Longstreet's corps to Early for one more drive down the Valley, the last and greatest. They made a long, fast march. At 3:30 in the morning of October 19 they were on high hills from which they could look down into the sleeping Union camps along the line of Cedar Creek, just north of Strasburg. At four o'clock a clinging mist hid everything a hundred yards away; at five the rebel yell went up and an attack from three directions at once struck the horseshoe circuit of Union camps. (Map 5.)

We may be sure that if Sheridan himself had been in those camps, with his uncanny gift for discovering an enemy's purpose and movements, there would have been no surprise. But Sheridan was not there; he was in Winchester (not twenty, but fourteen miles back) holding a conference with some bigwigs from Washington. The first division of the VIII Corps, caught in their beds, was swept away, partly taken, partly driven in flight, all its guns captured, without firing a shot. What was left of the corps tried to form line on the XIX, but was taken simultaneously in front and from both flanks and likewise driven into rout with hardly any resistance. The XIX, taken in reverse by infantry, cannonaded in front by the captured guns of the VIII, lasted less than an hour before dissolving, all but part of one division, which fell in with the VI and some of the cavalry and made a stand on a hill overlooking the road, well back.

It was a hasty assemblage, ill-organized, only the cavalry thoroughly sound, which had camped so far from the foot as to be outside the circle of the rebel attack. Early might have swept it away, but his tired, hungry men could not be torn from the luxurious plunder of the Union camps. At nine in the morning, he got enough of them together to form line of battle and attack Wright, who retreated slowly, in pretty good order, swinging out Torbert on his left in a movement that held so much menace that Early gave up the notion of driving home for the time being.

At eleven the Confederate leader had his men in hand and could try again. He came on all along the line, orders had been given for the Union force, the small surviving Union force to fall back once more, when the discouraged and beaten soldiers heard, far in their rear, that unbelievable and intoxicating music—the cheers of Cedar Creek.

As they stared at each other in amazement the distant murmur swelled and swelled to a roar. In a few moments more men wearing the Maltese cross of the XIX Corps and the star of the VIII were joining them, not in order, but falling in under any standards or officers they could find. With them came Sheridan. He had mounted his horse at the shock of distant guns early in the morning, riding toward the sound until he met the first group of fugitives, whom he turned into a provost's guard by forming them across the road. "Turn around boys, we're going back," said he. The provost's guard grew to the strength of a company, a regiment, a division, a corps, shouting "Here's Phil Sheridan; we're going back!" and according to one witness, "throwing up their caps, leaping and dancing in wildest glee" as they hurried back to the battle.

"Where's the VI Corps?" asked Sheridan as he approached the front. There was nothing wrong with that formation; Wright had just stopped Early's last push, was all in line with Custer champing at the bit on one flank, asking every five minutes for permission to go, the other two cavalry divisions on his left along the road, and such guns as had been saved with them. Early, upset by this bold countenance on the part of an army that ought to be in flight, and still more upset by the presence of so much cavalry—his own was weak and had fought badly—was beginning to think of defense. He formed a new line, along walls and rail breastworks, carrying it out left and right to bring infantry opposite those menacing clouds of horse.

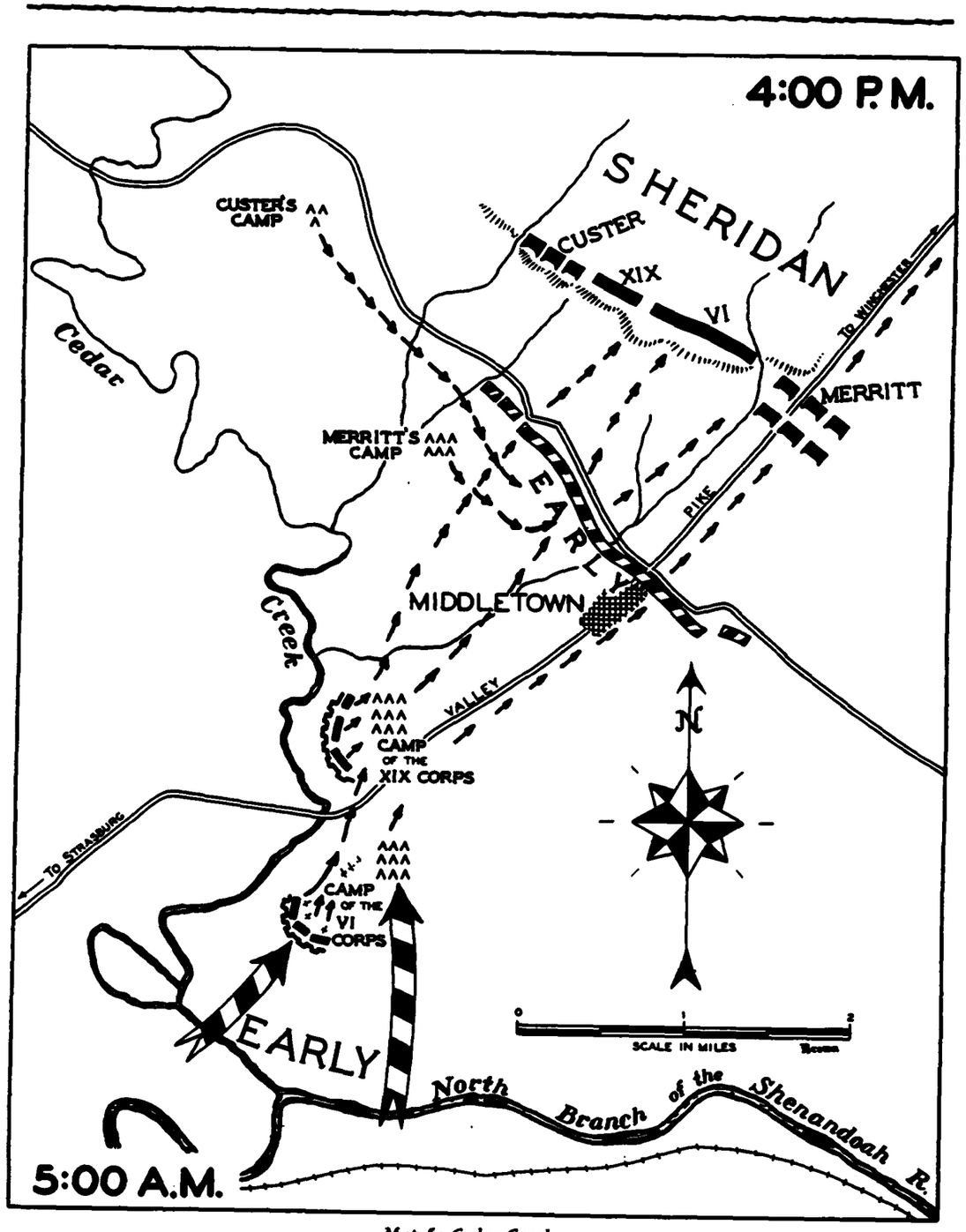
While he was doing it Sheridan rode the front of the Union formations from one flank to the other, swinging his old blue campaign cap and shouting, "We're all right. We'll whip them yet."

It would be near four o'clock when he reached the extreme right of the line and there noticed how thin the successive prolongations had made Early's line. There had been time now to get the returned fugitives into some semblance of organization; Sheridan swung them forward in a general attack. It is inaccurate to say that it broke through anywhere; the whole Confederate line rolled right away before that attack, with Sheridan everywhere, urging his men to, "Run! Go after them!"

"We can't run, we're all tuckered out," cried a private at him and drew the reply:

"If you can't run, then shoot and holler. We've got the goddamndest twist on them you ever saw."

They kept them going. The overpowering Union cavalry smothered Early's attempts to rally. They recaptured the Union guns that had been taken in the morning; they captured all Early's artillery; all his ambulances; his ammunition wagons, his transport of every kind, and 1,500 prisoners to balance the 1,400 they themselves had lost in the morning. Early went flying up the Valley in such shape that his corps had to be completely reorganized be-



Map 5: Cedar Creek.

fore it could take its place in Lee's lines, and the Shenandoah was out of the war.

The news arrived north with that of the capture of Atlanta. "Sheridan and Sherman have knocked the bottom out of the Copperheads," remarked Horace Greeley—correctly. For Democratic candidate McClellan was forced to repudiate his party's platform declaring the war a failure and the elections went Lincoln by so huge a majority as to constitute *carte blanche* to the President.

III

Latrine rumor had set the date of the opening of the 1865 campaign for March 29. The day broke cold, wet and cheerless over the Cavalry Corps, Army of the Potomac, which had done little but outpost duty since Sheridan left last fall. Gregg, whom the men adored, had resigned; Wilson had gone to the West; they did not know the new leaders—and it seemed that the war of siege and thickets in which they were now tangled would never end. But that morning a bugle blew sourly through the damp; they saw a guidon half lift and behind it there came riding down the line a skinny little man on a big black horse. Little Phil was back; the men cheered and passed the word that things would be humming now.

They were right. For days now Little Phil had been pacing the floor at headquarters conferences, replying to every argument with, "I tell you I'm ready now to strike out and smash them up. Let me go!" He had permission for that date. Before noon the whole corps, now 13,000 strong, was moving through the wet spring woods in the walking columns that meant a long pull with a hard fight at the end of it.

Nominally, it was to be a cavalry slash at Confederate communications—Sheridan's orders were effectively to break the two railroads that fed Lee—but actually the assignment was different, reflecting a subtle change in the status of both corps and commander. In the corps it was marked by the fact that only one of the three division leaders was now of the cavalry service—Custer, who had been brought up under Buford, and to the front under Sheridan himself. The others were led by a pair of infantrymen—Devin, Crook. And still more marked was the fact that now the whole corps was armed with repeating rifles and accompanied by that lavish equipment of artillery Sheridan had asked the year before—more artillery in proportion than the infantry itself had.

Obviously, this signified the triumph of Sheridan's theory of cavalry over Meade's. But this is not all. As a subordinate leader whose ideas had gained preference over those of his nominal chief, his position was somewhat anomalous. This anomaly was reflected both in his title, which was "Commander in Chief of the Army of the Shenandoah, serving with the Army of the Potomac," and his assignment in this opening campaign.

For the drive he headed was only nominally against the rebel railroads. As Grant instructed Sheridan before the move began, the true purpose was to make Lee come out of his trenches and fight. If, after Sheridan had reached the railroad lines, the Confederates threw against him more forces than he could handle, good—he could use his mobility to dodge them and either swing back to the main army, or turn south and hook up with Sherman, who was now thundering through the Carolinas. Meanwhile Grant would take Richmond; for the detachment of a force big enough to handle Sheridan would leave Lee's lines unable to resist assault. If Lee divined the presence of the cavalry corps and opposed it with strong forces before it reached the railroads, good again—Sheridan was to call to his aid whatever infantry corps he found nearest, assume command of it, and fight the big battle right there, under his own direction.

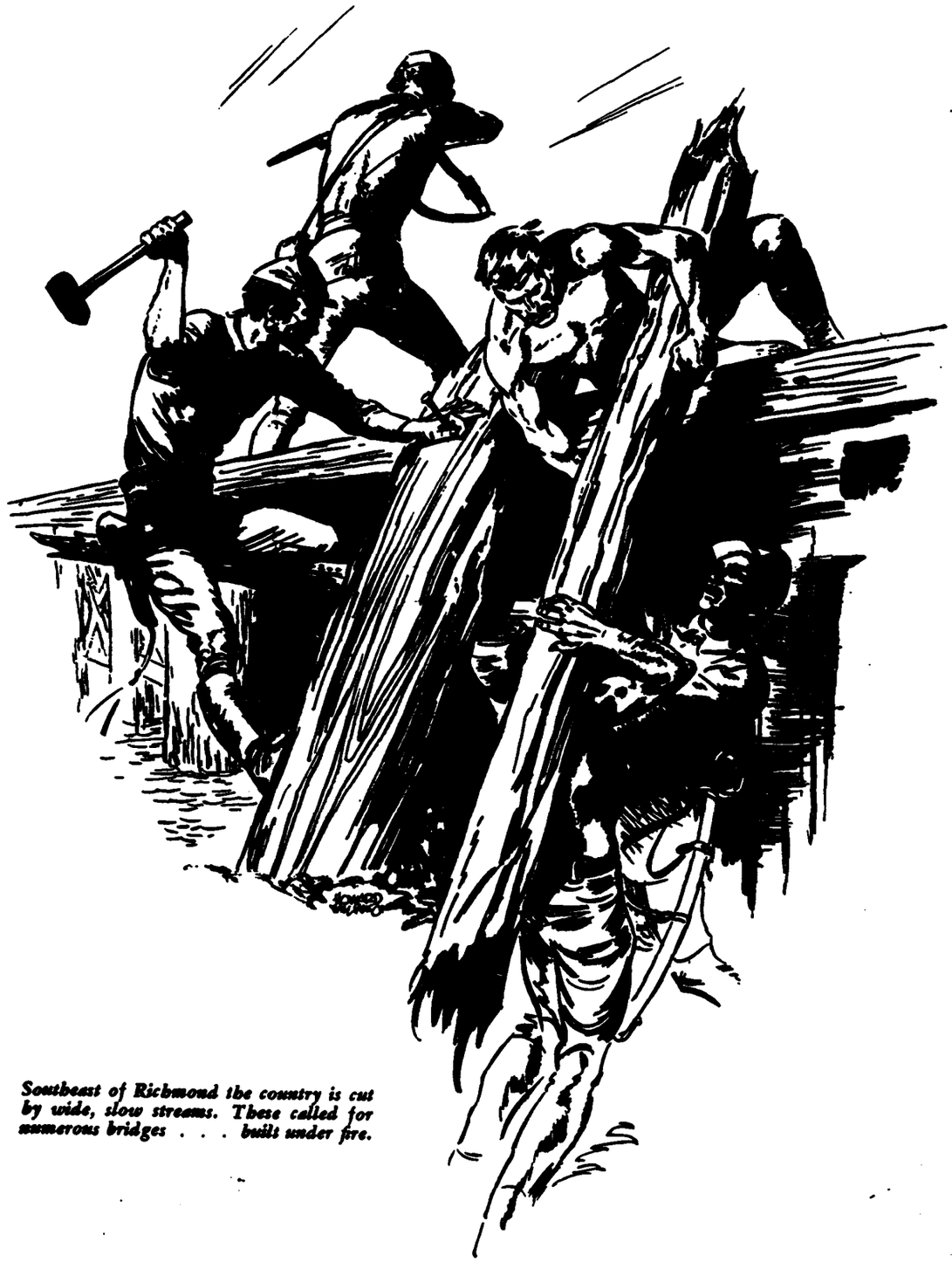
That there would always be one or more infantry corps near enough to help Sheridan was provided by the remainder of the army orders for the movement. Sheridan's corps was to cross the north-south Hatcher's Run, headed west, then swing north in a vast half-right wheel. Inside his movement, making the same wheel through a narrow circle, Warren's V Corps was to march; and inside Warren, through a circle still narrower, Humphreys with the II Corps.

In effect, then, Sheridan was given a semi-independent command as leader of a vanguard, with as many troops as he needed under his orders. In effect also, the last distinction between cavalry and infantry was abolished except during the period of the approach march. Sheridan's own corps was merely placed at the extreme wing of the turning movement because, of all the corps, it had the greatest strategic mobility, and of all the generals, he had the greatest skill at using speed.

On the afternoon of the 29th March it rained pitchforks and nigger babies, continuing through the night and the next day. The country southwest of Richmond is low-lying, densely wooded, quaggy, cut by wide, slow streams that give poor drainage. Under the pounding rains roads became impassable to wheels unless corduroyed, an important element in the military situation. It enabled the Confederates to gain utmost advantage from their South Side Railroad, running laterally behind the front of operations, and unaffected by the weather.

On the 27th, Lee had already learned of the cavalry concentration behind the extreme Union left, and realizing that it portended a raid around his army—though, it seems, he did not grasp the ultimate purpose of the movement—he planned to use his superiority in communications to drive a wedge between Sheridan and the main Federal army, smashing the former.

The night of the 29th therefore saw General Fitz Lee arrive at Five Forks with all the cavalry of the rebel army. Next morning he was joined there by Pickett, who was to have charge of the operation, and who had brought two infantry divisions with their guns down the railroad. At the same time the Confederate forces in the trenches executed a general slide rightward along their lines, setting free part of A. P. Hill's Corps and all of Anderson's for a surprise attack. This blow was to strike in on the extreme left flank of the Union infantry, where their



Southeast of Richmond the country is cut by wide, slow streams. These called for numerous bridges . . . built under fire.

trenches ended near the junction of the White Oak Road and Boydton road, rolling their line up eastward and away from Sheridan.

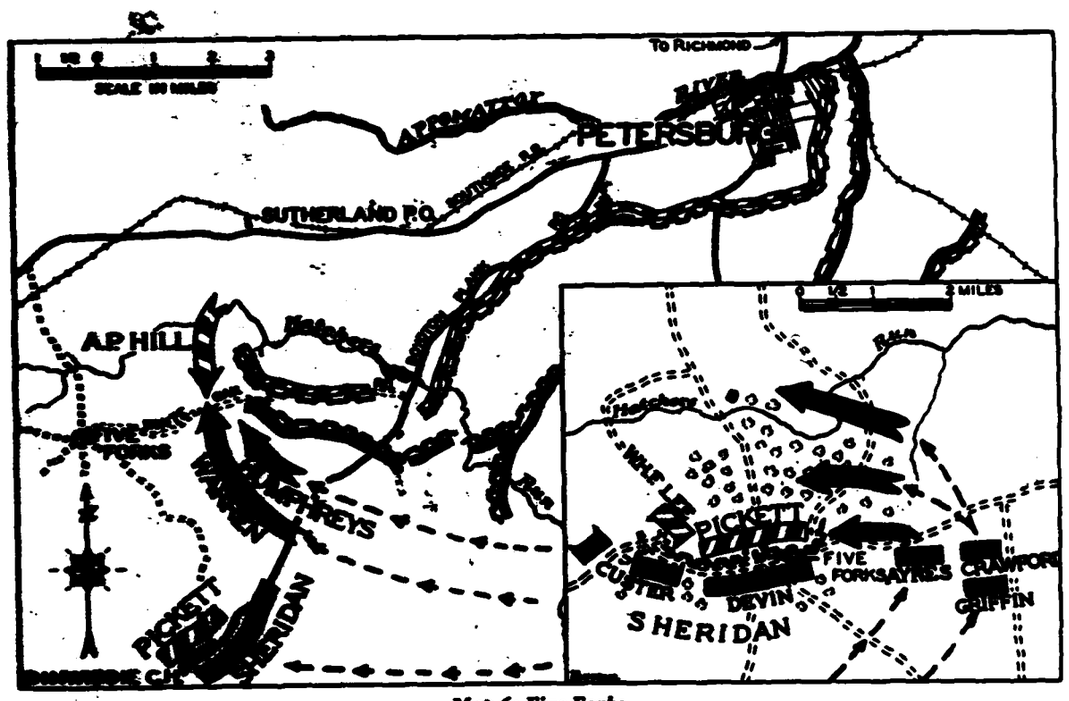
The 30th March was a day of obscure skirmishings in the woods under the rains, Sheridan's division Devin making contact with Pickett's cavalry vanguard near Five Forks. That same rain and the configuration of the roads delayed the march of Warren's V Corps and forced it in toward Humphreys of the II Corps, at the same time keeping Warren to a narrow front. When A. P. Hill's attack developed on the morning of the 31st it therefore struck the head of a deep column instead of the flank of a line. (Map 6.) Warren's leading division was indeed driven in, but the defense impacted along the line of a stream. At noon Hill was stopped; in the afternoon help from Humphreys joined Warren and he counterattacked so vigorously that by afternoon Hill had lost more than his gains and was clinging for dear life to his field works, so lamed as to be unable to take more than a defensive part thenceforth.

Southwest of this battle Pickett had caught Sheridan's columns coming along the several roads into which they had been forced by the rains. With artillery and concentration on his side (Sheridan's guns had been delayed when he pushed on with the horse), he drove the Union cavalry back to Dinwiddie Court House. But here, about the time Warren finished his job on A. P. Hill, Sheridan got all his men assembled in trenches and Pickett also was brought to a standstill.

At this point Sheridan's mission was already a success. Off to the east Grant was asking Wright and Parke whether they thought Lee had not taken enough men from his lines to make the final assault of Petersburg possible and they were answering "Yes." But Sheridan was not thinking in terms of the general success alone. He was filled with the spirit of the offensive, when he learned at five o'clock of Warren's success against Hill, he instantly perceived an opportunity to destroy Pickett. His own position, facing a little west of north, meant that the rebels facing him were nearly east-west, with Warren's Corps far in behind their left rear, already across the direct communications between Pickett and Hill. Warren had dealt Hill so rude a stroke as to eliminate him for the time being; he was therefore free. If now, during the night, he swooped on Pickett's rear with his three divisions—

Sheridan asked for the move. Far in the rear Grant and Meade, reports and maps in hand, discovered the same opportunity and sent Warren orders for the same move. But Warren, always a perfectionist, only replied by telegrams suggesting different routes of march, suggesting that a bridge be built, suggesting a dozen minor improvements in the plan, and while he wrote carefully worded dispatches the night passed. Pickett's scouts brought him word of the danger he was in. At daybreak he drew in his horns, and Sheridan was in no good mood over the missed opportunity as he followed up the retreat.

But now, on the morning of April 1, the weather con-



Map 6: Five Forks.

Half of Anderson's command was taken prisoner.

ditions that had fought for the Confederates shifted their allegiance. Pickett's men had come with trains and guns: even were these sacrificed they could hardly get away from Sheridan's lighter-moving cavalry along the foundered roads. Pickett had to stand for a fight. He chose a position at Five Forks, where some old trenches, hastily improved, gave him some chances. His front was a rough crescent covering the road junction, facing south and with the left flank covered by a switch. (Inset, Map 6.)

Sheridan, as usual in possession of complete, accurate information about the enemy, had been following close with his 13,000. His orders brought Warren on the scene from the right and at one o'clock the position solidified. Custer was facing the right flank of Pickett's trench-line. Devin was spread along its front. Both were dismounted, along the edge of woods, with instructions to offer constant threats of attack, with the exception of one brigade of Custer's command, which was kept in the saddle working westward, as though to attempt something against Picket's right wing, and thus attracting Fitz Lee's cavalry to the defense of that flank.

This left Pickett with only that reëntrant angle of trench to cover his left, and against this Sheridan designed to put in the whole of Warren's Corps, supported on its right by the independent cavalry division of Mackenzie, which Grant had speeded forward. The attack was to be an oblique with a tremendously reinforced right wing, to throw the Confederates away from their main army. Of Warren's three divisions, that of Avres, the weakest, was deployed to come against the Five Forks

lines from the southwest, linking up with Devin on its left and engaging the attention of the rebels at the angle. Crawford, the heaviest of the three divisions, would dress on Ayres, slide past the end of the refused angle of trench and cut around to take the line in reverse. Griffin, with the third division, was to follow Crawford in column, lending intolerable weight to his push, Mackenzie ride beyond Crawford and cut the rebel retreat.

But Warren drew his sketch-map for the operation wrongly, placing the limit of Pickett's trench-line too far east. The consequence was that Crawford, with Griffin following, missed it entirely. Ayres, with whom Sheridan himself was riding, suddenly received an intense fire of musketry from his left, where his troops caught the blast from the angle.

Sheridan himself rode to the skirmish line, helping Ayres half-wheel the division leftward, bringing up the reserve brigade to prolong the line out to the right. His staff rode off to keep Crawford and Griffin going on the line they had already taken, striking far around behind across the direction of the rebel retreat. Little Phil labored like a demon, got everything into position, carried two regiments out until they lapped round Pickett's trench line, and then personally led a whirlwind charge, riding his big black horse with a guidon in his hand. Pickett's flank burst; Devin swung in as the attack reached his front and the Confederate line was rolled up. Griffin and part of Crawford arrived from the woods to destroy the last rally; Pickett lost 4,500 prisoners, all his guns, most of his trains, and Lees' striking force, the only one he had for offensive operations, was destroyed.

And where was Warren while this was going on? He had been near Sheridan when Ayres was struck by the first flanking fire. When that broke out he rode off into the forest to change the direction of divisions Crawford and Griffin, but in the tangle of woods missed them too, and did not again reach the front till it was all over but the pursuit. There was one thing Little Phil Sheridan could never forgive in any man—unwillingness to get to the scene of action. Now Warren had twice in two days been missing when he was most wanted. Sheridan peremptorily removed the hero of Little Round Top and gave his corps to Griffin.

IV

Now the lion of the South was wounded to death, no more men left for any offensive blow and along the Petersburg lines Wright and Parke attacking him. They won a lodgment, a trench, a whole line of trenches, they were in, during that twilight when Pickett's last stand before Sheridan so disastrously broke. Next morning Jefferson Davis was summoned from church to flight; another morning and Weitzel's men of the XXV Corps were marching into Richmond under smoky pillars of destruction.

The pursuit started that April 3, Sheridan leading, with the cavalry and V Corps under his orders, Meade following fast with the II and VI Corps, and Grant bringing up the rear of the army. Lee's ostensible point was Amelia Court House. Both Grant and Sheridan guessed it would be near there. The moment the Petersburg lines were won Sheridan had been rushed forward to get across the Danville Railroad between Jetersville and Burke's Junction. He reached position on the 4th April, before Lee was fully assembled. That same night the V Corps was intrenched at Burke's Junction, (Map 7), and one of Crook's brigades lashed out along the line of the South Side railroad toward Farmville. It was this brigade that caught and burned Lee's headquarters train the next morning, where it had been sent on ahead of the flying army.

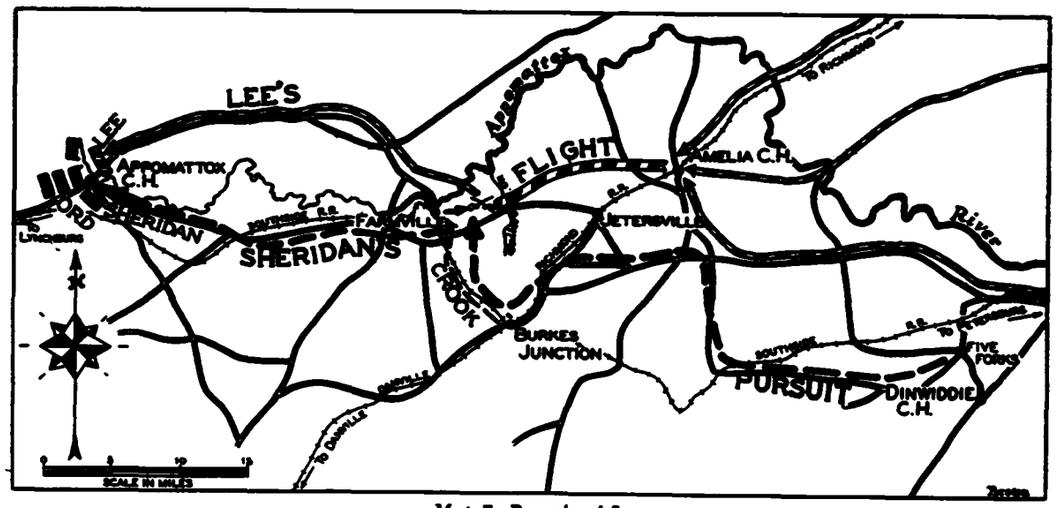
Meade did not arrive with the other two Union Corps till the 5th. Lee got his men fully in hand that day, and though the troops were dog-tired and starving, dared not stay with Sheridan's formidable force already seizing positions along the only line of retirement now left open. He marched by night, in several columns with the trains north of them, to their right—a change from his original plan, which had been to send the trains ahead, clearing the roads—a change forced by Sheridan.

In the morning Meade went toward Amelia Court House in attack formation and found Lee gone. But Humphreys of the II Corps caught the tail of one rebel column and his cannonading helped turn the whole army in the right direction. Besides, Sheridan, reaching far north on the extreme left wing of the Federal army, had already attained so great a distance that the Confederate columns had been unduly crowded toward their right, in on their own trains. This slowed them up badly. Crook's cavalry division was granted time to slip between two of the formations and attack trains so energetically that Anderson's Confederate Corps had to stop and form line of battle to drive Crook off, just west of Sailor's Creek.

This halt also stopped Ewell, who was behind Anderson on the roads; Wright's VI Corps caught up the latter and forced him to stand on the banks of Sailor's Creek. Meanwhile Sheridan brought the rest of his division up to help Crook hold Anderson's force. The latter was now in a line of hasty field works; Sheridan fronted it with all his corps but Crook, who was shifted round Anderson's front to close the only road of retreat. Ewell sent to Anderson, proposing they unite and drive this cavalry off, but before either general could do anything about it, Wright's artillery opened and at the same moment Crook led a dismounted charge onto Anderson's flank and rear.

Anderson was blown right away, with half his command taken prisoner, and the advance rushed on to surround Ewell, who surrendered with what was left of his corps before evening. The trains all went, too. But though Lee had lost nearly half the men he had on March 29, he had now gained a lead on the whole Union army with the rest.

However, there was still Sheridan; there was always Sheridan in this campaign, reaping the fruit he had planted at Yellow Tavern, when the Confederate cavalry service was struck down forever. As soon as the fighting round Sailor's Creek was over, he turned southwest, spend-



Map 7: Pursuit of Lee.

ing his mobility without stint to get round the Confederate column toward Lynchburg. Behind Sheridan the V Corps was moving west on the roads south of Appomattox River, and south of the V Corps, Ord with the XXV Corps, which had marched far and fast, taking no part in the move toward Amelia Court House.

On April 7, while Humphreys' II Corps was pecking at Lee's rear guard near Farmville and the Appomattox crossing, Sheridan was gaining, going right past Lee to the south. On April 8 in the morning he turned north to Appomattox Court House. There he caught Lee's trainloads of provisions, and the poor rebels went to hungry beds that night. Next morning Fitz Lee and Gordon were appointed to fray a passage through Sheridan. They tried; there were a few shots fired and some little movement but for once the greatest fighting leader of the Union did not fight. Sheridan's cavalry merely moved right and left like a parting curtain, and allowed the Confederates to see the solid lines of Ord, rank on rank.

"Then there is nothing left to do but go and see General Grant," said Lee.

V

After the war Grant, who had come to lean on Sheridan as his man of all work as he had leaned on Sherman in the west, remarked that Little Phil was the one man he could trust to lead an expedition without going off on a private war of his own. "I rank him with Napoleon, Frederick and the great commanders of history."

At the time there seems to have been general agreement, but since then Sheridan's fame has been somewhat obscured by that of Sherman and of Grant himself. Partly, this is no doubt due to what may be called the atmosphere of modern military thinking. The method of Grant and Sherman, strategic attack combined with caution in the tactical field, is apparently more in accord with modern conditions of war than Sheridan's free offensive.

Sectional feeling also plays an appreciable if minor part in the relative decline of Sheridan's renown. In New England, where the best and most numerous studies of the Civil War have been written during the last generation, Sheridan has always been seven kinds of a scoundrel for removing the chivalrous Warren in the very hour of victory. Grant's own reason for his appreciation of Sheridan furnishes another partial clue—Little Phil did not go off on private wars. To anyone reading the orders he received with a record of subsequent events, his contribution is apt to appear purely executive. His full influence does not appear till one examines the part he played in having the orders written as well as the documents themselves.

Yet in the long run, it is Sheridan's very success that has deprived him of more complete appreciation. The eye of the beholder becomes irresistibly fixed on the spectacle of the mad scramble up Missionary Ridge, the ride from Winchester and the rally at Cedar Creek, the little man jumping his horse over the barricade at Five Forks. It makes him look like a leader of happy improvisations, of whom it could be said as of Logan, "Everything he did on the spur of the moment and in the heat of battle was sure to be right; everything he did on mature reflection was wrong."

This would not be too heavy an accusation, even if it were true. No nation and no army were ever in more need of such moral stimulus as brilliant improvisation can supply than the United States and its forces in the summer of 1864. No man was better fitted to supply that stimulus than Sheridan, who showed a gift of arousing enthusiasms paralleled in American history only by Jacob Brown.

But the accusation is not true. We should not let the

lines from the southwest, linking up with Devin on its left and engaging the attention of the rebels at the angle. Crawford, the heaviest of the three divisions, would dress on Ayres, slide past the end of the refused angle of trench and cut around to take the line in reverse. Griffin, with the third division, was to follow Crawford in column, lending intolerable weight to his push, Mackenzie ride beyond Crawford and cut the rebel retreat.

But Warren drew his sketch-map for the operation wrongly, placing the limit of Pickett's trench-line too far east. The consequence was that Crawford, with Griffin following, missed it entirely. Ayres, with whom Sheridan himself was riding, suddenly received an intense fire of musketry from his left, where his troops caught the blast from the angle.

Sheridan himself rode to the skirmish line, helping Ayres half-wheel the division leftward, bringing up the reserve brigade to prolong the line out to the right. His staff rode off to keep Crawford and Griffin going on the line they had already taken, striking far around behind across the direction of the rebel retreat. Little Phil labored like a demon, got everything into position, carried two regiments out until they lapped round Pickett's trench line, and then personally led a whirlwind charge, riding his big black horse with a guidon in his hand. Pickett's flank burst; Devin swung in as the attack reached his front and the Confederate line was rolled up. Griffin and part of Crawford arrived from the woods to destroy the last rally; Pickett lost 4,500 prisoners, all his guns, most of his trains, and Lees' striking force, the only one he had for offensive operations, was destroyed.

And where was Warren while this was going on? He had been near Sheridan when Ayres was struck by the first flanking fire. When that broke out he rode off into the forest to change the direction of divisions Crawford and Griffin, but in the tangle of woods missed them too, and did not again reach the front till it was all over but the pursuit. There was one thing Little Phil Sheridan could never forgive in any man—unwillingness to get to the scene of action. Now Warren had twice in two days been missing when he was most wanted. Sheridan peremptorily removed the hero of Little Round Top and gave his corps to Griffin.

IV

Now the lion of the South was wounded to death, no more men left for any offensive blow and along the Petersburg lines Wright and Parke attacking him. They won a lodgment, a trench, a whole line of trenches, they were in, during that twilight when Pickett's last stand before Sheridan so disastrously broke. Next morning Jefferson Davis was summoned from church to flight; another morning and Weitzel's men of the XXV Corps were marching into Richmond under smoky pillars of destruction.

The pursuit started that April 3, Sheridan leading, with the cavalry and V Corps under his orders, Meade following fast with the II and VI Corps, and Grant bringing up the rest of the army. Lee's assembly point was Amelia Court House. Both Grant and Sheridan guessed it would be near there. The moment the Petersburg lines were won Sheridan had been rushed forward to get across the Danville Railroad between Jetersville and Burke's Junction. He reached position on the 4th April, before Lee was fully assembled. That same night the V Corps was intrenched at Burke's Junction, (Map 7), and one of Crook's brigades lashed out along the line of the South Side railroad toward Farmville. It was this brigade that caught and burned Lee's headquarters train the next morning, where it had been sent on ahead of the flying army.

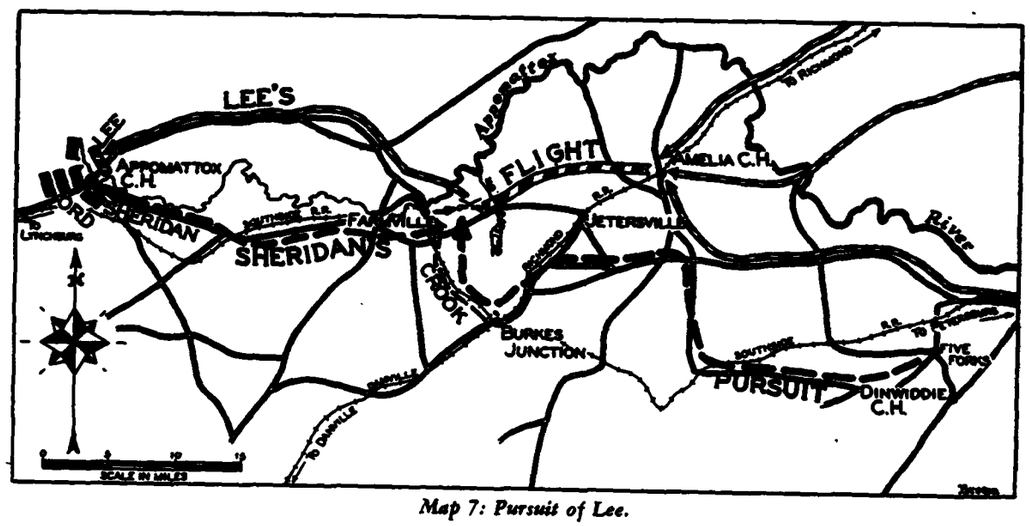
Meade did not arrive with the other two Union Corps till the 5th. Lee got his men fully in hand that day, and though the troops were dog-tired and starving, dared not stay with Sheridan's formidable force already seizing positions along the only line of retirement now left open. He marched by night, in several columns with the trains north of them, to their right—a change from his original plan, which had been to send the trains ahead, clearing the roads—a change forced by Sheridan.

In the morning Meade went toward Amelia Court House in attack formation and found Lee gone. But Humphreys of the II Corps caught the tail of one rebel column and his cannonading helped turn the whole army in the right direction. Besides, Sheridan, reaching far north on the extreme left wing of the Federal army, had already attained so great a distance that the Confederate columns had been unduly crowded toward their right, in on their own trains. This slowed them up badly. Crook's cavalry division was granted time to slip between two of the formations and attack trains so energetically that Anderson's Confederate Corps had to stop and form line of battle to drive Crook off, just west of Sailor's Creek.

This halt also stopped Ewell, who was behind Anderson on the roads; Wright's VI Corps caught up the latter and forced him to stand on the banks of Sailor's Creek. Meanwhile Sheridan brought the rest of his division up to help Crook hold Anderson's force. The latter was now in a line of hasty field works; Sheridan fronted it with all his corps but Crook, who was shifted round Anderson's front to close the only road of retreat. Ewell sent to Anderson, proposing they unite and drive this cavalry off, but before either general could do anything about it, Wright's artillery opened and at the same moment Crook led a dismounted charge onto Anderson's flank and rear.

Anderson was blown right away, with half his command taken prisoner, and the advance rushed on to surround Ewell, who surrendered with what was left of his corps before evening. The trains all went, too. But though Lee had lost nearly half the men he had on March 29, he had now gained a lead on the whole Union army with the rest.

However, there was still Sheridan; there was always Sheridan in this campaign, reaping the fruit he had planted at Yellow Tavern, when the Confederate cavalry service was struck down forever. As soon as the fighting round Sailor's Creek was over, he turned southwest, spend-



Map 7: Pursuit of Lee.

ing his mobility without stint to get round the Confederate column toward Lynchburg. Behind Sheridan the V Corps was moving west on the roads south of Appomattox River, and south of the V Corps, Ord with the XXV Corps, which had marched far and fast, taking no part in the move toward Amelia Court House.

On April 7, while Humphreys' II Corps was pecking at Lee's rear guard near Farmville and the Appomattox crossing, Sheridan was gaining, going right past Lee to the south. On April 8 in the morning he turned north to Appomattox Court House. There he caught Lee's trainloads of provisions, and the poor rebels went to hungry beds that night. Next morning Fitz Lee and Gordon were appointed to fray a passage through Sheridan. They tried; there were a few shots fired and some little movement but for once the greatest fighting leader of the Union did not fight. Sheridan's cavalry merely moved right and left like a parting curtain, and allowed the Confederates to see the solid lines of Ord, rank on rank.

"Then there is nothing left to do but go and see General Grant," said Lee.

V

After the war Grant, who had come to lean on Sheridan as his man of all work as he had leaned on Sherman in the west, remarked that Little Phil was the one man he could trust to lead an expedition without going off on a private war of his own. "I rank him with Napoleon, Frederick and the great commanders of history."

At the time there seems to have been general agreement, but since then Sheridan's fame has been somewhat obscured by that of Sherman and of Grant himself. Partly, this is no doubt due to what may be called the atmosphere of modern military thinking. The method of Grant and Sherman, strategic attack combined with caution in the tactical field, is apparently more in accord with modern conditions of war than Sheridan's free offensive.

Sectional feeling also plays an appreciable if minor part in the relative decline of Sheridan's renown. In New England, where the best and most numerous studies of the Civil War have been written during the last generation, Sheridan has always been seven kinds of a scoundrel for removing the chivalrous Warren in the very hour of victory. Grant's own reason for his appreciation of Sheridan furnishes another partial clue—Little Phil did not go off on private wars. To anyone reading the orders he received with a record of subsequent events, his contribution is apt to appear purely executive. His full influence does not appear till one examines the part he played in having the orders written as well as the documents themselves.

Yet in the long run, it is Sheridan's very success that has deprived him of more complete appreciation. The eye of the beholder becomes irresistibly fixed on the spectacle of the mad scramble up Missionary Ridge, the ride from Winchester and the rally at Cedar Creek, the little man jumping his horse over the barricade at Five Forks. It makes him look like a leader of happy improvisations, of whom it could be said as of Logan, "Everything he did on the spur of the moment and in the heat of battle was sure to be right; everything he did on mature reflection was wrong."

This would not be too heavy an accusation, even if it were true. No nation and no army were ever in more need of such moral stimulus as brilliant improvisation can supply than the United States and its forces in the summer of 1864. No man was better fitted to supply that stimulus than Sheridan, who showed a gift of arousing enthusiasms paralleled in American history only by Jacob Brown.

But the accusation is not true. We should not let the

fact that none of Sheridan's great battles were fought out exactly as planned blind us to the other fact that he could plan a battle as well as fight one. Something nearly always happens to disturb battle plans—the obstinate refusal of the enemy to behave as expected, if nothing else. The rare thing about Sheridan, the quality that lifts him to several thousand feet altitude over the ordinary commander, was the ability to recognize in the midst of action that a change of plan was necessary. At Winchester, he planned to break down one flank; it became impossible, but he instantly and successfully broke down the opposite wing. At Five Forks the failure of his original plan only led him into another, far better.

It is this quality of flexibility of mind, of being able to do anything and everything, that makes Sheridan difficult to classify or even to appraise. He had no military specialty, like Thomas' counterattacks, or Stonewall Jackson's flank sweeps or Sherman's clutch-and-circle. He did whatever the occasion required. At Perryville he counterattacked; he intrenched at Halltown, cautiously; at Missionary Ridge he was bold to the point of recklessness; worked a surprise attack at Boonville; ordered two gigantic flank sweeps at Fisher's Hill and a frontal assault at Winchester. The limits of his talent were never reached. Perhaps there were none.

Grant apparently thought so, and if his testimony be thought biased by association, one need only turn to the archives of the French Empire. There is a report there from Marshal MacMahon, a not-unqualified judge, dating from 1866, when Sheridan went to the Texas border with an army corps to help the French make up their minds to clear out of Mexico. "It might be worth making a fight" says this report in substance, "if Grant were their commander. But not against this man."

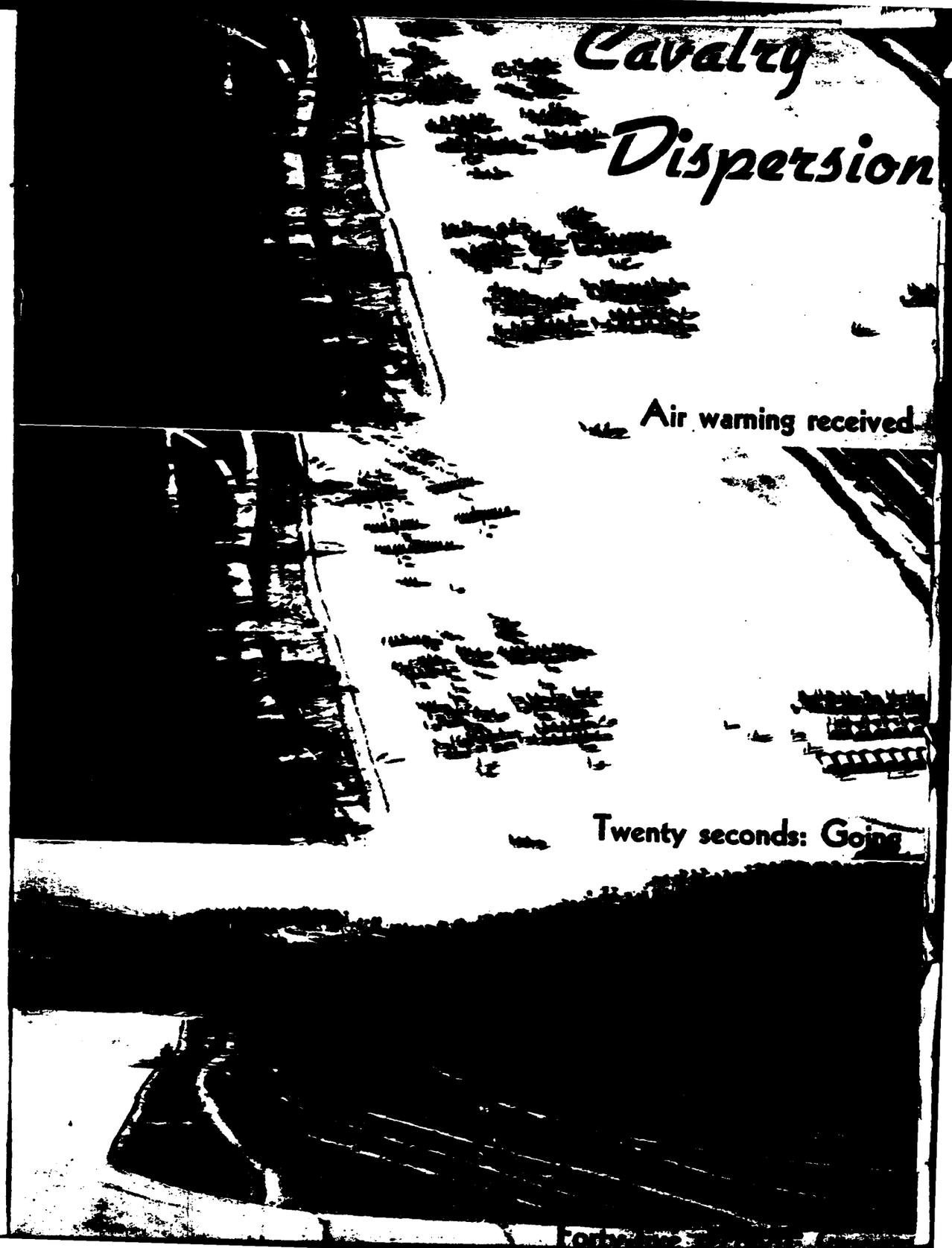
This is not the kind of opinion one expresses with regard to a mere improviser, and the more one studies Sheridan's career, the clearer it becomes that behind his improvisation there was steady, careful planning, based on intimate knowledge both of the enemy and geographical conditions. It is not the type of planning that aims to eliminate chance, but to leave sufficient reserves of force to overcome chance.

Even Cedar Creek, the least planned of Sheridan's battles, the one in which he was planned against, corresponds to this rule. His camping arrangement placed the cavalry so far from the infantry during the night that the two camps could not be comprehended in the same attack. That cavalry formed the reserve in a sense, when he began the battle again in the afternoon. It won the fight, though the infantry did the physical work, handled the contacts. For it was the threat of the cavalry that prolonged and thinned Early's lines in preparation for the infantry action, as the threat of cavalry paralyzed Pickett in preparation for infantry attack at Five Forks, as the threat of cavalry halted Anderson and Ewell in preparation for infantry attack at Sailor's Creek.

In fact, it is this constant use of the mobile force as a threat that more than anything else characterizes Sheridan's technique and perhaps holds the key to the recovery of the lost offensive by armies of the future. Sheridan's cavalry as cavalry, mounted, charged into the thick of a fight just three times — at Boonville and Winchester (Torbert's), where the charges came altogether as surprises, and at Yellow Tavern, where the horsemen were operating against an enemy also in the saddle, who had lost momentum. In the rest of Sheridan's campaigns cavalry merely threatened to charge, and by this threat dislocated the enemy mentally and physically, induced him to alter his dispositions and prepared the way for the decisive advance of the infantry. This happened at Cedar Creek, Winchester, Five Forks, even in a sense at Fisher's Hill, where Early kept watching Averell. At Sailor's Creek alone was the threat made good—but then by cavalry metamorphosed into foot.

Yet when all is said and done these are details of something that one is not permitted to examine in detail. There are no details of Sheridan's career. It is one, and that one inimitable, from the day when he tried to spit a cadet sergeant on a bayonet to the day when he ramped victoriously across the fields of Appomattox. Between the two he had won the greatest moral victories of the Civil War.

Note: Photos on opposite page cover operations of 11th Cavalry, Presidio of Monterey.



The Nine Troop Regiment

In its determination to maintain the Cavalry at a high state of efficiency and readiness for immediate employment on M-Day, the War Department has announced approval of a change in the peace strength organization of horse cavalry regiments from six troops to nine troops. Actual expansion of the regiments will take place only when the necessary personnel becomes available. The change involves an increase in the existing peacetime strength of 744 enlisted men to 1,122 in the new regiment. By virtue of its rôle, which requires it to play an important part in the early days of any war, Cavalry of necessity must be an M-Day organization. It is to make it an M-Day organization primarily that the Chief of Cavalry, Major General J. K. Herr, has recommended this change.

The existing peacetime cavalry regiment of 744 enlisted provides a Headquarters and Service Troop, a Machine Gun Troop, and two Rifle Squadrons, each of two Rifle Troops. For war service, this regiment would have to be expanded to an enlisted strength of 1,608. It is thought that any plan which contemplates such a complete wartime transition as this expansion of personnel of more than 100% is objectionable. It is to obviate such a wholesale expansion from peace to war that the new organization has been approved. The new organization sets up a peacetime regiment of nine troops as follows:

Headquarters and Service Troop
Machine Gun Troop
Special Weapons Troop
2 Squadrons each of 3 Rifle Troops.

The peacetime strength of the new regiment is to be 1,122 enlisted and the wartime strength 1,192 enlisted.

The inclusion of two additional Rifle Troops in the peace-time regiment, one in each of the two Rifle Squadrons, results in a three-troop squadron which has many advantages over the existing two-troop squadron, among which are increased combat power, flexibility of employment, and other well-known military advantages of the triangular formation.

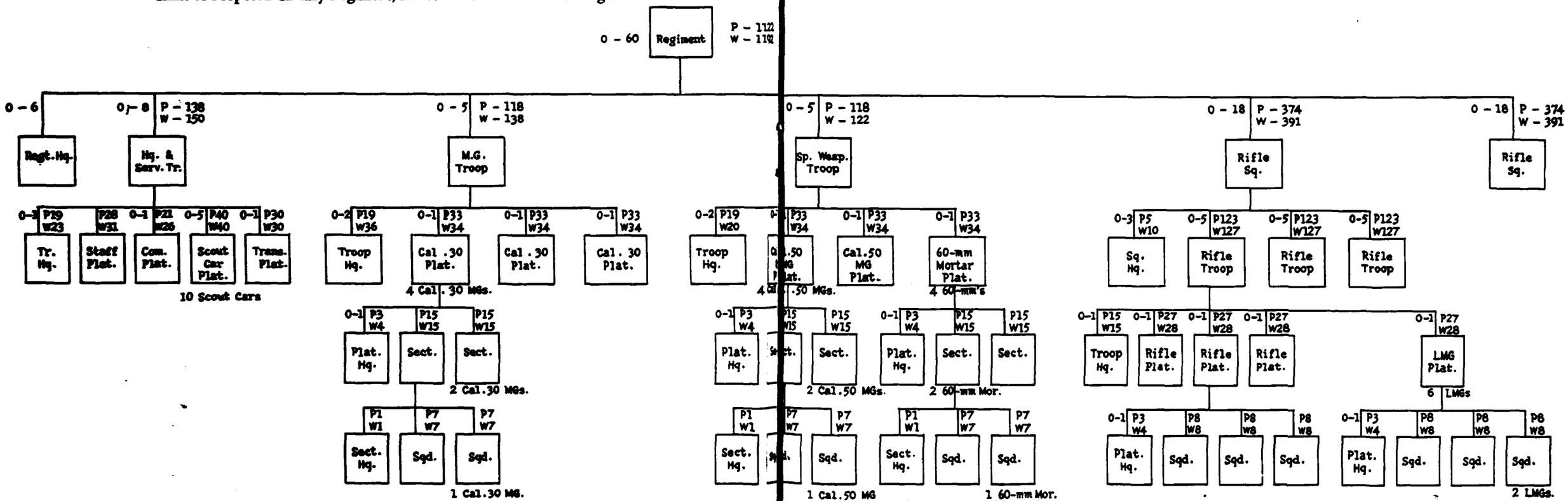
The injection of the Special Weapons Troop, which is a distinctly new idea in cavalry, greatly increases the supporting fire power available in the peacetime regiment. This Special Weapons Troop will be equipped with (8) eight .50 caliber machine guns and (4) four of the new *60 mm. mortars.*

The Machine Gun Troop will add (12) twelve .30 caliber water-cooled machine guns to this regimental fire support. In addition, there will also be 36 light machine guns, caliber .30, six in each of the six Rifle Troops.

For mechanized reconnaissance (10) ten scout cars are provided regimental headquarters. This is an increase of four over the present number. Supply of the regiment will continue to be entirely motorized.

This modification of the horse cavalry regiment will provide the United States Army with a modern, highly mobile, hard-hitting horse cavalry regiment, equipped and organized to accomplish the normal cavalry missions in any war of movement. It is considered a great improvement over the present small six-troop peacetime regiment.

Chart of Proposed Cavalry Regiment, Horse — Peace and War Strength



Principal Weapons (exclusive of Hq. & Serv. Tr.)

	P & W
Light machine-gun	36
Cal. .30 (heavy machine-gun)	12
Cal. .50 machine-gun	8
60-mm. Mortar	4

Corps Reconnaissance Regiment

The War Department has announced that, effective December 1, 1939, the 6th Cavalry, Fort Oglethorpe, Georgia, will be organized into a corps reconnaissance regiment at that station.

The purpose of this change is to provide the normal Corps with a mobile regiment, equipped, organized, and trained primarily to provide ground reconnaissance and security for the Corps.

Initially, this regiment is to be experimental. It is planned to test it when the IVth Corps is assembled at Fort Benning, Georgia, in the spring of 1940.

As a result of the new organization, the 6th Cavalry which is now a horse cavalry regiment, will be part horse and part mechanized. Provision is to be made for one horse squadron (portee) of three rifle troops with the necessary motor transportation initially to transport bodily one of these troops—men, animals, and equipment. When the combat elements of the corps are about to contact large enemy forces within a few days' march the horse cavalry squadron will be given a mission of providing the close-in and detailed reconnaissance chiefly off the roads.

In addition to the horse squadron (portee) there is to be a mechanized squadron consisting of two reconnaissance troops and one motorcycle troop. This mechanized squadron will be of value in furnishing rapid and distant reconnaissance, particularly on the roads, also to furnish reconnaissance for any large motor groups detached on special missions.

This flexible combination of horse and motor, the former porteed when so needed, enables the Corps Commander to provide reconnaissance and security for his corps in any situation which may confront him.

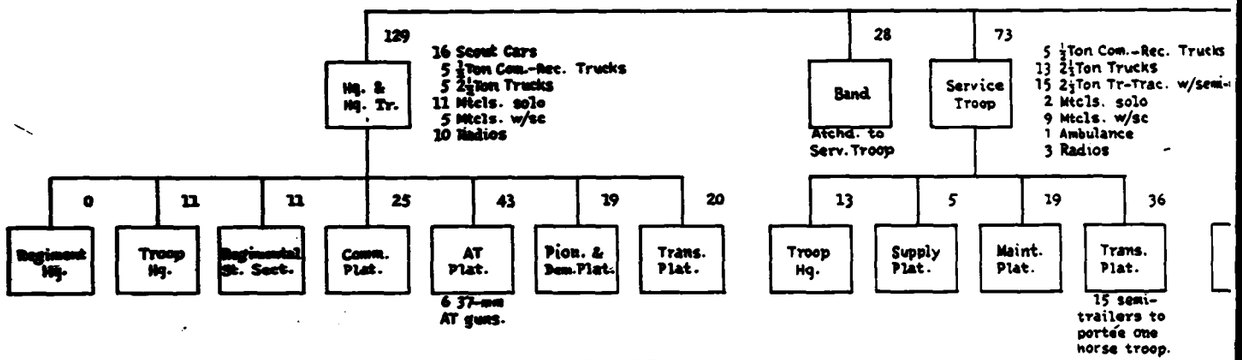
A pioneer and demolition platoon is also to be included in the headquarters troops to increase the mobility of the cavalry regiment and to impede that of hostile troops.

Included in the equipment of this new type regiment are 230 horses, 40 scout cars, 10 reconnaissance trucks, 96 motorcycles, 38 radios, 24 trucks and 15 truck-tractors with semi-trailers.

The organization of the Corps Reconnaissance Regiment (Cavalry) will not involve any change in the present allotted strength of the 6th Cavalry, which is 659 enlisted men. It is contemplated to bring this regiment to a full authorized peace strength of 1,088 enlisted men, provided increases in the Army make this action possible.

The organization of this regiment has been made necessary by recent plans for the organization of Army Corps, and is somewhat similar to regiments used for the same purpose in foreign armies.

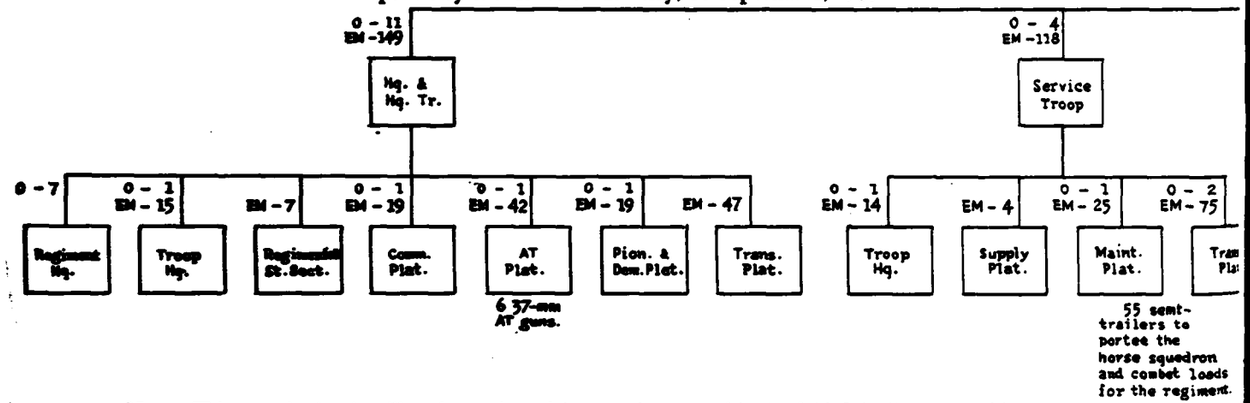
Proposed Corps Reconnaissance Regiment, Horse and Mechanized, Tentative Present Authorized Strength of 659
Prepared by the Chief of Cavalry, 4 November, 1939



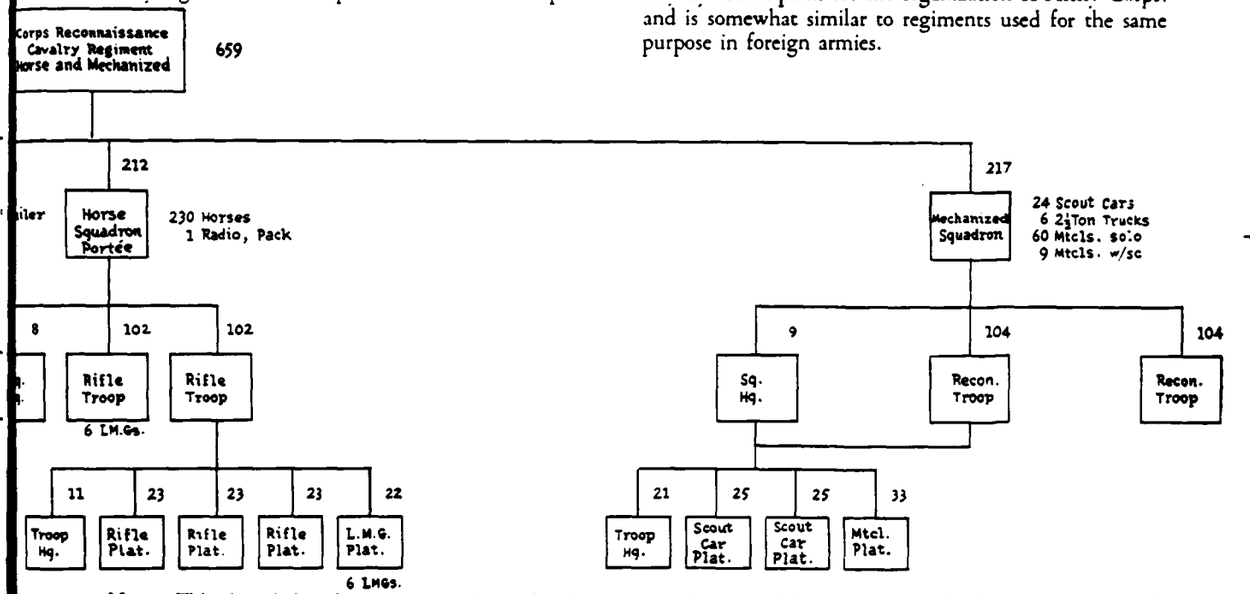
Summary of Critical Equipment

40 Scout Cars	23 Motorcycles, with sidecar
10 ½-Ton Command — Reconnaissance Trucks	1 Ambulance
24 2½-Ton Trucks	38 Radios
15 2-½-Ton Truck-Tractors, with semi-trailer	230 Horses
73 Motorcycles, solo	

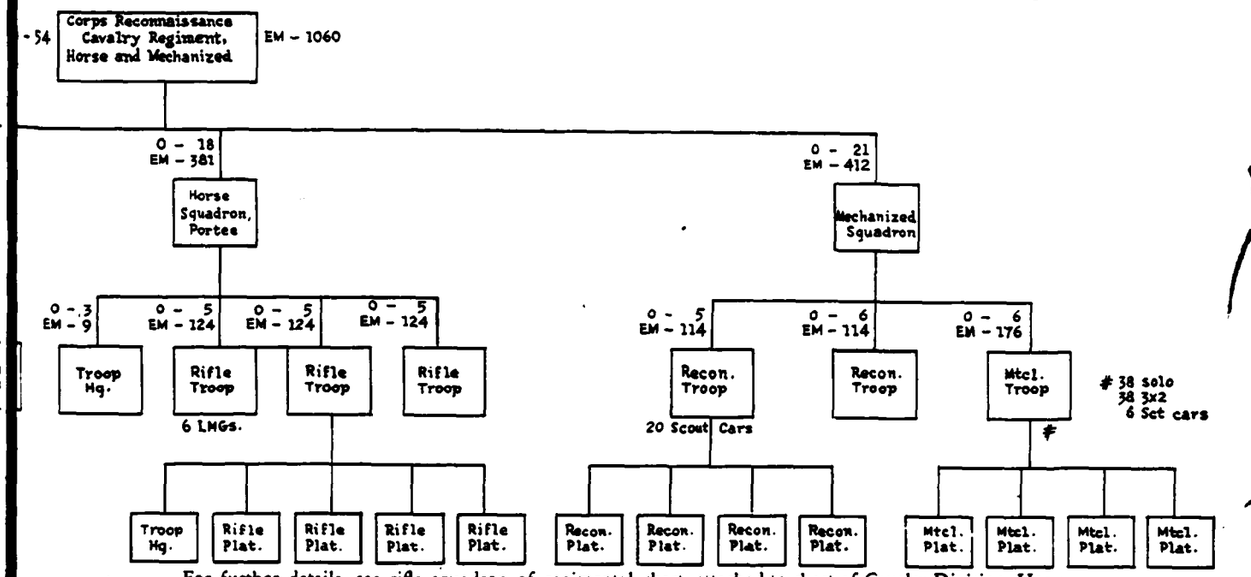
Proposed Corps Reconnaissance Regiment, Horse and Mechanized
Peace Strength
Prepared by the Chief of Cavalry, 18 September, 1939



NOTE: This organization is still under study and has not been tested in the field. Initially, it should be tentative.



NOTE: This chart is based on present authorized enlisted strength (659) of the 6th Cavalry, a horse regiment. Peace and war strength tables of organization for this regiment at expanded strength of 1,088 (P) in the 280,000 man army will be submitted after field tests. Items of critical equipment should be supplied as soon as practicable. This chart should be accepted as approval for this equipment. Conversion of this regiment from a horse unit will involve no change in number of troop units nor in grades and ratings. Present Machine Gun Troop will become the Service Troop.



For further details, see rifle squadron of regimental chart attached to chart of Cavalry Division, Horse.

An Editorial

Although these comments are presented under editorial form, in no way may they be considered as reflecting official views or opinions. Rather, they are the consensus of accumulated ideas and speculative reflections from varied sources.

Cavalry, regardless of its modern composition and organization, continues in its accepted relationship to the great coordinated combat team. In the proper balance of that team the cavalry role is as important today as it has been so proved down the course of military time. To sustain that balance in the combat team there must be available, organically, a component able and prepared to fulfill the tasks that demand a highly mobile ground element. Information, ground security, a tool for exploitation, a weapon of opportunity, a mobile reserve of great tactical mobility—all fall within the purview of those tasks. Current conditions in no wise have reduced the importance of these duties. The team member, fitted for the assignment of those duties, is cavalry, irrespective of its makeup or composition.

The assured accomplishment of these tasks envisages the power and capabilities of a combat arm. *Cavalry, properly organized and employed, is preeminently a combat arm.* Its appropriate employment is to be found in masses. Read the Russian thought on the utilization of cavalry to be found in the preceding pages to ascertain their doctrine on this arm. Any departure from this conception always has led to futililty. Witness the initial three years of the Civil War; the lost opportunities in the early days of 1914.

Other nations, for the fulfillment of the foregoing role, have created in recent years units identified under the term, "Light Mobile Forces." National policies and conditions peculiarly their own have accounted for the creation of these elements. Regardless of terminology, their purpose is the performance of cavalry roles.

Our cavalry affairs, likewise, must be predicated upon national policy and conditions peculiar to this country. In conforming to the situation which confronts us, we must consider foremost those factors which presage the need of highly mobile forces in our national defense. Consideration of these national factors accounts for the organization and composition of our mobile elements. It is believed they are sound.

Certainly, it will be agreed that our policy of national defense is founded under the priority of defending the continental United States and our possessions, the continent of North America, and lastly, the Western Hemisphere. Each category involves vast extents of territory of varied terrain and climate. Each, likewise, comprises such expanse as to incorporate, undoubtedly, more than one theater of operation. The availability of ten million horses, together with ample forage supply, is a factor peculiarly American, as is also an industrial organization without comparison among other nations. These and a score of other factors have all influenced our current and accepted doctrine.

From the point of view of national policy it must be agreed that the organization of our cavalry has followed properly the distinct line of comformity. Our cavalry policy is clear and distinct. We possess one organized cavalry division. A second cavalry division should be completed and organized as such without further delay. *The creation of a cavalry corps in being is a vital necessity if we are to have the type of highly mobile force capable of performing its proper role under all conditions of weather and terrain.* We maintain also two regiments soon to be organized to fulfill the mission of corps reconnaissance. The two remaining horse regiments are available either as additional reconnaissance regiments or for use as a separate brigade, available to G.H.Q. or as army cavalry.

We have created a mechanized cavalry brigade and are now prepared to expand it into a more powerful and self contained division. This unit has benefitted by participation in frequent combined exercises which has molded it into a tactical unity now capable of assuming its allotted missions. It is believed that all realize and visualize its potential powers and usefulness. The next step involves the consolidation of this unit as a part of our first cavalry corps.

Four National Guard Divisions, now organized or in the process of organization, constitute a basis for rapid expansion of cavalry forces during the early days of campaign. In addition to these divisions there are three remaining National Guard cavalry regiments available for employment as corps reconnaissance regiments or as a separate brigade.

As with the great combat team, there must also be within the makeup of the subordinate arms, a regard for and a sense of balance. To this objective the Chief of Cavalry pays the closest heed. It is his responsibility that we have available to us under the various conditions which may face the army the type and organization of cavalry best fitted to accomplish effectively any assigned missions. The office of the Chief of Cavalry is alert and attentive to these future needs. There is no question involved as to any particular type organization under existing facilities. As conditions change and new factors arise it can be assured that the organization best fitted to meet them will be adopted. So soon as our army organization expands and each of the four armies becomes a tactical entity, measures will be taken to foster the creation of a mechanized cavalry division for each. At the same time it must be assured that there will be maintained a strength in horse cavalry essential to our national requirements and which is economically practicable by virtue of our available resources.

In considering the active execution of missions by highly mobile forces much care should be given to the question of antitank defense. Should not well balanced cavalry include also the necessary elements for this purpose? Accordingly, as a part of our cavalry organization, would it not be wise to provide antitank elements under corps and divisional control so organized and equipped as to constitute the most mobile element to be found on the battlefield? With excessive mobility these units would be able to intercept the threat of mechanized elements under all conditions and through ground fire be capable of exerting a considerably more effective fire than is possible through the mobile fire of vehicular mounts. Many assert that the best antitank defense is the presence of mechanized elements capable of neutralizing hostile mechanization. This method, however, is the expensive one. It would appear wasteful to commit a very expensive vehicle to this task when the same result might be accomplished through the fire of a moderately priced gun. In the event of a break-through by highly modernized army it will be the light, highly mobile forces which may be depended upon to neutralize any great advance.

There is a tendency by many to compare the organization and equipment of our army with those maintained by foreign armies. The factors of geography, national policy, industrial capabilities, agricultural productivity, all enter the picture and are too divergent to provide a conclusive basis for comparison. Potential theaters of operations, existing road nets, the potentiality of neighbors, and a score of other factors enter into the doctrine and policy which govern these questions. By the very diversity of prospective employment it is evidently unsound to compare by strength the various elements of the combat team maintained by us in proportion to these features maintained by other powers. Unless we propose to arm on a vast scale, we cannot anticipate the creation of certain type elements in any proportion to that which is now maintained by others.

Also, there is a tendency by many to approach the question of national defense from the point of view of perfection. We cannot support and maintain any arm in the manner in which its advocates may feel that it deserves. There must be constantly a regard for compromise in the gradual balance which is built up and that elastic balance kept throughout our progress. It is admitted that other countries have succeeded in creating national forces which present a formidable picture in their perfection of organization and equipment. That picture we cannot hope to approach, nor is there any need by us so to do. It has been estimated that in the creation of the modern army of Germany a total of approximately 36 billion dollars has been required. No, our demands manifestly are more modest, and our existing facilities must be relative thereto. There is need of a mutual understanding of the requirements of all rather than a preference for any single element. With that understanding and a sympathetic regard for compromise, there is little reason why eventually we shall not possess the armed force which our responsible agencies consider adequate and in the proper balance.

Special Activities

Training "Over Their Heads"

By CAPTAIN SAUL S. DORFMAN, *Cavalry Reserve*

The inadequacies of both active and inactive duty training for reserve officers must be overcome by the inauguration of training methods which will accomplish the greatest good for the greatest number. The necessity for a system of training that will develop initiative in officers of troop grade is indeed vital, for the battle plan, once drawn, depends for success upon the troop officers, rather than the general. Initiative is not developed by wishful thinking or by loose methods of instruction.

Most of the group schools which the writer has attended over a period of fifteen years, have demonstrated tractical principles by use of map problems involving the employment of regiments, brigades and divisions. These units are too large to set up in the mind of the average troop officer a routine thinking process that will enable him to function in grade, and have a definitely clear understanding of the details involved in the employment and disposition of units the size of a platoon, troop, or squadron. After all, in the event of an emergency, these are the units the great majority of reserve officers will command, not regiments and brigades. Troop officers are repeatedly heard to say that they feel a real need to be taught to function in grade, and in inability to intelligently comprehend or visualize the large scale operations generally set up in the school map problems.

Opportunity for practical leadership training is rare and generally non-existent for the great majority of reserve officers.

Since it is apparent that the reserve officer can secure his training and experience in leadership, only by work in group schools and by pursuing the extension courses of his arm, why not then afford a course of instruction which will accomplish that end by the use of methods that are visual, simple, and within the mental range of a limited military knowledge. Maps of large scale (12″ = 1 mile), contoured, and showing sufficient detail to permit the student to study and analyze the advantages and disadvantages of terrain should be used. Units not to exceed a reinforced squadron should be employed. The large detailed map and the small unit involved can and should produce a highly beneficial result. The lack of confusion in the mind of the student when he need only visualize a reinforced squadron should aid him materially in developing his tactical slant, whereas the use of regiments and brigades confuses the amateur tactician, because his limited military imagination cannot readily encompass units of such size.

It is therefore suggested that the Cavalry School prepare a uniform group school training program consisting of a series of command post exercises, using not to exceed a reinforced squadron on each side. Available large scale maps of the Fort Riley reservation should be adequate. Conduct of the problems on limited terrain possesses the advantage of reducing time and space factors to minutes, thus tending to develop the student's facility to make a hasty estimate of the situation and arrive at a decision rapidly.

Officers engaged in the solution of these exercises should function in grade, and possibly the next higher grade, but never higher. Time limits for solutions should be short for several reasons. The student must be taught to act with dispatch, not to vacillate, and also, the entire exercise should be concluded in from 2 to 2½ hours. A simple method of control can be devised to preclude the action getting out of hand, and so that the solution will be followed. Although most problems are capable of more than one solution, the school solution should be followed, otherwise too much time is lost in argument. In the ultimate analysis all map problems teach and demonstrate tactical or logistic principles, or both, and so long as the principle is adequately demonstrated, why fight the school solution.

Before going further, it is apparent that the method here proposed can only be employed in group schools having attendance sufficient to officer the units used in the exercise.

Control by the unit instructor acting as chief umpire, with surplus captains and field officers acting as assistant umpires will provide an excellent form of training for those officers not commanding units in the exercise. It is confidently hoped that with a little practice, the students will, under the mental stimulus of the presence of their brother officers, develop a capacity for decision. The student must be required to state his actions and orders in the presence of the entire class. He should use the map constantly, designate routes of approach in the conduct of his unit from place to place, state the formations employed and the security measures adopted. Study of terrain should be stressed, and oral analyses required.

Each exercise should be divided into several phases, be-

ginning with the assignment of a mission to the squadron commander and the issuance of his first order respecting the accomplishment of that mission. In this connection the squadron commander should state the mission in the presence of his assembled officers; make an oral estimate of the situation; a decision; then issue fragmentary oral orders to his troop commanders and commanders of attached units. Each lower unit commander repeats the same procedure, until platoon leaders have issued orders to their respective squad leaders, the map *must* be used to show the action and development of the force.

The first phase could be a march in the presence of the enemy, to include patrols and instructions to patrol leaders; the second phase could be the development of contacts with enemy patrols, while marching on or to a given objective; the third phase might cover development prior to action, approach march formations, security measures, liaison; and finally, the occupation of a defensive position, a meeting engagement and pursuit, or a withdrawal. Special attention must be given to problems of supply, maintenance of liaison with adjacent units, and communication to the rear. These are but elementary suggestions and are susceptible of countless variation. In all problems, however, there must be ample, adequate demonstrations of tactical principles, the use of cover and concealment for men and animals, proper use of automatic weapons, proper measures for reconnaissance and security.

The inactive duty training year covers from 30 to 32 weeks, or 15 to 16 biweekly group school conferences. A series of exercises, as herein suggested, supplemented by extension course study in those subjects prescribed, will do more to help the citizen officer attain a good, working knowledge of the military art, than the haphazard group school methods now generally employed.

In short, the troop officer must learn his immediate job.

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A Foxhunter Views the Olympic Try-Out

By AN ELDERLY FOXHUNTER*

Fort Riley, Kansas, is an army post on the rolling prairie at exactly the geographical center of the United States, with some five thousand men and two thousand horses, and some twenty-eight thousand acres of land. An old frontier post, it is now highly modernized. The ridge that looks down on it, known as Rim Rock, is cut with canyons and makes a most varied and interesting country to ride or hunt over.

Fort Riley is all horse. Here come the remounts, unbroken and unsung. One noted great improvement in both size and quality and breeding. Each year there seems to be an improvement in these remounts. It was the consensus of opinion at the school that this year's issue was the best that had yet been received, and it was also the consensus of opinion that the best of this year's issue came from Front Royal. The outstanding thing about the school is the enthusiasm of both its instructors and students, and in many cases that I saw, the remounts. Everyone rides or is trying to ride—men, women and children. They know horses and horsemen.

This is the setting that we found on our arrival at Fort Riley on the 29th of September, the opening day of the Olympic Trials. The purpose of these trials was to pick the team of officers and horses that would represent the United States at the Olympics in 1940. To one who had had a taste of cavalry life and training in the border service, and had at rare intervals since been in touch with the Army at Fort Bliss or Fort Meyer, or in various horse shows and in polo, it was hard to believe how far and how fast our mounted services have come in both horses and horsemanship. The try-outs fulfilled in every way the identical conditions required in the Olympics themselves. The first day's event was the Prix Des Nations, a jumping contest in the hippodrome, conforming to the F. E. I. restrictions of no wings, variety in type of obstacle and measurements in height and spread of jumps. On this first day the set-up of jumps in the hippodrome was as follows:

OBSTACLES OF FIRST PRIX DES NATIONS COURSE

Type and Height of Obstacle

1. Maryland fence, 4′ 3″; 2. Double post and rail, 4′ 6″ by 4′ wide; 3. plank fence, 4′ 9″; 4. water, 14′ 0″; 5. Aiken, 5′ 3″; 6. Tennessee Stake and Rider, 4′ 9″; 7. Worm fence, 4′ 6″; 8. Bank and rail, 4′ 9″; 9. Double Rustic gate, 4′ 6″ by 4′ wide; 10. Rail over hedge, 4′ 9″; 11. Water, 16′ 0″; 12. Chicken coop, 5′ 0″; 13. Polish gate, 4′ 9″; 14. Double oxer, 4′ 6″ by 6′ 0″ wide; 15. Bar beyond hedge, 3′ 3″ by 5′ 0″ wide; 16. Stile, 4′ 9″; 17. Ditch and Bank, 4′ 0″ by 6′ 0″ wide; 18. Rail after bank, 5′ 6″.

We saw the first day's performances. There were to be two more tests later in the week following at two-day intervals. There were 20 contestants and there were four clean performances. This is the sort of jumping that we are all familiar with at the Inter-American or New York Horse Shows.

But it was the three-day event that must particularly appeal to a foxhunter. The horses ridden in this event had come to the school as four year old remounts. These remounts were broken and schooled according to the established schedule of training, and then as six year olds were prepared especially for the endurance ride of the three-day event. The first day's test was to prove the suppleness of the horse, his balance and his control by his rider. The striking feature was that horses fit and ready for the 22-mile endurance test of the second day and "high" as they must be for that, could come into the riding hall on the first day and give the smooth and accurate schooling performance that they did. This schooling did not go into high school or dressage, but simply the elementary schooling that every remount gets at this school before he goes on to be a charger. A change of gaits, change of leads, halting, backing, false galloping, etc.—all done on a course marked by markers, no commands, just smooth, silent accurate movement from one element to the next, and all completed within eleven minutes. A surprising performance for a horse under any conditions, but particularly for horses as "tight" as these were and had to be for the job the next day. There were ten contestants in this event, and if I remember rightly, eight out of the ten horses were clean bred, and they were big, upstanding, sleek looking thoroughbreds. These movements, particularly the change of gaits, accomplished two purposes. First, the suppling and balancing of the horse; and second, control. These officers could make their mounts do what they wanted them to do. Isn't this what we call manners in hunter classes, and what judges are looking for in the show ring? Isn't it one of the most important elements in the hunting field? And wouldn't the hunting field be more pleasant and comfortable and safer if all our hunters could have this basic education? While these horses were being trained for chargers, after all there is little difference fundamentally between a good charger and a good hunter, possibly the former by virtue of his work with troops and in formations must be a little more precise in his movements; but what goes for control of one should be most helpful in the control of the other. The best charger that I ever had, lately proved to be one of my best hunters. These officers trained their own mounts. How many foxhunters can do it? How many "makers" of hunters can do it or do do it? Has the training of hunters made the same progress since the Great War as has the training of chargers? What one sees at Riley is quite provocative of this sort of querying.

Now what do these three-day horses have to do the second day? This test is to show the endurance of a good charger or hunter when well trained and brought to its best condition. It is also a test of the rider's knowledge of pace and of the use of his horse across country, and in one phase has the element of speed. The riders rode at a minimum weight of 165 pounds, alone and at five minute intervals; but outside assistance during the test, as well as taking the obstacles in pairs or being led by another rider or any previous inspection of the course were all prohibited. This course of 22 miles, to be completed without pause, was divided into five phases: 4 miles over roads or paths at the rate of 9 miles an hour; the second phase was 2½ miles over a steeplechase course of 4½ foot brush jumps including a water jump and a liverpool with a time allowance of six minutes, 40 seconds. Two horses finished this phase in five minutes, and forty-four seconds, thus securing them the maximum bonus of 36 points. The third was nine miles at the same rate as the first phase and was over roads or paths indicated on a map that every officer carried. The fourth phase was five miles which called for galloping at a stiff hunting pace. This was over steep, rolling country and the course included 35 jumps. I rode the course and examined each and all of these jumps and it was by all odds the longest and toughest hunter trial course I have ever seen. These jumps were solid and included hedges, ditches, farm gates, brooks, water jumps, road crossings, and I remember particularly a 24-foot in and out, which on the "in" had a ditch on the far side, and on the "out" had a ditch on the near side. There were jumps uphill and downhill. The jumps averaged 3′ 9″ in height with a width not exceeding 13′ 2″. The last phase was a mile and a half with six minutes to finish, and all those that I saw finish, finished galloping, and as I checked the records of the veterinarian present all were marked—"finished strong, condition excellent."

On the following morning I attended the examination of these horses by the committee as prescribed in the rules of the F. E. I. Among other tests was trotting on a hard asphalt road where only one turned up "gimpy" on this test and was eliminated. The other contestants on the afternoon of the third day about 4:30 P.M. took the final test of the three-day event, namely, the jumping test. This test was designed solely to demonstrate that on the day after a great effort the horse retains that suppleness and energy required by a charger or hunter to continue in service. This jumping test was put on in the hippodrome over some fifteen obstacles which in appearance looked very much like those in the Prix Des Nations, but were not so high nor so broad. There was a railroad crossing with the tracks in the middle of it; there was an in and out with a rail fence followed by a worm fence; there was a water jump, a double oxer; a triple bar, stone wall with riders, etc. All these horses went boldly in this jumping test, and one of the most interesting things to me was the fact that the winner was a big, upstanding brown thoroughbred by "Gordon Russell," a very popular sire with the school, and that this horse was schooled and trained by Captain Drake of the Army team. Unfortunately, Captain Drake was taken ill a few days before the three-day event and so could not ride. He turned his string, namely, King-Hi in the Prix Des Nations, and Reno Ike in the three-day event, over to Major Cole, captain of the team, to ride for him. Major Cole, though, weighing twenty pounds more than Captain Drake, took Reno Ike through the three-day to win. He also had a clean performance on King-Hi on the first day of the Prix des Nations. This seems to me to be

*Reprinted from the Middleburg *Chronicle*.

a tribute not only to the horse and to the sound and thorough schooling by its trainer, but also to the skill of the new rider, and above all a tribute to a system which can produce this result.

These are but random shots at some of the high spots in the various equestrian events in which the United States Olympic equestrian team is being selected. I only saw officers of the cavalry and field artillery competing in these tests. However, the try-outs were open to all, both military and civilian entries. The qualifications for civilian candidates was simply that the applicant must be an amateur and American, and must be eligible under the rules of the International Equestrian Federation and the American Horse Show Association. To me these trials suggested several things for us all to think about. Are we progressing far enough in our hunter training to qualify civilians for these trials and for them to ride on our Olympic teams? Can the "makers" of our hunters give them the preliminary basic schooling that makes for suppleness and balance and control? And if they can is it the time element alone that keeps them from doing it? On the other hand are our Army Officers progressing fast and far enough to come east and compete with our horses in some of our leading brush or timber races? Whatever the answers to these queries may be, this much I do know, that those who continue to think of the army in terms of $165.00 horses must undergo a complete revision of that opinion or be very much out of date. The Olympic Trials this year as put on at Fort Riley was a really great equestrian show with fine horses and fine horsemanship, a credit to any mounted service in any country, an exhibition of which any American citizen would and should be proud.

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Hearing Officers Think

By A DOGFACE who has trouble that way, himself

EDITOR'S NOTE: Colonel Groniger, Commanding the 11th Cavalry, expressed the idea that someone ought to write an article on "hearing" his officers think. The Colonel approved, and evidently enjoyed, this effort by a non-commissioned member of his staff. Perhaps others may.

First of all, please understand this little piece was composed in response to a direct order, and while there are often a number of ways of complying to direct orders, especially in delicate matters such as "Tell that------ fool to keep his group closed up!" the case at hand should be treated openly—or it will lose its punch.

There is a certain amount of malicious satisfaction to be obtained from seeing a superior "sweat one out," as a Godless stable-buck might phrase it, but at the same time your relish over another's embarrassment in the way of military growls is always tinged slightly with the fear that you may be next. (Almost invariably *I am* next, anyhow.) If you are a connoisseur of embarrassing moments you will recognize the symptoms:

(1) The type that gives an involuntary start and then creeps out with a smile that's meant to be apologetic but actually is just silly-looking.

(2) The type who shifts his feet and shows a sudden and consuming interest in some small pebbles near his left toe.

(3) The type (he probably bluffed his way through school) who waits three counts and then says, brightly: "Would you mind repeating the question, sir?"

And you can bet, three-to-one, that all of the above will start their answer with the word: WELL, or the Anglo-saxon noise: UH.

Now for some specific cases:

Case One: The sad plight of Lieutenant Jernigan, who never could learn that Colonel Lear did not like his junior officers to stroll past Headquarters with their hands in their pockets. Colonel Lear, whose whisper was often mistaken for the Pacific Grove foghorn, would raise his office window with a premonitory crash and yell: "Mr. Jernigan!" (pause for effect—and the seagulls on municipal pier take startled flight) "Report to the Post Tailor and have those pockets sewn up!" You could see and hear the lieutenant think that one out.

Case Two: Consider the unfortunate situation in which Captain Shotwell found himself when, while testifying in a case, he was interrupted by the JA, who told the stenographer: "Never mind taking down all those 'Er's' and 'Ah's,' Sergeant. Just get the words in between."

Case Three: Said Lieutenant Griffith to Sergeant Smith: "Did you check the air in the Scout Car tires?" Said Sergeant Smith (who should have been properly ashamed of himself), "No sir." Whereat Lieutenant Griffith declared with a little heat: "You shouldn't have to be told to do these things. Get on it right away."—And Captain Nelson, who could be very caustic on occasion, arrived on the scene in time to remind Mr. Griffith that scout cars do not have pneumatic tires. A neat point, that!

Case Four: The look on Captain Stockton's face, accentuated by the flickering light of the C. P. lantern, when Major McGuire, the head umpire, declared: "You old fool, you think you're always right." I don't know what the answer to that one is, and it was a full two weeks before Captain Stockton recovered. But then, they say the best lodge meeting speeches are made going home in the taxi.

Case Five: (We'll blame the horse for this one) General Kromer bought a bunch of apples for his horse. Quoth he to the Colonel: "Does your horse like apples?" The Colonel didn't have the slightest idea—you could almost hear him trying to think—so he hesitated and then allowed as how his horse simply doted on apples. The General fished an apple out of the sack and gave it to the Colonel and the Colonel gave it to the horse; that is he tried to, but the horse wasn't having any, thank you, and the Colonel's efforts toward a forced feeding were unavailing. Moral: Don't look a gift apple in the horse's mouth, or something.

Case Six: Then there was the incident in which Captain George turned the question around and asked: "Colonel, what would *you* do if your patrol encountered a scout car on the road?" . . . (And right now I'm wondering if this essay isn't getting a little out of hand. But I can't help wondering, too, about what the Colonel would have done about that scout car.)

There are other historic cases in the regiment, cases too numerous for mention here. And while I have purposely omitted reference to bloomers pulled by our little friends, the reserve officers, there is one incident that cannot be overlooked. It concerns the worthy Sergeant Kanehl of the Scout Car section. That over-worked gang of irreverent grease-monkeys was heading down the road at Ord when Kanehl's lead car passed a group of Civilian Soldiers. Plop! and a more or less fresh egg spread its yellow insides over the seat of the car. It was a mortar shot and its effects were startling. Kanehl's driver slammed on the brakes and the sergeant dismounted "en masse." (By that I mean he was mad enough for a platoon in poison oak and no chow.) "Who's in command here," bellowed Kanehl, and the silence which followed was deafening. You could hear those gentlemen think! They were given ten minutes of Sergeant Kanehl's best, and it was a case of a citation or a court-martial. I believe the excuse for the target practice was that the R.O.'s were trying out hand grenade technique! It would make a Mills bomb blush.

All in all, I don't think we ought to blame the motherly old lady at the County Fair here a few years ago who pointed to the scout car antennae and asked, sweetly: "And this, young man, is this carried in memory of the old buggy whip?"

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Time to Wake Up

Comments of an EARNEST GROUCH

This is a very critical article, and the criticism is not limited to the constructive, due to the limitation of the knowledge of the author.

Germany has recently overrun Poland, in one of the most sweeping, quickest victories in the history of the world. What had Poland for defense? According to *Time Magazine,* over two million men: a tremendous army. Poland also had a very considerable time to prepare herself, for the Germans gave ample warning of their intentions. And, lastly, the war was fought over the ground that the Polish army had designed itself to fight over, wide plains cut through by few roads.

The prime mover of the German attack may be said to have been the gasoline motor, in the air and on the ground; the basis of the Polish defense was the man, propelled only by his legs or by a horse. There are available, at this writing, no detailed accounts of clashes between mechanized and unmechanized troops, but there is available the salient fact that the army whose destructive, striking effort was based on mechanization, aviation, and motorized infantry and artillery swept the enemy from the battlefield. It is to be admitted that other factors entered into the case, but the prime fact, as stated, remains.

I give information from the July-August issue of the CAVALRY JOURNAL. Poland was possessed of one of the largest cavalry forces in the world, forty regiments, 15.5% of her active forces. No regiments were mechanized. Polish cavalry was maintained at fully recruited war strength, surely an advantageous policy. The remount supply was practically unlimited. The excellence of the training of this cavalry remains pretty much of an unknown matter, but the article, in same July-August issue of the JOURNAL, entitled "Training of Modern Cavalry for War—Polish Cavalry Doctrine" seems entirely practical and up to date, envisages practice in training against hostile mechanization certainly to an extent not practiced by our cavalry. It is a significant fact that many of our officers did not have time to read the article before the Polish cavalry was removed from the list of the military forces of Europe.

There is no intention here of laying the entire blame for the Polish defeat upon her cavalry, but it is nevertheless apparent that forty regiments of *regular* cavalry, aware of the threat of enemy mechanization and therefore presumably trained to fight it, were unable to delay the enemy sufficiently to permit the infantry to prepare anything approaching "impregnable" positions.

Now consider the United States cavalry.

Our cavalry labors under many unfortunate circumstances.

1. Is our leadership up to snuff? How many officers do

you know that you feel are entirely inadequate, mentally or physically, to perform efficiently even the routine duties of the cavalry commander in campaign? On the other hand, how large is the proportion of officers that are up to the swift decision and tactical brilliance that are *requisites* of the modern cavalry leader? Perhaps the cavalry does not occupy a sufficiently strong position in our army to permit itself some right of rejection in the selection of its officers, as does the Air Corps, but this does not indicate that every graduate of West Point is necessarily a suitable cavalryman, nor does it alleviate the condition whereby large numbers of officers retain their commissions in the cavalry without evidencing the slightest degree of interest in either its tactical efficiency, its strategic possibilities, or even in the off-duty hour enjoyment of its means of locomotion, the horse.

2. The unit strength is too low. Not only are we at reduced peace strength, instead of war strength—we use the soldiers we have in the interests of housekeeping rather than of training. The fault is not all ours, for the Army would come under the greatest criticism if our posts were not "beautified," our lawns trimmed and our flower gardens well arranged. On the other hand, it is not necessary to over-emphasize this phase of our duty, as we certainly do. I venture to say that the efficiency rating of the unit commander (particularly if he be the post commander as well) is based ninety per cent upon the physical aspect of his plant and upon his housekeeping as judged by the division or corps area inspector, with a haphazard ten per cent allotted to the efficiency of his troops, which last is judged by the breeziest of tactical inspections, or upon casual consideration of the execution of perhaps one operation (of the score that cavalry troops should be capable of executing) during the annual maneuvers. It is logical that the emphasis on housekeeping should be passed down to the troop commander, so that that individual, to keep his own shirttail clean, as well as to satisfy the post and regimental demands for special duty and labor, has at hand not more than 25 or 35 per cent of his command available for daily training. Therefore we must maintain three or four cavalrymen to provide one to receive a daily dose of training for war. It is a poor investment. The most obvious solution to this is the attachment, to each post in the regular army, a CCC company, to drive the ice wagons, prune the trees, and clip the lawns. A wiser, more economical use of the CCC cannot be imagined. But a more attainable rectification would be the shift of emphasis, in our daily duty, to its proper place, which is training for battle.

3. Our enlisted turn-over is so rapid as to make proper training almost a difficult matter. This turn-over, combined with special duty and fatigue, has the constant effect of limiting our training almost to that given the recruit. Our troops change in personnel almost from day to day, with the consequence that we never feel that the men are sufficiently trained in the basic subjects to permit advancing to the more complicated ones; we are restrained from tackling the ramifications of the night attack because of the more pressing need of instruction in the bare elements of extended order drill.

4. Our cavalry is so badly scattered that practice in the proper use of cavalry masses is rarely to be had.

The above listed are the great hindrances to combat efficiency under which the cavalryman-of-the-line must labor. It is quite true that other branches have similar difficulties, but the conduct of cavalry in battle is so complex, so demanding of keen tactical insight and the swift boldness that is the result thereof, that lack of facilities and proper conditions for the thorough training that shall provide us with the ability to meet *any* situation is particularly catastrophic in our case. Infantry or artillery that is poorly led is bound to be inefficient, apt to be severely punished; cavalry badly led, because of its vulnerability and because of the very mobility and flexibility that are its great assets, shall probably be destroyed.

Cavalry must be trained to fight against each of the other arms, with emphasis laid on the mobile ground forces. The complexities of these various types of training are too many and varied to be listed here. The fate of Poland has focused our attention on the case of horse cavalry faced with large masses of mechanization. When considering the problem it is evading the issue to fall back on the old dodge that the best defense against mechanization is superior friendly mechanization, for of course we cannot depend upon horse cavalry being so lavishly supported under normal conditions.

In the first half of September the Polish cavalry must have had to undergo each of these operations against hostile mechanization: 1. quick defense, 2. stationary defense, 3. delaying action, 4. reconnaissance, 5 counterreconnaissance, 6. daylight attack, and 7. night attack. It may be illuminating to determine the combat efficiency of the organization (regiment, squadron, or troop) to which the reader is now, or was last, attached, by contemplating each of the above listed operations in these lights: the effectiveness of the weapons allotted by the table of organization (it won't be easy to borrow weapons from the higher echelons), and the amount of *actual practice* the organization has had in the solution of these problems within the last year.

If sufficient actual practice, upon the ground, has been accomplished recently, the organization must have developed a technique in the matters mentioned herewith. Assuming the organization to be a rifle troop, supported (if lucky) by two squads of its own choosing from the special weapons troop, what system has proved most practicable to:

Blockade a road? Felling trees with the corporal's handaxe would not be easy, but it might work.

Defend a blockade?

Stop tanks at a distance? Would the fifty caliber machine gun stop them? The one pounder? I have never seen the ammunition for either gun that would crack even the old wartime whippet. Maybe there is a better ammunition, that will do the work, but how many officers of the line have fired it? It would be comforting to see proof of a weapon's effectiveness before the time comes to stake the outcome of an engagement upon it.

Destroy tanks at close range? It has been reported that, in Spain, tanks were destroyed by bottles of gasoline smashed against the side, followed by grenades. How much grenade throwing do we practice? Where do we expect to get grenades? How frequently do we practice short range fire at targets simulating slots in armor?

These are matters that must be worked out with some care and imagination. It would do well to try these more extensive exercises:

The ambush of an enemy mechanized patrol of two or three tanks or armored cars. How would the vehicles themselves be captured or destroyed?

Assuming that an enemy force has been halted by a road blockade, the attack on that force.

The night attack, including not only the very difficult operation of getting the platoons and supporting guns in position, and launching the attack, but also the actual technique of destroying the enemy personnel and machines once their lines, or bivouac, has been entered.

The capture or destruction of enemy supply columns.

The set-up of a system of security that will prevent surprise attacks of the command in march, or in bivouac, plus an "automatic" system of quick defense against sudden raids.

This brief paper has stated (in, maybe, a slightly hysterical vein) a large number of problems that demand solution, with little or no attempt to suggest the solutions. There is no intent to suggest that cavalry must confine itself, tactically speaking, to anti-mechanization measures, but it is intended to show that cavalry must be prepared to face, with great efficiency, this threat, or else suffer its other capabilities to be nullified by the one weakness.

Somehow, German mechanization managed to push the Polish Army and its cavalry all over the map. It's time we developed an aggressive defense that will prevent the same fate from overtaking us. As a grouch, I think it's time to wake up.

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Horse and Motor for Artillery

By MAJOR GENERAL R. M. DANFORD, *Chief of Field Artillery, U. S. Army**

At this time, it seems appropriate for me again to make a few remarks with reference to the oft recurring argument of horse versus motor, and to state my views thereon.

I have frequently remarked that I believe the easiest thing the Field Artillery could accomplish today would be to eliminate the horse completely from the army. Congress and the Country are definitely machine-minded and many brilliant officers simply cannot see horse-drawn Field Artillery except as a relic of a bygone day. Student officers at our service schools, and commanders and umpires in our maneuvers, do not like to be slowed down by horse-drawn artillery. In our map rooms we magnify the importance of strategic mobility, while we ignore almost completely, bad weather, bottomless roads, and their effect on battlefield mobility.

It is my belief that in war every means and agency procurable will be utilized in the prosecution of the war. It is conceivable that, as in the last war, the steel capacity of our country cannot satisfy the well nigh insatiable demand for airplanes, tanks, motor vehicles, guns, ammunition, bombs, manufacturing machinery, civilian needs, etc., and that someone in authority will say to the then Chief of Field Artillery, "Animals can be used by you—this country's horse population is enormous. You must plan to utilize it to the fullest extent possible."

I can see no argument about this matter myself. The motor is far superior to the horse in some situations, while the horse is superior to the motor in others. For light division artillery, the horse still remains superior as a prime mover off roads through the mud, the darkness and the rain. He does not scrape open his belly on a rock, he does not fall off an embankment, he does not smash his head against a tree, and he still works a bit longer when his fodder is exhausted.

In other words, the horse can be used by us, and he still remains superior to the motor in what are usually the most difficult situations involving the emplacement of guns to support the jump-off of the Division Infantry at dawn. To discard him during peace in favor of the motor, 100 per cent, is simply putting all our eggs in one basket, and is, in my judgment, an unsound policy. There is today a minimum of argument regarding this matter within the Field Artillery itself. We have pretty well accepted the idea that with the National Guard essentially 100 per cent motorized, the Regular Field Artillery officer is not "horse or motor" but he is "horse and motor," and must qualify himself to utilize both to their maximum degree of efficiency.

*Reprinted from *The Rider and Driver*.

Letters to the Editor

Dear Sir:

I received your request about my writing an article on the rôle and the employment of the mobile forces with mechanized and horsed elements for publication in The CAVALRY JOURNAL.

I should like very much to send you a study concerning this subject, but I cannot do this just now, because *I must wait till the experiences of the just finished Polish War are known.*

The mechanized elements in the air as well as on the ground have had first rate successes owing to the fine weather and the dry condition of the roads. The horsed cavalry has also done very well, as I have heard, but I do not know any details yet.

Therefore I think it is better to wait a while till I know more of the newest war experiences before I write anything more on this subject.

I beg you to remember me kindly to Brigade General Hamilton S. Hawkins, and I am

MAX VON POSECK.
General der Kavallerie a.D.

* * *

DEAR SIR:

I was passing a second-hand book-stall here a week or two back and saw a copy of your CAVALRY JOURNAL hanging on the wall, and after a short inspection took it home; I had never heard of The JOURNAL *before*. I compliment you on a fine job, but hasten to add, I am not a cavalryman, or indeed, *much* of a soldier. I was born in England. My father was in the British Army, and served in India through the Mutiny, and afterwards in the camel corps that was organized to chase down the robber bands into which the mutineers broke up. Afterwards he bought his discharge from the army, and went into the Native Police as a District Inspector, having 11 years in India to his credit, after which the climate got him, and he had to resign. For myself, in '98 I enlisted in the 6th Pennsylvania Volunteers, but we were among the unfortunates who did not get out of the country. In '14, when the war broke out, I was not at first interested; I had lived in the United States 17 years by that time, and the "pull" was not very strong, beside which, everyone knew the war would be over before the Canadians got to the front; I made one or two trips to Vancouver, but thought the recruiting sergeants to be somewhat indifferent. However, after the Somme started in '16 the situation was quite different, and in the fall of that year I went up and enlisted and was over in France before the United States declared war. I had chosen the Field Engineers, and got my sergeant's school certificate with them, but I was then 46, and they would not send men over 40 to France in the Engineers, so I had to transfer to the Railway Troops to get across. So we were building narrow-gauge affairs from railhead up to the artillery for ammunition and such. So it was necessary, but not very glorious, but a fine experience for all that. We were down at the Hindenburg Line the day the 27th and 30th United States broke through it with the Aussies in support, and on several occasions the United States engineers took over work from us when we were moved.

Back home, for a while I was not interested much in reading about it, but when the *great argument* came up as to who "won the war"(!!!) it was necessary to get informed! So I now have a small library of both British and United States campaigns. Among them is Speare's *Liaison*, dealing with the retreat from Mons and the question whether the French let the British down or the British the French. The number of your JOURNAL I picked up was the May-June, and when I saw Major Schwein's article "Did They Know How" that settled its purchase at once! But the copy is in rather bad shape (it has been in the hands of a number of people since I gathered it in), so I order another, and also the previous number in which the article "They Didn't Know How" appeared. Personally, I think they knew how from the school books but didn't know how in the field—but there: Don't quote me as Authority!! My experiences were limited to the "iron horse"!!

Cavalry Combat I saw reviewed somewhere or other some time ago, but did not know where it could be got, so The JOURNAL settled that too, so here I am with an order for same.

Yours truly,

WILLIAM WYKES.

* * *

Dear Sir:

In view of the many excellent articles on marching, marches and march schedules, may I offer a simple formula that reduces figuring to a minimum.

Where one finds it difficult to keep to a certain set march schedule it helps to know how many minutes one must trot to make the required rate.

By substituting in the formula given below the number of minutes required at the trot during any marching hour can be determined.

$$\frac{R \times 12 - 4}{5} M \text{ equals } T$$

Where R equals rate of march in miles per hour
M equals minutes in hour marched
T equals number of minutes necessary at trot to make rate required

Example 1. R equals 5 m.p.h.
T equals 55 minutes

$$\frac{5 \times 12 - 4}{5} \text{ 55 equals T}$$

60 − 44 equals T
T equals 16

or it is necessary to trot sixteen minutes during this hour to make 5 m.p.h.

Example 2. R equals 6 m.p.h.
T equals 50 minutes

$$\frac{6 \times 12 - 4}{5} \text{ 50 equals T}$$

72 − 40 equals T
T equals 32 minutes necessary at the trot during this hour to make 6 m.p.h.

All that is necessary is to keep the record of the number of minutes trotted. No score cards are needed. Of course this is assuming that the trot is at the rate of nine miles per hour and the rest of the marching minutes are at a four m.p.h. walk—which unfortunately in most cases is not correct.

In reverse if one has kept a record of the minutes at the trot one can tell his rate of march: e.g.

$$\frac{X \times 12 - 4}{5} \text{ 50 equals 16}$$

12 X equals 16 plus 40 equals 56
X equals 4.66, rate for this hour.

Maybe this formula can be proven incorrect. I doubt it. I did not originate the formula but have used it to advantage many times.

PAUL D. HARKINS.
Captain, 3d Cavalry.

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The Horse in Poland

(Reprinted from Sankt Georg, Germany, October, 1939)

The German advance into Poland was so rapid that it broke down enemy resistance and paved the way for the troops that followed the armored forces to accomplish a work that was unexpected and unheard of before.

All cavalry will be interested in the part which the horse played on the German side in the Polish campaign. In this connection we may state without any exaggeration that the rapid advance of the army would have been impossible without the horse and, furthermore, that horses proved their worth in the manner that was expected. To be sure, the significance of the motorized and mechanized forces is unquestionable, but cavalry formations, which made up only a relative small part of the army following the motorized troops, moved at almost the same rate of speed. We know that each of our infantry regiments has approximately 300 horses and that most of our artillery is horse drawn. In accordance with the communications of the headquarters staff of the Wehrmacht in its report dealing with the campaign in Poland five armies took part in the great decision. According to this, we may assume on the basis of a superficial effort that Germany used more than 200,000 horses in the campaign in Poland and that this large number made possible the pace of advance of the attacking armies. Exact numbers engaged and losses due to enemy action or other causes will not be announced until later.

We are told that during the first eighteen days the horses could not be unharnessed nor unsaddled, and in view of the distances covered and the rapidity of the advance, this is not surprising.

In the tactical organization of the army, independent operational activity had not been planned for large cavalry units, *but in spite of this* the cavalry accomplished a great deal, including excellent work in reconnaissance.

The report of the headquarters staff dealing with the campaign recognized cavalry in a special manner by saying: "By their magnificent cooperation, motorized and armored units, cavalry, antiarmor defense, and reconnaissance units, all came up fully to our expectations. We hear that division commanders expressed particular appreciation of the activity of their cavalry in their reports to the Fuehrer who was on the battlefield with his soldiers. We also have reports of conspicuous cavalry actions by separate squadrons. As an example, a squadron in the South Army, led by a well known race horse rider, boldly attacked a Polish battery set up on difficult terrain (in a great vineyard, rising terrace-like) and captured it. The losses were small in spite of a direct hit within the squadron."

When the weather (which during the main was extremely favorable and did not offer any obstacles to the advance of the motorized and mechanized units) became bad during the final concluding operations, cavalry and horse drawn battalions came more into their own.

The experience which troops gained in horse upkeep and training in preparation for the large scale Polish operations must have been extraordinary and should give a good basis for work in the future. In the care and training of the cavalry horse the most important thing is keeping the horse in proper condition at all times even during peace.

A Mobile Team

In commenting on the results of the 1st Cavalry Division Maneuvers conducted last month, Major General Kenyon A. Joyce stated:

"Reports we have received relative to a recent campaign in Europe, which our phrase-makers have termed 'lightning war,' have demonstrated that the ideal combination to achieve the requisite tempo is that of the mechanized forces to seize desired terrain, and horse cavalry to follow immediately for the consolidating and holding of acquired positions until the permanent infantry holding force can be brought up. This combination of the steel spear head of mechanized fighting vehicles and horse cavalry is an ideal one for a rapid thrust into enemy territory. These two elements constitute a team that has a manifest rôle in modern combat. And this team supplemented by infantry pushed forward either by complete motor movement or by foot and shuttle movement will insure success in any except war that is a stalemate."

Poland

The letter received from General Maximilian von Poseck, former Chief of Cavalry of the German Army, which appears in "Letters to the Editor," is not without interest in its reference to the campaign in Poland during September, 1939. General von Poseck emphasizes the fact that sufficient data is not yet available upon which to draw conclusive lessons. As reports accumulate, however, from various sources all appear to confirm the impression that the success of this campaign resulted from the age-old coördinated efforts by all arms and services. It was the infantry, primarily, which cracked the cordon defense established by the Poles. Breaches created by the infantry permitted the rapid debouchment of the mobile forces which led to the rapid disintegration of the defensive army. Again, close coördination between the ground forces and the air arm accelerated and made possible the successful accomplishments. It appears to have been the irresistible power of coördinated effort well planned and closely synchronized. Reports from Poland carried in preceding pages of this issue of the JOURNAL afford a general glimpse of what actually transpired.

Contributions

Proxy cards, issued in connection with the annual meeting of the Cavalry Association, will include again this year a query as to the article or type of article which aroused the interest of readers of The CAVALRY JOURNAL. It has been a matter of editorial cognizance that articles dealing with the technique of the cavalry arm have been scarce during the past several months. Those cavalrymen who feel that they have ideas which warrant further consideration by others on any phase of cavalry tactics are urged to present them for further dissemination. Supporting fires, dismounted combat, covering forces, and a score of other subjects might come under such a category.

Flank vs. Frontal Attacks

During the past several years much attention has been paid by us to the subject of flank attacks. Does not the term, flank attack, envisage striking an enemy who is unprepared to resist an attack in the area in which it strikes? If an enemy is prepared to meet an attack from any given direction, can it be called a flank attack; rather, is it not, in reality, another frontal attack? Accordingly, an attack which incorporates the meaning of the term must be essentially one based on surprise. Again, is not surprise made possible by an element which, by virtue of its mobility, can place itself in position to launch its force from an unexpected direction and position at an unexpected time? Upon this basis, it would appear without argument that the arm most capable of inflicting a flank attack is the highly mobile one.

Human Importance

The most contented human being is the one who senses a spirit of self-importance with the task in which he is involved. In a foregoing article in this issue of The CAVALRY JOURNAL there appears the observation that we are inclined to restrict initiative among subordinates. The mere cultivation of a sense of importance primarily would suggest the formulation of this atmosphere by every means possible.

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The
CHIEF of CAVALRY
Extends to the Officers and Enlisted Men of the Cavalry the Season's Greetings, and Best Wishes for the New Year.

Honor Roll

The following organizations occupy a place on the Cavalry Honor Roll by maintaining 100% membership in the Cavalry Association:

National Guard:

103d Cavalry
104th Cavalry
106th Cavalry (Michigan Component)
108th Cavalry (Georgia Component)
112th Cavalry
113th Cavalry
114th Cavalry
Headquarters, and Headquarters Troop, 52d Cavalry Brigade
Headquarters, and Headquarters Troop, 57th Cavalry Brigade
Headquarters, and Headquarters Troop, 24th Cavalry Division

Organized Reserves:

308th Cavalry (72% Membership, highest in that component).

Of the Regular Army commissioned personnel, 98% are members of the Cavalry Association.

The United States Cavalry Association

Organized November 9, 1885

The aim and purpose of the Association shall be to disseminate knowledge of the military art and science, to promote the professional improvement of its members, and to preserve and foster the spirit, the traditions, and the solidarity of the Cavalry of the Army of the United States.—Article III of the Constitution.

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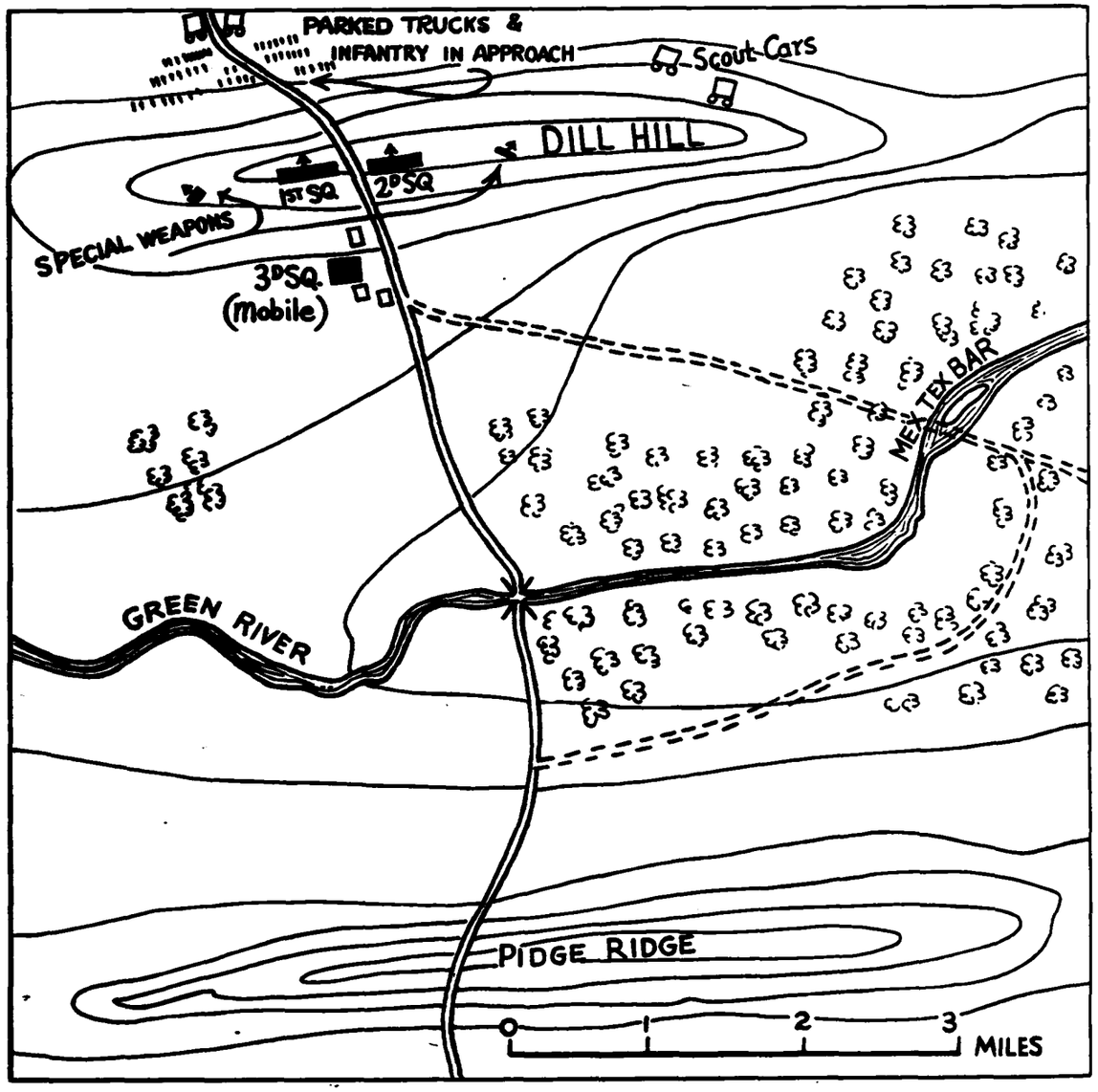
NOTES from the CHIEF of CAVALRY



What Would You Do?

The regimental command car, its windward side stained with a mixture of saliva and Navy Plug, (the result of Old Man Rivers' carelessness when under nervous tension) had taken excellent cover near the crest of DILL HILL. Old Man Rivers, oblivious to the crackle of rifle and machine gun fire from his 1st and 2d Squadrons, was in an expansive mood.

"Major Spavin," he smirked to his trusty S-3, "this business of delaying a brigade of infantry in trucks over a poor road net is scarcely worthy of our talents. By tonight those brass hats will know that our special weapons troop can knock out the Red mechanized security elements, and after that a mere boy can . . . ."

"Excuse me, sir," broke in Major Jeeman, the S-2, agitatedly, "don't you think its time we withdrew from this position? Those doughs are getting pretty close. In another fifteen minutes they'll be . . . ."

"Oh, nuts, Jeeman," said Old Man Rivers, waving his half empty bottle of tequila disgustedly, "their scout car units are all shot, twice we've held them with squadrons abreast for over an hour, and now they're hardly out of their trucks and deployed. Damn it, I've a notion to stay dismounted and simply outwalk those birds . . . ."

CRASH SPLASH

The bottle of Jose Cuervo, shattered by a wandering machine gun bullet, lay in its own nauseous fumes on the car floor. Old Man Rivers stared at it in horror.

"Odd amytal!" he cried, for the old gentleman had a smattering of pharmacy, "that settles it. Driver, more tequila!"

The driver, scarcely moving his cud of Copenhagen, reached under the cowling to a cunningly improvised section of old artillery caisson and silently passed over another bottle of the noxious cactus juice from a generously stocked supply.

"We're off, boys," cried Old Man Rivers. "Jeeman, tell the 3d Squadron to move back at once to—to—to. oh, hell, Spavin, this is too easy. Suppose you try some of your Leavenworth talents on planning this next little piece of action. I'll get mounted and you can have the command car. Give you good experience. This time I want 'em not only delayed but socked hard, and remember that Green River is easily fordable through those thin woods over near Mex-Tex Bar."

Gentle reader, as trusty Jack Spavin, the S-3,

WHAT WOULD YOU DO?

(For solution see below)

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Annual Meeting

The annual meeting of the United States Cavalry Association will be held at the Army and Navy Club, Washington, D. C., at 8:00 P.M., Monday, January 15, 1940.

Formal notification, together with proxy cards, will be sent to all members of the Association within the continental limits of the United States. Members who will be unable to be present are requested to return the proxy cards promptly to the Secretary, United States Cavalry Association, 1624 H Street, N.W., Washington, D. C.

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What Would You Do?

SOLUTION

Major Jack Spavin sent a messenger to Captain Paul Beltfeed, instructing him to have one platoon of his .30 cal. machine gun troop report to the 3d (reserve) Squadron at once for attachment thereto. Spavin then had the command car driven to the 3d Squadron and spoke to its commander.

"Splint," he said, "the Old Man and the executive officer want me to handle the next move so's they can kill another bottle of Cuervo. There'll be a platoon of 30's here in a few minutes to reinforce you. Move back at ten miles an hour to PIDGE RIDGE, astride the road, cover the withdrawal of the rest of the regiment and delay the Reds from that position.

"I am going to lead the other squadrons over the Green River Bridge. At that point the remainder of the machine gun troops (including special weapons) will join you as soon as our withdrawal is assured. Then I'll move fast over to Mex-Tex Bar, ford the river, and wait in assembly positions in the woods. When I hear you open fire I'll advance with view to attacking the column in rear if they remain in the trucks, or making a harassing attack if they deploy. We'll all rendezvous at a point three miles south on this road in case of trouble. Any questions?"

Spavin then sent messengers to the 1st and 2d Squadrons, directing them to withdraw at once leaving small covering groups and to assemble on the road behind DILL HILL. The machine guns and special weapons were directed to cover the withdrawal by echelon and to join the rear of the column on the road at increased gaits.

The effectiveness of the attack on the column, delivered from the flank, would depend upon secrecy and surprise. If these conditions obtained, great damage and delay might be inflicted. If conditions were not favorable, the regiment could be reassembled, either on PIDGE RIDGE or a more southern point and a temporary position defense adopted.

The action of Jack Spavin, pinch hitting for Old Man Rivers, shows the variety of plans open to a cavalry command in delaying a force which, though more mobile on roads is less mobile when maneuvering for a dismounted approach.

General Hawkins' Notes

Obvious Conclusions

I have been told that I am considered by the enthusiasts for mechanization as hostile to the development of mechanized force in our army. This is not true. But I am decidedly hostile to the ideas of those who would replace cavalry by mechanization. I believe that mechanized cavalry can be of great assistance to horse cavalry and that, despite the opinions of some officers, horse cavalry and mechanized cavalry can and must be used advantageously in close conjunction. It may be true that a few organizations resembling the German Panzer Divisions might be useful. Especially so, if the opposing forces have no cavalry properly armed and trained and with sufficient numbers. The Panzer Division is a combination of tanks, motorized infantry, motorized artillery, antitank units and motorcyclists. Against an enemy unprepared to meet and check such a force, as was the case in Poland, it will be successful for certain jobs on suitable terrain.

Should it happen that the French and British Armies are forced to retreat by a sudden powerful thrust by German forces on the Western Front in Europe, as happened in 1914, the Allies will rue the day when they suppressed their cavalry. Their mechanized forces will not be able to replace a properly constituted cavalry including antitank units for protecting the retreat of their infantry. Mechanized forces cannot fight delaying actions as well as cavalry. Their only effective means of fighting is by attack. Against the pursuit of superior forces, such a means would entail complete sacrifice for a short delay.

On the other hand, cavalry, by its noiseless movement across country, its mobility in any country, its capacity for stealth and concealment, can make harassing attacks on the flanks of pursuing columns by surprise and with more certainty than can mechanized forces. Furthermore, a cavalry possessing a sufficient armament of antitank guns, can check the pursuit of mechanized forces of the enemy and make its escape to repeat the maneuver again and again.

The mechanized forces of a pursuing army, on suitable terrain and with some luck in regard to the weather, can keep the retreating army on the run with no opportunity to stop, draw breath and reconstitute itself in a better position for defense than it had at the beginning, unless the retreating army has some means of delaying its pursuers. This means must not be limited to the communications system. It must be able to operate independently without having its mobility impaired at all by the nature of any country in which it may be thus employed.

This situation obtained in Poland. The Polish Cavalry was not armed and probably not trained as modern cavalry should be. It was improperly armed with lances, carbines and light machine guns. It had no heavy machine guns, no antitank guns, and lacked other weapons that we believe indispensable for cavalry. Its conception of cavalry rôles must, therefore, have been different from ours. It was not organized into divisions with the necessary supporting arms. The Polish mobilization was not completed, and it was interfered with by the sudden attack of German air force. It is probable, therefore, that the Polish Cavalry did not number more than twenty thousand if that much. Wholely insufficient in numbers, it was scattered across the entire front against a German army of a million men.

Furthermore, if the Polish infantry divisions were not numerous enough or sufficiently well armed and trained to take advantage of the assistance that a proper cavalry could have given, there was no hope for their armies even if they had had such a cavalry.

The Poles were simply overwhelmed by superior forces acting in a huge double envelopment made possible by the geographical situation. And neither the German mechanized forces nor the lack of Polish cavalry or air force, can be held alone responsible for the quick defeat. Any further prolongation of the campaign was made impossible by the Russian attack in the rear. There is no use, therefore, in trying to prove anything for or against any branch of the service by reference to the Polish campaign. It seems to have been true that the German Panzer divisions, without any important opposition and favored by a very special terrain, carried out missions often entrusted to cavalry. But this was affected only because of these conditions. Cavalry divisions could have done the same thing in the same time, not only under these conditions but on any terrain, in any weather, and against real opposition.

But the point desired to make in this article is that our cavalry should be expanded and increased so that with the increase proposed in the regular army, there may be several cavalry divisions. Whatever may be the importance of mechanized organizations and whatever may be the character of the organization believed wise for our mechanization, there should be no doubt as to the necessity for these cavalry divisions. I refer, of course, to what is now termed "horse cavalry." Two regiments of our cavalry have been mechanized, and we have only ten tiny regiments left, each of which is the size of a squadron. In

time of peace we need about thirty or more squadrons in order to have three divisions ready to take the field when needed. In a major emergency this would not be more than half enough.

With full agreement as to the value of mechanized troops, as demonstrated in Poland under extraordinary conditions, including vast treeless plains and dry weather in a usually wet season, and backed up by overwhelming forces of all arms, it is true nevertheless that cavalry has qualities which make it indispensable, especially in America.

The characteristics or qualities of cavalry determine its rôle. But these qualities vary in different countries. The armament and training of any cavalry service affects its usefulness and, therefore, its employment very materially. The armament and training of our cavalry are designed for its employment in the Western Hemisphere. It possesses qualities specially applicable to this hemisphere. It is believed that these qualities in European cavalry would also be useful and extend its rôle very much. But, however, we are not concerned with that. If we ever have to use our army, it is anticipated that it will be on this side of the Atlantic.

Should we have to use our armed forces in America, the need for a cavalry such as ours assumes large proportions. Every possible theater of operations in the Western Hemisphere favors the use of cavalry under any conditions of climate, weather, soil, plains or mountains, forests or deserts, creeks or rivers, cultivated or uncultivated lands, good roads or poor roads or no roads, sparsely settled or thickly inhabited areas. None of these things affect seriously the use of cavalry although they do affect the usefulness of motorized and mechanized forces slightly or very seriously according to the manner in which they may be combined and in accordance with other conditions that may obtain in any given situation.

The many uses for cavalry are independent of the need for mechanization, and often the two can be used advantageously in conjunction. But there are some conditions which make cavalry of special importance. They exist in every country, but particularly in the American continents. The very great variety of terrain, in limited areas as well as in vast spaces, the differences in the network of roads, the character of the different populations and many other considerations require a mobile arm possessing the general qualities for service under all conditions that may be listed for American cavalry in comparison with other arms as follows:

Cavalry Qualities Compared to Other Arms.

1. Cavalry is the most *mobile* of all military forces *across country*, day or night.
2. Cavalry is better able to *disperse* rapidly into small units and to reassemble quickly.
3. Cavalry is *less vulnerable to airplane attack*.
4. Cavalry moves across country with *less noise* than vehicles of any kind.
5. Cavalry is more suitable for *close reconnaissance* and *exploration* of broken country, woods, valleys, hills and mountains, than any mechanized forces.
6. Cavalry is nearly equal to infantry in *fire power*, including antitank guns.
7. Cavalry, like infantry, can fight *offensively or defensively*. It is more suitable for quick and decisive actions and less suitable for prolonged actions. The many short defensive actions that cavalry is called upon to make in the conduct of its many rôles indicate that this quality of effective defensive ability is of the greatest importance. Mechanized forces lack this quality.
8. Cavalry in offensive action has *more varied methods of attack*, mounted, dismounted, or a combination of the two.
9. Cavalry, like infantry, can operate for a few days, if necessary, without food, water, gas or oil.
10. Cavalry, like other arms, can be transported by railroad or motor trucks to the rear vicinity of the theater of maneuver. Upon arrival in that theater or zone, cavalry takes on its special qualities.

With these qualities in the cavalry, no large column could afford to undertake any serious military campaigns in this hemisphere without the inclusion of a cavalry force in the command. As often said before, a mechanized element in this cavalry force would be very helpful. Cavalry and mechanized force can be used to coöperate with each other. Mechanized force should not be tied to the shoestrings of a cavalry commander. And therefore, we should not expect it always to be held within supporting distance of cavalry forces. But when mechanized force is used to make wide encirclements of the hostile flanks or rear, its final destination or location in a position just previous to the general attack should be close to the position held by the cavalry immediately preliminary to the cavalry attack. This may not be called conjunction, but it means coöperation. Wholly independent missions far beyond supporting distance of other troops should not be assigned to mechanized forces. The Panzer divisions in Poland were supported closely by motorized infantry, and there is increasing evidence that cavalry supported those mechanized organizations with very satisfactory results.

Delaying actions form a very important part of cavalry rôles. They are of particular importance in the defense of this continent. Cavalry, which can operate in any weather, over any terrain, night and day, is the best force for such service.

The armament and supporting forces as provided or planned for our horse cavalry are or should be as follows:

1st. Rifles, the same as used in the infantry. Not carbines.

2nd. Automatic pistols, caliber .45, 7 cartridges in magazine. One pistol, or perhaps two, for each trooper. One carried in a holster on the trooper's belt, and perhaps the other in a holster secured on the pommel of the saddle.

3rd. Heavy machine guns, caliber .30, carried on pack

horses and organized into Troops and Squadrons.

4th. Heavy machine guns, caliber .50, for antitank defense. A few of these should be carried in the Scout Cars of each regiment, and the greater number should be organized into separate units, Troops and Squadrons, and carried partly in Scout Cars and partly on pack horses.

5th. Light antitank cannon. Carried either on motor vehicles or on wheeled carriages drawn by teams of horses. These should be organized into Troops.

6th. Possible weapons for special campaigns and according to the character of the country. These include short, heavy cutting weapons somewhat like the bolo, and perhaps hand grenades.

7th. Attached batteries of antiaircraft guns as found essential for certain operations.

8th. Scout cars, armed with caliber .30 and caliber .50 machine guns. A few assigned to Regiments and the others to special units in Antitanks Squadrons assigned to Brigades.

9th. In cavalry divisions, and sometimes brigades, Horse Artillery, organized into regiments and battalions.

10th. With large units such as a cavalry corps, a brigade of Mechanized Cavalry.

11th. On certain missions of large cavalry units, one or more battalions of Motorized Infantry.

With such a cavalry, mobile across any kind of country in any weather, and with such powerful fire action and fire support, capable of quick dispersion and quick assembly, who can doubt that, with sufficient numbers, cavalry rôles of the most outstanding importance can be performed? *But,* it cannot be improvised. It must be ready.

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A Story in Figures

CAVALRY ORGANIZATION AND STRENGTH

1916—Strength: 17,357 enlisted men
Units: 17 regiments
Regiment: 15 troops
total enlisted 1,015

1917—Strength: 35,352 enlisted men
Units: 25 regiments
Regiment: 15 troops
total enlisted 1,007

1918—Strength: 29,000 enlisted men
Units: 25 regiments
Regiment: 15 troops
total enlisted 1,764

1919—Strength: 19,682
Units: 17 regiments
Regiment: 15 troops
total enlisted 1,232

1920—Strength: 20,000 enlisted
Units: 17 regiments
Regiment: 15 troops
total enlisted 1,007

1921—Strength: 11,184 enlisted men
Units: 14 regiments
Regiment: 9 troops
total enlisted 641

1922—Strength: 9,871 enlisted men
Units: 14 regiments
Regiment: no change

1923—No change

1924—Strength: 9,867 enlisted men
Units: 14 regiments
Regiment: no change

1925—No change

1926—Strength: 9,363 enlisted men
Units: 14 regiments
Regiment: no change

1927—Strength: 8,910 enlisted men
Units: 14 regiments
Regiment: no change

1928—Strength: 8,756 enlisted men
Units: 14 regiments
Regiment: 6 troops
total enlisted 690

1929—Strength: 8,636 enlisted men
Units: 14 regiments
Regiment: no change

1930 to 1938—No considerable change.

NOTES FROM THE CAVALRY BOARD

"The Cavalry Board invites any individual, whether or not a cavalryman, to submit for consideration constructive suggestions or ideas relating to new equipment, improvement of standard equipment, or to any problem or project under study by the Board. The Board will also welcome suggestions as to new problems that may properly be considered. Communications should be addressed to the President, Cavalry Board, Fort Riley, Kansas."

60-mm. Mortar and Accessories: The Cavalry Board recently completed a test of pack accessories for transporting the 60-mm. mortar in pack. The mortar pack carries the mortar complete, tool roll with contents and eighteen rounds of ammunition. The ammunition pack carries 30 rounds of ammunition. These accessories showed up well in the test and the board has recommended their adoption for use by the cavalry.

New Gas Cylinder Assembly for M-1 Rifle: A test of a new gas cylinder assembly for the M-1 rifle was recently completed. This test indicated that the M-1 rifle equipped with the new gas cylinder assembly when firing M2 ball functions far better than the rifle equipped with the old gas cylinder assembly using M-1 ball ammunition.

Tripod Mounts, Caliber .30 M2 and Caliber .50 M3: There have been received by the Cavalry Board for test a tripod mount, caliber .30 M2 and a tripod mount, caliber .50 M3, which have been modified to strengthen the spade feet. The test is to determine if the modification for future manufacture is desirable.

Ammunition and Water Chests and Carrying Cases for Caliber .30 Machine Gun: The tests of expendable, caliber .30 machine gun ammunition containers; carrying cases for these containers; and a new type water chest have been completed recently. The ammunition containers are made of thin metal plate and are designed to hold one 250-round belt of ammunition or 300 rounds loaded in metallic clips. The canvas carrying cases are equipped with a shoulder strap and their purpose is for easier transport of ammunition by dismounted men. The water chest is of lighter weight and less capacity than the present standard chest. The purpose of the test was to determine the suitability of this equipment for use with cavalry machine guns.

Light Barrel for Machine Gun, Caliber .30, M1919-A4: In line with attempts to decrease the weight of the present light machine gun, the Cavalry Board has recently received for test a modified barrel. This barrel has been modified by machining down a portion of the barrel in rear of the front bearing. The test is to determine if it can replace the present heavier barrel.

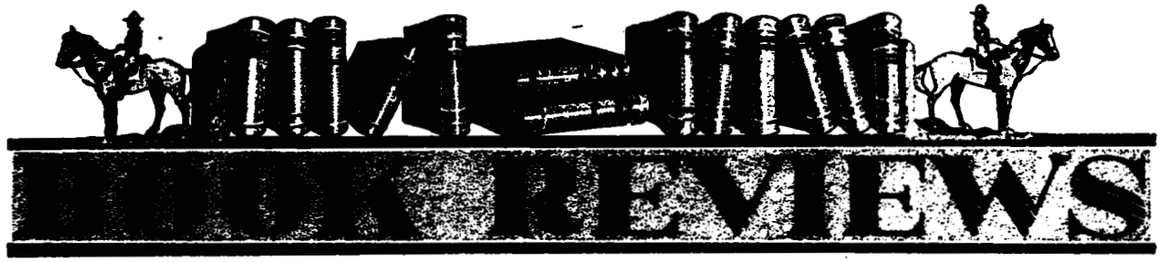
Heavy Barrel for Machine Gun, Caliber .50: The Ordnance Department has sent the Board for test a caliber .50 machine gun barrel which weighs some eleven pounds less than the present 45 inch barrel. It consists of a thin steel tube over which has been drawn an aluminum jacket. While the cost of manufacture is much greater the reduction in weight will be a decided advantage if the barrel proves satisfactory in other respects.

Minor Modifications of M-1 Rifle: In an effort to reduce the number of malfunctions of the M-1 rifle, the Cavalry Board is studying various means of lubrication and the practicability of providing a cover for the breech to prevent the collection of sand and dirt in the working parts. The Board has received a very comprehensive report on this subject from the First Cavalry Division which forms the basis for this study.

Revision of the Cavalry Field Manual: Instructions have been received to prepare a complete revision of the Cavalry Field Manual, Volumes I and III. This project has been under study by the members of the Board for several months and the Academic Division of the Cavalry School is now preparing desirable changes. Suggestions from most of the cavalry regiments have been received which have been of great assistance to the board in its work. Of primary interest is the change to the dismounted drill contained in Basic Field Manual, FM 22-5.

Antigas Equipment for Horses: The Cavalry Board has completed the tests of horse gas masks mentioned in the preceding issue of The CAVALRY JOURNAL. The subject of antigas equipment for horses, is, however, one for continual study. At present, the board is concerned with determining the degree to which it is tactically profitable to equip horses with this kind of protective equipment. Do we really want antigas equipment for horses? If the protection afforded by this equipment is adequate; if its use is practical; and if it is essential to the success of cavalry operations, the answer is, of course, yes. So far we have fairly good, though partial, protection for the lungs by the use of the wet type of mask (though even this has not been tested on live horses in real gas). Quite probably a canister type of mask can be developed which will give protection as good as that now afforded the soldier. Research is being made to develop or discover a means of all around protection against the vesicants or mustard gas, but it is difficult to imagine one that will be at once adequate and practicable when considering its impedimenta and loss of time in application. Lacking such a means of protecting the body of the horse, is the adoption of the gas mask alone justified? Possibly by thus protecting the lungs of the horse in a mustardized area we can delay the moment when he will actually become a casualty long enough to make it worth while. And how much value has the mask in an attack by non-persistent agents? To be effective such attacks can be expected to be sudden and the gas laid down in concentrations. Under such conditions, the soldier has been taught to hold his breath long enough to put on

(Continued on page 542)



SEA POWER AND TODAY'S WAR, by Fletcher Pratt. 237 pp. Harris and Hilton Books, New York: $3.00.

This book by the well known military and naval writer, Fletcher Pratt, is a purely technical study of the strength of the sea powers and of their tactics and strategy in the event of a general war.

A considerable portion of the book is devoted to the actual results of the Washington Naval Conference. In the opinion of the author this conference settled nothing but rather served as a basis for subsequent expansion in naval construction by countries which, theretofore, had depended on no more sea power than that required for routine coastal patrol. The final outcome of the conference resulted in a naval construction which was more political in its purpose than in the attainment of genuine naval combat power. This policy was reflected in the construction of what Mr. Pratt hails as the "Paperclads," where armor was sacrificed to speed and gun caliber. World reaction to this trend in naval policy is an interesting portion of this highly interesting volume.

Naval power among the major nations is covered very completely ranging from the supremacy of Great Britain, through the naval forces of France, Italy, Germany, Russia, Japan, and the United States. Throughout, the author maintains close contact with his general theme of the effect of naval power on international affairs and war of today.

References to United States naval power and policy form an absorbing portion of the book. Many may have read Mr. Pratt's comments on this subject which were carried in the *Saturday Evening Post* during the early autumn.

This book constitutes important reading to all military students.

* * *

THE DEFENCE OF BRITAIN, by Liddell Hart. 444 pp. Random House, New York: $3.50.

The general theme of this book is devoted to the advocacy of the active defense under modern conditions rather than the time honored offensive with its attendant losses and sacrifices. In building up his case the author emphasizes the principle that the aggressiveness and power of an army is to be found in its moral base. That base is unsound when the thought permeates an army that needless sacrifices are made for an indecisive objective; that there is a care for flesh and blood which must be more consciously observed on future battlefields. The German army, in the opinion of Captain Hart, pursued only a suicidal policy in their tremendous offensive in the spring and summer of 1918. Had the German high command maintained the defensive preparatory to seeking the proper opportunity for a counter-offensive the final results of the World War might have been different.

As one gets well into the book a number of contemporary problems which face Great Britain are discussed such as "Can Britain Be Invaded," "Sea Defence," "Air Defence," "Antiaircraft Defence." Under air defence, the author meditates on the real effectiveness of air bombardments. He reviews recent air offensives of the past few years and evaluates their effectiveness. The question is propounded as to whether accuracy of bombing has not diminished with the recent growth of speed.

The latter portion of the book is devoted to the reorganization of the British army and to certain aspects of army reform. To this reviewer, this part of the book is not the least interesting. Many questions of army administration, promotion, retirement, etc., might receive as much attention in the United States as in Great Britain.

This book is highly recommended to the military student who would keep abreast of modern trends in military thought.

* * *

A STUDY IN AIR BOMBARDMENT, by Brigadier General Oliver L. Spaulding, U.S.A., Retired. 143 pp. World Peace Foundation, Boston: cloth edition $1.00; paper edition 50c.

General Spaulding confines his comments on this subject to the single field of the bombing of cities from the air. On the general subject of air bombardment voluminous publications have been released, but up to date this is the first work confined to the limited field concerning the bombardment of cities as a whole.

The author opens his discussion with a bit of philosophical background based on the eastern system of philosophy in which quoting from the theme of Ormazd, "Then, in a trial by fire and molten metal, the good will be separated from the evil, and the Kingdom of Heaven will be established forever and ever." A faint foreshadowing of the trial by fire and molten metal may be upon us now in the form of air bombardment.

The author works into the subject in commenting briefly upon the general sense of the term "bombardment" as applied in the terms of past wars including pertinent references to international agreements on this phase of warfare. Referring briefly to World War developments on this theme, General Spaulding goes quickly into a very clear and succinct analysis of the Douhet theory and its theoretical application to war. To the average military mind it is believed that adequate answers to the Douhet theory will be found in subsequent pages. Actual experiences of the past half dozen years are evaluated in retrospect insofar as the application of Douhet's ideas are concerned. The cost of air raids and their practical accomplishments are ably and thoroughly covered. Ethiopia at once is thrown out as no comparable basis for comparison. The air bombardment of cities in Spain and China have been taken as examples to prove the inadequacy of this type of warfare in achieving decisive results.

The volume concludes with a thoughtful discussion on possible preventive actions to air bombardment and with an appendix devoted to proposed rules for the regulation of aerial warfare drafted by the Commission of Jurists in 1923.

* * *

SOLDIERS IN THE SUN, by Captain William T. Sexton. 292 pp. Military Service Publishing Company, Harrisburg: $2.50.

Captain Sexton, perhaps, has produced the first work which covers adequately the participation of the United States in the Philippines.

Starting with the arrival of Admiral Dewey in Manila Bay and the destruction of the Spanish Fleet, this volume covers in satisfactory detail the final control of the Philippine Islands by American arms.

In reading this book one is struck at once with the variety of diplomatic features which face the army officer in an expedition of this type. Difficulties which were encountered in perfecting cooperative and coördinated action between the army and the navy; the pathetic state of preparation for an undertaking of this character; the lack of able leadership; supply problems, and a score of other factors, are brought to light.

Captain Sexton has presented not only a valuable contribution to our military annals, but has given us also a remarkably interesting picture of our colonial development.

* * *

FALSE PROPHETS OF PEACE, by W. Armin Linn. 365 pp. Military Service Publishing Company, Harrisburg: $2.00.

The author throughout the entire volume focuses attention on the hysteria which has surrounded our participation in war rather than the fundamental causes which have provoked us to war. He opens his discussion with the War of 1812. Inasmuch as the surface causes which brought about our entrance in that war dealt with foreign restrictions to our shipping it is significant to note the territorial division involved in the desire for war and the desire for peace. In those early days it is pointed out that the states of Vermont, New Hampshire, Pennsylvania, Ohio, and all of the so-called Southern states advocated war, while the representatives from the states of Massachusetts, Rhode Island, Connecticut, New York and New Jersey voted against war. Thus it is seen that the states most involved in seagoing commerce and whose interests were most affected were the very ones who sought peace. Therefore, it was concluded that response to hysteria and propaganda by that part of the country in no way concerned with the real issue were the ones swept into the fever of war.

The remainder of the book approaches each of our several wars in the same fashion. The author emphasizes the fact that in no circumstances could it have been proven that financial, manufacturing, or other interests were concerned with the advocacy for war. To the contrary, these agencies constantly advised peace. The same is true in the political field. Throughout our history the conservatives have advised peace, while the liberals advocated war.

In succumbing to the wiles of those who preach war, few have given heed to the terrific national expense which resulted through a nation unprepared for war. We became in many cases, entangled in war inexcusably brought on through unpreparedness. The Civil War, in particular, would never have transpired had the Federal government had access to adequate armed forces.

In 1865, with an organized army, we easily avoided war in Mexico when our supplications for the removal of foreign soldiery from this continent met immediate response.

The author refers repeatedly to the battle losses which, during our history, have amounted to 1,280,000. Through proper preparedness and a calm regard for genuine national interests our losses could have been kept under 300,000. The general theme of the book is that no nation can *will* peace by talk and the printed word, but rather must earn peace through preparedness and a rugged national policy.

* * *

WORDS THAT WON THE WAR, by James R. Mock and Cedric Larson. 356 pp. Princeton University Press: $3.75.

This book describes in detail the activities of the Committee on Public Information, sometimes called the Creel Committee, under the chairmanship of George Creel. Propaganda and counter propaganda were the objectives of this commission.

In considering war propaganda it is well to realize that its purposes are fourfold: (1) to mobilize hatred against the enemy; (2) to preserve the friendship of allies; (3) to preserve the friendship and, if possible, to procure the coöperation of neutrals; (4) to demoralize the enemy. A fifth objective might be included which would aim at the maintenance of a high public morale by stressing the power and success of our own forces while emphasizing the weaknesses and misfortunes of an enemy.

Of the many factors which go to make up a successful combination in the execution of war, propaganda is by far one of the most important. The world today faces the shrewd and crafty demonstration of propaganda agents. Its importance among all nations is registered by the decisive actions taken to influence opposing peoples through

propaganda as exemplified by the English dropping leaflets rather than bombs on Germany during the early days of this war.

The authors, in very complete and satisfactory fashion, have covered the ways and methods by which the Creel Committee operated during the period of World War I. The use of posters, the artifice employed in newspaper releases, the power of censorship, and all other factors are adequately covered.

As great as were the activities of the C.P.I. our next war will see the tasks of a similar organization further complicated by the existence of radio. In the medium of propaganda the radio has afforded revolutionary possibilities, and a real technique for the employment of this instrumentality must be improvised when again we are faced with war.

Messrs. Mock and Larson have contributed a most significant volume to the military student, and its reading is recommended to all who desire a true understanding of the art and employment of propaganda.

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HOW STRONG IS BRITAIN? by C. E. Count Puckler. 240 pp. The Veritas Press, New York: $2.50.

Count Puckler is a foremost journalist of Germany who has specialized on British affairs. His estimate of British strength in war has been approved in England as a very fair evaluation.

In the author's introduction, he states that free trade on the commodity market and free movement on the money market have made Great Britain the richest country in the world. The fact that Germany and other countries have determined to rebuild their prosperity from their own resources has tended to upset the sphere of economic freedom in which Great Britain always has operated.

The threatened breakdown in this economic structure may account for the current affairs in the world.

In discussing the economic structure of the British Empire, the author covers very completely the various phases of industry, agriculture, shipping and finance. It is pointed out that Great Britain's early attainments as the leading industrial country by necessity evoked a policy of free trade which gave her tremendous financial prestige and power throughout the world. She early found great benefits in trading manufactured products for raw materials on a scale of trading which invariably resulted in high favorable trade balances. This system produced two results; first, it diminished her own native agriculture; and second, provided her with surplus funds for foreign investment. Today Great Britain has more money invested in foreign regions than any other world power. Count Puckler gives to these foreign investments the term "unseen empire," the returns upon which provide her with an immense financial income. In recent years, however, this unseen empire is weakening due to a growing self sufficiency throughout the world, with the result that Britain's foreign investments gradually are being reduced. From this and other factors the author concludes that Great Britain is becoming financially weaker.

In discussing the British Empire it is pointed out that although, through commercial and industrial markets, the range of empire is a great asset, at the same time its protection has become a seat of increasing weakness. The whole empire is too far reaching to protect at all points. This has influenced British policy in overlooking minor indignities here and there but saving its force for those threats which in themselves might jeopardize the British system and empire. Perhaps the difficulty in protecting a world wide empire has resulted in current conditions where the synchronized efforts of the "have-not" nations, having surveyed the situation, are seeking their own advancements mainly at the expense of the British Empire.

If one seeks information upon which to base an appreciative analysis of British policy this book affords valuable reading.

✓ ✓ ✓

ONE HUNDRED YEARS AT V.M.I., by Colonel William Couper, with a foreword by General George C. Marshall. 2 Volumes. 705 pp. Garrett and Massie, Richmond: $6.00 for 2 volumes.

Colonel Couper has presented a most complete story on the organization, historical high lights, and constructive services rendered by the Virginia Military Institute.

As General Marshall writes, the traditions and standards evolved over a period of eighty-five years under the leadership of three remarkable characters has permanently endowed the institute with a legacy for the development of future citizens having that stamp of character necessary to the maintenance of a genuine democracy.

The vicissitudes which undoubtedly confronted all American institutions of learning have been discussed and ably developed by the author. The days of the institute during the time that Thomas J. Jackson (Stonewall) was Professor of Natural and Experimental Philosophy is exceptionally interesting reading to the military student.

The second volume is devoted exclusively to the participation of the alumni of V.M.I. in the War Between the States. In covering this historical period many of the outstanding campaigns of the war are adequately covered in an absorbing manner. The influence of the Institute on Confederate arms was so far-reaching that at this distant day it is hard to evaluate its importance until brought home by a work of this type.

The entire work in two volumes is attractively bound, and, throughout, the style and binding bespeak the best in the art of printing.

✓ ✓ ✓

ATTACK ON AMERICA, by General Arid White. 302 pp. Houghton-Mifflin and Company, Boston: $3.00.

In a fictional manner, General White has drawn up an absorbingly interesting picture of a situation which may confront America someday through the infiltration of hostile elements in an assembly area on this continent.

In this instance it has been assumed that a coalition of European and Asiatic powers plan a joint offensive against the continental United States. The spearhead of the invasion comes from the south. The elements of this spearhead are presumed to have been gradually assembled in Mexico in the strength of 200,000 highly trained, well disciplined, amply equipped force with the most modern means of warfare. Although our intelligence system appears to have been functioning, it was unable to ascertain the true details of this assembly until it was almost ready to strike. At the same time, foreign intentions were not definitely ascertained and prospective movements in force across the Atlantic and Pacific Oceans realized until all preparations were complete.

The theme of the book concerns the lack of means which we possess to restrict a movement of this type. According to the story, the force from Mexico invades Texas with ease and advances as far as the Dallas-Fort Worth area in spite of the bold but useless sacrifice of most of our regular army units and available National Guard elements. Long range bombers bombard the White house, killing the President of the United States and throwing the country into a havoc. Hostile landings are affected on both coasts. Our forces are confined to the Mississippi Valley and the desert plateaus of the far west. Not until we completely reorganized our industry on a war basis and created a highly modernized army were we able to repel the invaders.

The motive of the book is to demonstrate our present weakness and advocate the existence of highly trained, well equipped forces both military and naval.

The only fly in the ointment insofar as the author's visualization is concerned might be found in our incredible naïveté in permitting a hostile alignment of this magnitude to exist and to permit the creation of a foreign army on this continent, all to our complete ignorance and prospective lack of retaliatory measures.

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STRAIGHT TIPS FOR "SUBS," by the late Captain H. Trapman. 72 pp. Forster Groom and Company, London: 50c.

This small booklet, in vest pocket size, first appeared during the World War as an aid to British subalterns, furnishing useful data on commissions, allowances, officer's kit, etiquette, duties, official correspondence, etc. So useful have these notes proven that this booklet now appears in its fourteenth edition with a printing of 70,000.

For anyone who may have occasion to come into contact with the British Army and its commissioned personnel this book would be most valuable. It deals very adequately with customs and traditions of the imperial forces, etiquette of the mess, and other features which might prove helpful. In reality, it compares with our "Officer's Manual" or "Officer's Guide" but so condensed as to include all necessary information in a pamphlet so bound as to be easily carried on the person in any convenient pocket.

ORGANIZATION ACTIVITIES

1st Cavalry—Fort Knox, Ky.

COLONEL HENRY W. BAIRD, *Commanding*

Hardly had the First Cavalry arrived at its home station from the Plattsburg Maneuvers, than its elements again began to take the field in furtherance of the Army Recruiting Program. On September 28th Major Harmon and Lieutenant Teller left with a composite detachment en route to Fort Hayes, Ohio. Before returning to Fort Knox, this detachment visited Toledo, Cleveland and Akron, Ohio, returning on the 6th of October. On October 12th Lieutenant Leydecker moved on Bowling Green, Kentucky returning on the 14th. On the 21st Captain Mansfield commanded a detachment which operated from Hartford, Kentucky, while Captain Evans concentrated on the Greenville area. The record shows recruiting parties out from September 28th operating in Kentucky, Indiana, Ohio and West Virginia. The result achieved is reflected in the numerous commendations coming in for the officers and men of the regiment concerned in the work.

On September 30th, Master Sergeant Walter I. Savad was retired after thirty years service. A regimental review was held in honor of Mr. Sgt. Sayad on September 29th. A devotee of the races, Sgt. Sayad was presented with a pair of field glasses by his old mess mates.

The Cavalry Leadership Test for Small Units, held this year in the Mechanized Brigade, awakened great interest in competitions of this nature. The Regiment congratulates 1st Lt. Philip H. Bethune and his platoon of Troop F for their fine soldierly victory.

There have been so many changes among commissioned personnel recently that a roster may prove of interest to friends of the First Cavalry.

Colonel Henry W. Baird, Commanding
Lieutenant Colonel Kenna G. Eastham, Post SD Commanding Recruit Replacement and Training Center
Lieutenant Colonel William Nalle, Executive Officer
Lieutenant Colonel Victor W. B. Wales, S-3
Lieutenant Colonel Nelson M. Imboden, Post SD, Post Inspector
Major Ernest N. Harmon, Commanding 1st Squadron
Major Stephen Boon, Jr., Post SD, Post and Brigade S-5
Major Charles H. Unger, Post SD, Acting Post and Brigade Executive Officer
Major Leo B. Conner, Commanding 2nd Squadron
Major George R. McElroy, S-4 and S-5
Captain William L. Barriger, S-1 and C.O. Band
Captain Harold Engerud, Post SD, A&R, Club and Theatre Officer
Captain Charles H. Bryan, Commanding Troop C
Captain Douglas Cameron, Commanding Troop B
Captain Edwin C. Greiner, Commanding Machine Gun Troop
Captain Richard B. Evans, Commanding Troop F
Captain Richard T. Wilson, Post SD, Instructor Brigade Motor School
Captain Wendell Blanchard, Post SD, WPA Mess Officer
Captain Grant A. Williams, Commanding Headquarters Troop, Regimental Communications Officer and S-2.
Captain Thomas F. Van Natta, III, Commanding Service Troop
Captain Clayton J. Mansfield, Commanding Troop E
Captain Wayne J. Dunn, Commanding Troop A
Captain Thomas J. Brennan, Assigned Headquarters Troop
First Lieutenant Donald M. Schorr, Assigned Headquarters Troop
First Lieutenant Philip H. Bethune, Assigned Service Troop
First Lieutenant Graves C. Teller, Assigned Troop A
First Lieutenant Charles E. Leydecker, Assigned Troop C
Second Lieutenant Meyer A. Edwards, Jr., Assigned Machine Gun Troop

The regiment is looking forward to playing an important part in the approaching training period and expansion program of the Army.

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2d Cavalry—Fort Riley, Kans.

COLONEL H. D. CHAMBERLAIN, *Commanding*

One Hundred Years with the Second Cavalry, a complete history of the regiment from the time of its organization to date has just come off the press. The book was compiled and written by Major Joseph I. Lambert, Master Sergeant Joseph A. Carroll, and Staff Sergeant Henry J. Cohrs, and is a complete record of the regiment in the many wars, battles and skirmishes in which it has participated since 1836. The book is now for sale at Regimental Headquarters, Second Cavalry, at $2.50 per copy.

The first two of a series of informal Regimental Horse Shows were held during the months of September and

A couple of dragoons
(Note type and condition of mounts)

October, with four classes in each show, under the general direction of Captain A. A. Frierson. The classes in these shows were designed to bring out new riders and new horses, and have been highly stimulating in improving horsemanship in the regiment. Emphasis has been laid on the correct military seat for officers and men since this seat lessens fatigue to the horse and thus promotes "mobility."

Recruit training within the regiment is now being conducted by the following methods:

Upon arrival, recruits are interviewed and according to qualifications and general physique assigned to troops, the larger men being assigned to Machine Gun Troop. Each troop clothes and equips men assigned them and only the best available equipment may be issued to the newly joined men. They are then consolidated in one troop barracks for messing and quarters, forming a recruit detachment, under the supervision of the regimental recruit instructors, consisting of one commissioned officer and selected non-commissioned officers (depending on the number of recruits). There they undergo a scheduled course of instruction for eight (8) weeks which is based on the War Department Mobilization Training Schedules. These schedules are so arranged as to develop the recruit's ability to use his weapons, and perform the duties required of him in field service concurrently with his development of perfection in the individual phases of training, such as horsemanship, mounted and dismounted drill, and similar subjects. A "Soldier's Catechism" is now being issued to each man in the regiment. This is an invaluable aid in reviewing the fundamental things the recruits should know. The Regimental S-3 closely supervises all recruit training and the recruits of each detachment are inspected by the Commandant, The Cavalry School, and by the Regimental Commander before they are sent to duty with their organizations. Recruits who are not deemed proficient are set back for further training.

Training in the regiment as a whole during this period is directed toward the objective of presenting superior demonstrations for the Cavalry School, while maintaining such standards in the regiment as will permit it to function with maximum efficiency as a combat regiment in the field. Particular stress is being laid on combined training with the artillery and air corps.

Among the many rumors that are afloat at this time, is one that the 4th Cavalry from Fort Meade, South Dakota, the 14th Cavalry (less the 1st Squadron), from Fort Des Moines, Iowa, and the 10th Cavalry from Fort Leavenworth, Kansas, will be concentrated at Fort Riley. This will provide a marvelous opportunity for training of some of the elements of the 2d Cavalry Division for the first time since its organization. The 2d Dragoons extend a hearty welcome to these regiments and hope to make their stay with us a very pleasant one. More recently we hear that all troops are to go to Camp Joseph T. Robinson, at Little Rock, Arkansas. Whatever materializes, we look forward to a full winter training period.

On August 29, 1939, the old saying, "Once a cavalry man, always a cavalry man" was demonstrated when Maynard A. Hooper, son of Master Sergeant Hooper, Second Cavalry, enlisted in Headquarters and Service Troop. Master Sergeant Hooper first enlisted at Jefferson Barracks, Missouri, on December 30, 1912, and has performed his entire service with the 2d Cavalry. Private Hooper was reared with the regiment. During childhood, he could be seen mounted on a pony, riding with the regiment on marches and maneuvers, and learning to take hard knocks like the veteran trooper, his father. Private Hooper completed his recruit instruction in an outstanding manner on October 20, and was sent to duty with his organization, Headquarters and Service Troop, 2d Cavalry. (See photograph herewith.)

Troop "A" Second Cavalry sent its second dragoon drill platoon to the American Royal Live Stock Show, which was held in Kansas City, Missouri, between October 14th and 22nd. They gave two exhibitions daily before most appreciative audiences. The men wore the uniforms of the period of the Mexican War. With matched black horses going through the cadenced movements, and with bugles blowing and guidons rippling, their brilliant appearance drew round after round of applause. In Kansas City, the dragoons made many friends for themselves and the Cavalry.

On Saturday, October 21st, the regiment conducted a week-end practice march from Fort Riley, to Manhattan, Kansas. Arriving in Manhattan, camp was established in Sunset Park. Recruiting posters were displayed and a write up was given the regiment in the local papers. On Sunday, a dinner was given by troops of the regiment for

the officers, enlisted men, their families and guests. At 1:30 P.M. following the dinner, a program consisting of shoe races, hay rolling, 3 legged races, 50 yard dash, tug of war, and four boxing bouts of three rounds each, by selected men of the regiment was presented. The final event was a battle royal by the recruits of the regiment. An estimated crowd of 3,000 Manhattanites were present during the afternoon to witness these events and they were enjoyed by all. The regiment returned to the Post on the morning of October 23rd.

1st Squadron, 3d Cavalry—Fort Ethan Allen, Vt.

LIEUTENANT COLONEL S. V. CONSTANT, *Commanding*

The squadron was well settled down to its normal routine of fall training, after its return from the First Army Maneuvers, when it came time to prepare for the Montreal Horse Show. Preparation for participation in the show had begun when the war in Europe upset the plans of the 17th Duke of York's Royal Canadian Hussars, the sponsors of the Montreal Show. The show had to be called off because of Canada's entrance into the conflict. This left the squadron with only the Boston Horse Show, sponsored by the 110th Cavalry, Massachusetts National Guard, to look forward to.

The normal practice jumping sessions were held and all of the mounts were gotten into condition for the coming contests. The horses, eight in number, were shipped on Tuesday so that they would be well rested before the show on Thursday. They were shipped in four squadron trucks and were accompanied by 9 enlisted men including the drivers of the trucks. Captain T. C. Wenzlaff was in command of the truck convoy. The other officers that were to participate in the show, Lieutenant Colonel S. V. Constant, commanding the squadron, First Lieutenant R. E. McCabe, Second Lieutenant T. B. Harrington, Second Lieutenant W. A. Sussmann, and Second Lieutenant L. H. Cross, drove to Boston on Wednesday afternoon. On the way down they were stopped by the Massachusetts State Police who had a message for Colonel Constant. All officers were to return at once to Fort Ethan Allen to take over the duties of Post Administration, as the 7th Field Artillery had been ordered to Fort Benning, Georgia, for divisional training. Before the start for home was made, however, another message was received saying that the day of departure for the Artillery had been postponed and the squadron officers and men might stay for the show.

The efforts of the riders of the squadron were crowned with success, as they won every individual and team event in the military classes. They also won and placed in some of the open classes. The following is a list of the classes and the places won by the squadron:

1. Riding Competition for children 12 to 16 years—3rd place won by Tommy Constant, son of Lieutenant Colonel and Mrs. S. V. Constant.

2. A.S.P.C.A. Horsemanship Event—2d place won by Tommy Constant, son of Lieutenant Colonel and Mrs. S. V. Constant.

3. Novice Hunter—2d place won by Captain T. C. Wenzlaff on *Milly Russell*, 4th place won by Sergeant Roy Wood on *Hailstone*.

4. Lightweight Hunter—won by Captain T. C. Wenzlaff on *Milly Russell*.

5. Heavyweight Hunter—2d place won by Lieutenant Colonel S. V. Constant on *High Time*.

6. Working Hunter—4th place won by Sergeant Roy Wood on *Hailstone*.

7. Handy Hunter—2d place won by First Lieutenant R. E. McCabe on *Black Beauty*.

8. Scurry—won by First Lieutenant R. E. McCabe on *Black Beauty* whose time was 0.1 of a second better than the winner of the 2d place; 3d place won by Second Lieutenant L. H. Cross on *Bernice* whose time was 0.6 of a second greater than that of the winner.

9. Pair of Jumpers—won by First Lieutenant McCabe on *Black Beauty* and Second Lieutenant L. H. Cross on *Bernice*.

10. Teams of Three Jumpers (Open)—3d place won by Lieutenant Colonel S. V. Constant on *High Time*, Captain T. C. Wenzlaff on *Milly Russell*, and Sergeant Roy Wood on *Hailstone;* 4th place won by First Lieutenant R. E. McCabe on *Black Beauty*, Second Lieutenant T. B. Harrington on *Blue Belle*, and Second Lieutenant L. H. Cross on *Bernice*.

11. The William H. Danforth Trophy, Officers' Jumping—won by Second Lieutenant T. B. Harrington on *Blue Belle;* 3d place won by Captain T. C. Wenzlaff on *Milly Russell*, and 4th place won by Lieutenant Colonel S. V. Constant on *High Time*.

12. The Lieutenant Gunnar F. Fredrikson Memorial Trophy—Teams of Three—won by Lieutenant Colonel S. V. Constant on *High Time*, Captain T. C. Wenzlaff on *Milly Russell*, and First Lieutenant R. E. McCabe on *Black Beauty*. Second place won by Second Lieutenant T. B. Harrington on *Blue Belle*, Second Lieutenant W. A. Sussmann on *Razor Back*, and Second Lieutenant L. H. Cross on *Bernice*.

13. Military Teams of Three—won by Lieutenant Colonel S. V. Constant on *High Time*, Captain T. C. Wenzlaff on *Milly Russell*, and First Lieutenant R. E. McCabe on *Black Beauty;* 3d place won by Second Lieutenant T. B. Harrington on *Blue Belle*, Second Lieutenant W. A. Sussmann on *Razor Back*, and Second Lieutenant L. H. Cross on *Bernice*.

14. Pair Jumping, Military—won by First Lieutenant R. E. McCabe on *Black Beauty* and Second Lieutenant L. H. Cross on *Bernice;* 3d place won by Lieutenant Colonel S. V. Constant on *High Time* and Captain T. C. Wenzlaff on *Milly Russell;* 4th place won by Second Lieutenant T. B. Harrington on *Blue Belle* and Second Lieutenant W. A. Sussmann on *Razor Back*.

All in all the riders of the squadron won four trophies and a total of 39 ribbons.

Just as soon as the show was over all officers and men that attended came back to Fort Ethan Allen and began to get accustomed to their new jobs of Post Administration made necessary by the fact that the squadron has to run the entire post during the absence of the 7th Field Artillery at Fort Benning.

The duties of running the post are quite exacting, but the squadron manages to find some time to get in a bit of training. The squadron is now ready to settle down to a long, cold Vermont winter and looks forward with keen anticipation to the coming snow hikes, winter gymkhanas and to its summer camp at Underhill, Vermont.

6th Cavalry—Fort Oglethorpe, Ga.

COLONEL JOHN MILLIKIN, *Commanding*

The social life of the regiment and garrison has been recently enriched by the additional new personalities found in our many late arrivals and their respective families. A lively interest has also been injected into the military phase of garrison life during the past month by the addition of a series of afternoon parades, night horse shows and the culmination of a wide scope of varying events into a military tournament which was well attended by many of our civilian friends in Chattanooga and vicinity. Late arrivals in the social life of the garrison include Captains William O. Heacock and Thomas F. Taylor and their families as well as many others mentioned in earlier issues of the JOURNAL.

Major Wilkie C. Burt, 2d Cavalry, a former officer of the regiment and Mrs. Burt, a resident of this vicinity honored us with their presence at certain periods when the health of Major Burt permitted, during the past several weeks. Major Burt has departed for the Army and Navy Hospital, Hot Springs, Arkansas, for observation and treatment and carries with him our best wishes for an uneventful and speedy recovery.

First Lieutenant William R. Prince the last of our "stay-at-homes" to receive orders for change of station departed October 1st for his new assignment, the 2d Balloon Squadron, Fort Bragg, North Carolina.

Hardly becoming settled after his arrival for station Second Lieutenant Richard L. Irby received orders to proceed to the 1st Cavalry Division, Fort Clark, Texas, and departed for his new station October 25th.

TRAINING

Starting on October 1st, troops of the 6th Cavalry, renewed their individual and unit training after the lapse caused by six weeks in the field, followed by summer training camps and range practice. To insure the swing and perfection of dismounted marching, short daily periods of marching accompanied by the band were carried out throughout the month. Two dismounted retreat parades, are being held each week—regimental parade on Thursday and squadron parade on Tuesday. Mounted work included the school of squad, platoon and troop.

The target season completed during the past two months was most satisfactory. Regimental qualifications in arms were as follows:

Rifle	100%
Pistol, Dismounted	85.3%
Pistol, Mounted	92.4%
Light Machine Gun	93.2%
Heavy Machine Gun	100%

Regimental champions in use of small arms in the regiment for the 1939 target season are:

Rifle—Private First Class Tyler, Troop B—Score 246.

Pistol, Dismounted—Private Emory R. Stapleton, Headquarters and Service Troop—Score 96.83%.

Light Machine Gun—Private First Class Roscoe S. Edens, Troop A—Score 259.

Heavy Machine Gun—Private First Class Herman E. Arthur, Machine Gun Troop—Score 197.

Seven men of the regiment had perfect scores in firing the pistol mounted. The regimental champion, pistol mounted, will be determined by a competitive match to be held during the month of November.

HUNT NOTES

The first formal hunt of the season was held on October 22d. The Band played hunting selections while the mounted buglers escorted the pack and hunt staff around the post to the commanding officers' quarters. Here the staff, pack, and field received Colonel Millikin for his first hunt with the 6th Cavalry hounds. In spite of the extremely dry, warm weather the 12½ couples worked out the line beautifully to a kill near Snodgrass house. The hunt was followed by the first hunt breakfast of the season. On October 29th the new farming section west of the park was hunted and will be used almost exclusively from now on until the "going is too deep" from rain. A total of 51 fences have been panelled in this section which takes in Missionary Ridge and comprises an area equal to that of Chickamauga Park. The extreme western section is the home of the foxes and it is hoped that soon we will give some of them some excitement and exercise.

On Friday, September 29th, the 6th Cavalry turned out in a farewell retreat formation in honor of Master Sergeant William Turner, who retired with over thirty years service on September 30th. At this formation the general order announcing Master Sergeant Turner's retirement was published and the regimental commander, Colonel John Millikin, in a short address extended to Master Sergeant Turner the congratulations and best wishes of the regiment.

ATHLETICS

After a very successful baseball season, Troop F, winner of the regular schedule, came out on top in the Shaughnessy play-off.

A lighted softball field was built adjacent to the post and proved to be one of most popular "night spots" on the post. Although started late in the season, two leagues

were organized and their schedules completed. In the Fast Pitch League Troop F was the winner. In the Slow Pitch League Troop B finished first.

HORSE SHOW WEEK

The week October 15-19, 1939, was set aside as a Military Horse Show and Tournament Week. Starting off on Sunday, October 15th, with a drag hunt in the morning and a polo game between the Atlanta Horse Guards and Fort Oglethorpe in the afternoon. The post team defeating the Horse Guards by a score of 11 to 4. On Tuesday the final game of the baseball league was played between Troop F and Headquarters Troop. On Wednesday afternoon the Bradley County Colts of Cleveland, Tennessee, and the Fort Oglethorpe Juniors met in a polo game with the post Juniors winning by a score of 8 to 3. Between the halves of the polo games the Machine Gun Troop put on a machine gun demonstration. On Thursday the hunter trials were held in Greenleaf Area. Captain B. McK. Greeley, 6th Cavalry, won the Qualified Hunter Class and the Staff Team of the Fort Oglethorpe Hunt, composed of Captains Gordon B. Rogers, John O'D. Murtaugh and B. McK. Greeley, won the Hunt Team Class. The two night horse shows drew a large crowd of spectators. Jumping classes were held in the Horse Show Arena on Friday and Saturday nights, interspersed with tandem drills by Troop A, a bridleless ride by Troop B, a musical drill by Troop F and novelty jumping by Troop E.

Troop E won the much coveted Reid Trophy having accumulated the most points throughout the year in the bi-weekly horse shows beginning with the point to point ride of the hunt in April.

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7th Cavalry—Fort Bliss, Texas

COLONEL WILLIAM W. WEST, *Commanding*

On the fourth, the regiment returned to the post after participating in the 1st Cavalry Division Maneuvers held in the vicinity of Toyahvale, Texas. Ideal weather conditions made the maneuver period of five weeks a most pleasant experience. The regimental commander was very much gratified over the high state of training exhibited by all organizations. Excellent horsemastership in all troops enabled the regiment to evacuate the least number of animals of any organization in the division. The regiment was represented in three weights in the finals of the division boxing tournament (Private Conley, Troop B, featherweight; Private Marshall, Troop B, lightweight; Private Balarezo, Machine Gun Troop, middleweight). Private Conley won his fight to land one division championship for the Garrys.

As soon as the officers had a chance to get rid of some of the maneuver dust, polo started. The pony string was split up and reassigned to take care of the large number of players who turned out. Every effort is being made by Colonel Allen and Lieutenant Wilson to develop new ponies for the winter and spring tournaments. Noel Field under Major Haydon's care is about ready for play, and in the meanwhile the other two post fields are in excellent condition.

Because of the changes made necessary to take care of the 1st Cavalry Brigade, the remount stables have been broken up. The remounts were assigned to troops for stabling and further training. The officers of the regiment had a very informal party in McKilligan Canyon prior to the maneuvers. All former Garry Owens were invited, and needless to say a good time was had by all. The regiment sponsors the hop at the Officers' Mess on December 16th. The committee appointed to arrange and plan the affair promises the best dance of the year.

When the 1st Brigade arrived on the post, this regiment was host to the 12th Cavalry. Troops of the 7th Cavalry had the corresponding troops of the 12th in for their first meal. The officers were entertained at lunch at the Officers' Mess.

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8th Cavalry—Fort Bliss, Texas

COLONEL JOS. P. ALESHIRE, *Commanding*

Captain Rogers A. Gardner was relieved from assignment to our regiment and departed for duty at the Overseas Discharge and Replacement Depot, Fort McDowell, California, on September 1, 1939. This was Captain Gardner's second tour of duty with the 8th Cavalry.

Captain Alexander M. Miller, III, joined us for duty and is commanding Headquarters and Service Troop.

The following recent graduates of West Point reported for duty in time to be with us on the recent division maneuver in the Balmorhea Area:

Lieutenant E. McC. Dannemiller,
Lieutenant H. L. Conner, Jr.,
Lieutenant J. J. Wilson,
Lieutenant F. W. Boye, Jr.

During the month of September, the troops of the regiment moved from the barracks area that has been "home" for the past fourteen years. Additional barracks and stables had been completed in the new 2d Cavalry Brigade Area. At the present the entire brigade is quartered in the new area at the south end of the post.

The entire month of September was devoted to preparation of men and animals for the annual maneuvers of the 1st Cavalry Division.

A retreat parade was held on September 29th, at which time Sergeant Oliver D. Milton, Troop E, was presented with the Cavalry Pistol Team Medal, which he won in the inter-regimental rifle and pistol matches held at Fort Clark, Texas, May 9th-11th this year. Sergeant Milton is one of the outstanding rifle and pistol shots of the regiment, being an annual attendant at the Camp Perry Matches, where he has won a splendid collection of medals and trophies as a result of his skill with rifle and pistol.

At the same parade Private Barney F. Leonard, also of Troop E, was presented with a gold medal for the high

new pistol shot in the inter-regimental matches. This was Private Leonard's first experience in match shooting, and he shows prospects of following in the footsteps of his able instructor, Sergeant Milton.

On October 2d, the regiment, as part of the 2d Cavalry Brigade departed for Balmorhea, Texas, for maneuvers of the 1st Cavalry Division. Ten days were used in the march to the Base Camp, Sunday being spent in Van Horn, Texas. We arrived in Base Camp on October 11th, and enjoyed a rest until the 16th when the division maneuvered against an enemy represented by flags.

After two days of division exercise the two brigades were pitted against each other. In the beginning of the phase each brigade was required to make a night march to a position unknown to the opposing brigade. The 2d Brigade marched 28 miles to the Kingston Ranch, arriving in bivouac at 2:05 AM. Much to the chagrin of the air corps, the march was completed without their observer being able to locate the two columns of the brigade or our bivouac. After a hard-fought, three-day war, both brigades returned to the Base Camp. Again the following week a two-day division exercise was held. Following this, the division was in combat against an infantry combat team composed of the 9th Infantry and the 15th Field Artillery both from Fort Sam Houston, Texas.

On October 28th, a review was held in which all branches present took part. Immediately following the review, troops of the 2d Brigade again hit the road, on our return march, arriving at Fort Bliss on November 4th. During the entire period we enjoyed excellent weather.

Forty animals were evacuated, and three deaths were caused by exhaustion. The excellent condition of both men and animals caused much favorable comment.

Every member of the regiment deeply regrets the loss of our "Old Campaigner" Colonel Innis P. Swift. On October 19th he was relieved from command of the 8th Cavalry and given command of our brigade.

Colonel Swift always felt that the 8th was his home, his father, Colonel Eben Swift having commanded the regiment from 1912 to 1914. One of Colonel Swift's hobbies in the field was to be up visiting the picket lines in the morning when everyone was enjoying that "last hour's sleep." He made the rounds of all of the picket lines, then the kitchen line until he found a cup of hot coffee. Th next seen of him would be on his favorite mount, *Reno Hawk*, putting distance behind him for our next camp.

Colonel Jos. P. Aleshire is now officially commanding the 8th Cavalry. Colonel Aleshire has been regimental commander pro tem for more than three years. During the reign of Colonel Frank Keller, who was also briagde commander, as Colonel Swift has been for some time. Colonel Aleshire commanded the regiment during the Marfa Campaign of '36, and at numerous times since. He has been with us since September '35 and was recently given his eagles. It is hoped that the powers that be, in Washington, will let him remain with us indefinitely.

On November 6th, officers of the regiment were host to officers of the 5th Cavalry. At the same time, each troop was host to the corresponding troop of the 5th Cavalry for dinner. The 5th arrived in the post just in time for dinner, and this was thought a fine way of making the acquaintance of our new neighbors of the 1st Brigade.

Now that the entire division is at Fort Bliss, we are looking forward to a busy, but pleasant winter training season.

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11th Cavalry—Presidio of Monterey, Calif.

COLONEL HOMER M. GRONINGER, *Commanding*

Keeping pace with the Army's program of intensified training for all arms, the 11th Cavalry has stepped up all phases of troop, squadron and regimental training for the period which will end 31 January.

Line troops, now undergoing a refresher course in individual training, are to be concentrated on squad and patrol and combat problems in the field. This phase will culminate in competitive exhibitions late in November. Concurrently officers and patrol leaders are making tactical rides under the regimental commander's direction, on the subjects of marches, attack, delay, and defense, in that order. First ride was held October 30th. This program is augmented by officers' schools on the same subject. Initial phase of this training was completed October 4th when the regiment formed with full field equipment for a march to Camp Ord and return. Each phase is divided into three sections, school, command post exercise, and finally, execution on the ground with all troops.

Completion of the firing season early in October, with 250 men firing in six troops, showed gratifying results. Qualification was an even 98 per cent with the rifle, 62 men making expert and 62 sharpshooter. Qualification in other arms scored almost as high. Regimental trophy for the rifle was awarded Troop B with 48 per cent experts out of 39 firers. Troops A, B, and F had no disqualifiers.

The regiment completed antiaircraft firing, towed targets, October 16th at Camp Ord. Results showed the superiority of rifle fire, due to dispersion, over automatic weapons. Riflemen fired 583 rounds, obtaining 45 hits for an average of 7.7 per cent. Light machine guns obtained 22 hits for an average of 4.3 per cent while the water-cooled guns averaged 3 per cent hits.

Successful experiments with an improvised anti-tank gasoline bomb were conducted recently by Troop F on the Camp Ord reservation. Target was a discarded tank (immobile), at which bottles filled with gasoline were hurled at short range. The fuel was ignited by Very pistol flare and by rifle tracer bullet. A plan to develop a gasoline bomb which will ignite upon contact, utilizing phosphorus or similar chemical, is being studied.

"Graduation exercises" for 50 of the 100 remounts recently received by the regiment were held on Soldier Field October 21st. The animals, presented in troop groups, were shown in the equitation ring, over small obstacles, and on a straight-away dash. The exercise also included firing of blanks at the three gaits.

First of the fall regimental inspections brought out, first, all regimental packs, and the second, forward and rear echelons disposed in functional groups. Officers of the regiment availed themselves of the opportunity to study both set-ups "on the ground."

Five officers were ordered to new assignments during October. They were Lieutenant Colonel Lester A. Sprinkle, commanding 1st Squadron; Major M. L. Stockton, S-2 and S-3; Major Phillip B. Shotwell, Unassigned (Troop A); Captain Egon R. Tausch, Troop B, and First Lieutenant Wilfred H. Tetley, assistant adjutant. Lieutenant Colonel Sprinkle was assigned to duty with the 6th Division staff at Camp Jackson, S. C.; Major Stockton, Staff, Fort Riley, Kansas; Major Shotwell, Logan, Utah (ROTC); Captain Tausch, assistant military attache, Mexico City, and Lieutenant Tetley, Signal detail in Honolulu. New names on the roster are those of First Lieutenants Albert E. Harris and Charles M. Iseley, Second Lieutenants John W. Dobson and Stephen W. Downey. Lieutenant Harris, assigned from West Point, New York, commands Troop A, and Lieutenant Iseley, from the Cavalry School, commands Troop B. Lieutenant Downey is an honor graduate appointment from Stanford University, assigned to Troop F. Lieutenant Dobson, a 1939 graduate of U.S.M.A., is assigned to Troop A.

Regimental participation in Monterey Peninsula horse activity has resulted in reëstablishment of peninsula polo. Under direction of Major C. H. Gerhardt, a Presidio team is participating in weekly polo contests at Del Monte Field, where Sunday programs are held under joint Army and civilian sponsorship. Cavalrymen seeing action in the first game October 29th were Major Gerhardt, Captain Alexander George and Lieutenant Downey.

Four cavalrymen, Lieutenant Iseley, Sergeant Thomas Sapash, Sergeant Victor Shantz, and Corporal Robert Seney, representing the Presidio Horse Show team, journeyed to Santa Barbara October 7th and 8th for the Riding and Hunt Club Horse Show and claimed top honors for the two-day event. Six horses were taken on the trip, of which two were inexperienced. Jump courses were excellent and proved very sporting, with the cross-country course, over hilly terrain, having more than the usual number of jumps encountered in the hunting field.

In the current six-man football season on the post, two Cavalry teams, Troop A and Machine Gun Troop, both placed in the semi-finals, where Troop A's Yellow Jackets nosed out the Machine Gun Blue, 13-12, in a fast, hard-driving contest November 1st. The troopers will meet a team from Headquarters Battery of the 2d Battalion, 16th Field Artillery, for the post title.

A regimental recruit detachment has been formed and is carrying on intensive training in all basic military fields. Recently all men of the detachment were asked to write short essays on "Why I Joined the 11th Cavalry." The winning essay, by Private Sidney R. Stark of Troop F, follows:

"I transferred to the 11th Cavalry from the Medical Corps because one does more in the Cavalry. Before I enlisted in the Army, I endeavored to join the 11th Cavalry but was informed that no vacancies existed.

"In the 11th there is a spirit that is inspired by the motto: 'Allons' — Onward, onward until the task, no matter how large or small, is accomplished.

"My favorite hobbies are riding and shooting, and in the Cavalry only can one find both. We fire the rifle, pistol, and machine gun.

"With my desire for riding and shooting satisfied, and a great motto to uphold, I am more than grateful that I have had the opportunity to join the 11th Cavalry."

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12th Cavalry—Fort Bliss, Texas

COLONEL JOHN A. ROBENSON, *Commanding*

Since September 15th, the 12th Cavalry has been "in the field," and present indications show the regiment will continue to operate under field conditions for at least the next four months. On September 15th the troops departed Forts Brown and Ringgold for Fort Clark to engage in two weeks training in prepartion for the 1st Cavalry Division Maneuvers in the vicinity of Balmorhea. The two weeks at Clark were climaxed with a polo tournament and a three-day brigade horse show in which the 12th received its full share of ribbons.

The one regrettable incident of the brigade exercises was the injury sustained by Colonel Arthur E. Wilbourn, then commanding the regiment. Colonel John A. Robenson, 5th Cavalry, has assumed command.

On October 1st, the 5th and 12th left Fort Clark for Toyahvale and the maneuvers. The 300 mile march was completed with men and animals in fine condition and with every member of the regiment more cognizant of the value and meaning of march discipline.

The two weeks of maneuver of Toyahvale, culminating in a division review for General Kenyon A. Joyce, U.S.A.

At Toyahvale,the order that the 1st Brigade would continue to Fort Bliss instead of returning to home stations was received. On November 8th the 12th arrived at Fort Bliss and commenced preparation for the four months' intensive training as part of the First Cavalry Division.

Among the social events of the period, a farewell dinner given by the ladies of Fort Brown, the receptions at Fort Clark tendered by General and Mrs. Wainwright and by Colonel and Mrs. Stearns, the promotion party given in Pecos by Colonel Whitney, Chaplain (Captain) Sides and Lieutenant LeMoyne and the luncheon given by officers of the 2d Brigade upon our arrival at Fort Bliss.

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13th Cavalry—Fort Knox, Ky.

COLONEL JACK W. HEARD, *Commanding*

Colonel Charles L. Scott who had commanded the regiment since September, 1936 departed from the Post on September 23rd for his new station at Boston. The entire regiment escorted Colonel Scott as far as Tip Top. Colonel Jack W. Heard assumed command of the regiment on September 24th.

At a Brigade Review held on October 9th, the Soldiers Medal was presented to Corporal George W. Mollett, Troop "F," 13th Cavalry. At the same review a medal was presented to Sergeant Ivan L. Ryerson, Troop "A," 13th Cavalry by a delegation of the Kentucky War Mothers, who were guests of Fort Knox on that day, for his outstanding work as a student at the Brigade Motor School.

Six of the eight troops have moved into the new permanent barracks. Troop A and the Machine Gun Troop expect to be comfortably settled in the near future.

The regiment participated in the demonstrations and exercises for the Congressional Committee which visited Fort Knox, on November 9th and for the Faculty and Students from Fort Riley during the week of October 15th.

A detachment of the regiment under command of Lieutenant Colonel B. Q. Jones participated in the Armistice Day Parade in Louisville.

The regiment has been very actively engaged in the recruiting campaign, having sent detachments of vehicles and men to many points in the Corps Area. A number of recruits for the regiment have been obtained and are fast taking their places in the different organizations.

The regiment has a successful team in the newly organized six men football league and is preparing to defend its championship in the Post Bowling League.

Cavalry Leadership Tests for Small Units were held on October 30th with selected platoons from the Combat Car Troops competing. While official notification has not been received, a platoon of Troop "E," 13th Cavalry, commanded by First Lieutenant Karl T. Gould, was the winning platoon in the regiment.

In addition to Colonel Heard, Lieutenant Colonel Byron Q. Jones, Lieutenant Colonel Cornelius M. Daly, Captain Daniel P. Buckland, First Lieutenant Karl T. Gould, First Lieutenant Bogardus S. Cairns and Second Lieutenant Edwin A. Russell have joined the regiment. Lieutenant Colonel Ralph I. Sasse, Major Mordaunt V. Turner, First Lieutenant William B. Fraser, First Lieutenant Jack W. Turner and First Lieutenant Gerard C. Cowan have been relieved from assignment and ordered to new stations.

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26th Cavalry (PS)—Fort Stotsenburg, P. I.

COLONEL ROBERT BLAINE, *Commanding*

All machine gun units of the regiment are engaged in firing at marine targets on Subic Bay. We appreciate the coöperation and assistance we are receiving in this training from the captain of the yard and other naval personnel at Olongapo.

Field training and preparation for a regimental march and maneuvers in November is under way.

The 118 remounts received in July have just been turned to duty. To First Lieutenant H. H. Howze and his assistants, Lieutenants W. E. Chandler and R. E. Arnette is due a lot of credit for work well done in the training of these remounts. Four of the remounts have been assigned to the Department Stables in Manila and eleven will be sent to the Philippine Division at Fort McKinley.

The September horse show was held in the new jumping area. All troops have shown a marked increase in their interest in equestrian activities.

Troop B, for the second successive year won the regimental volleyball championship. Under the able coaching of Lieutenant J. D. Alger, the regimental basketball team is prepared to give more than a good account of itself this year.

Captain Juan S. Moran, 26th Cavalry (PS), (major, Philippine Army) has been placed on detached service with the Philippine Army as commanding officer of the 2d Military District with headquarters at Tarlac.

Lieutenant Colonel J. T. Pierce and W. T. Haldeman and Captain H. L. Kinnison and Bradley will return to the United States on the October transport.

Majors C. R. McLennan and L. W. Biggs and First Lieutenant H. J. Fleeger have been assigned to the regiment. They will arrive on the *Grant* October 26th.

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103d Cavalry—Tyrone, Pennsylvania

COLONEL BENJAMIN C. JONES, *Commanding*

Troops of the regiment are in the midst of preparations for the seven days additional field training directed by the War Department for the National Guard. The regimental commander has ordered concentration of the entire regiment at Clearfield, in the mountains of Central Pennsylvania, for the week November 12th to 18th. Orders for the movement and training programs and schedules for the period have been issued and a rather strenuous week of activity is anticipated.

Mounted units will march overland to Clearfield from their home stations. For the more distant troops at Sunbury and Lewisburg and New Castle this plan involves a march of close to a hundred miles and these troops will take two or three days for the movement. Troop B at Lock Haven will have a sixty-five mile march to Clearfield, but the troops at Tyrone and Altoona and Punxsutawney can make the journey in a relatively easy one day march. The whole movement will be the finest kind of test both of the state of training of the troops and of the condition of men and horses.

By reason of the removal of his residence from Altoona to Pittsburgh Second Lieutenant John S. Hollar in September requested his transfer to the inactive list. To fill the vacancy thus created Master Sergeant Samuel T. A. Crawford of Headquarters Troop has been appointed second lieutenant and assigned to command the scout car platoon.

Within the past month two new appointments of sec-

ond lieutenant, N.G.U.S., have been made in the regiment. One is of Master Sergeant Kenneth F. Stover of Headquarters Troop, who is at present a student at the N.C.O. Class at Fort Riley. The other is of Corporal James E. Clover of Troop A.

Fall school activities are in full swing. In each echelon in the regiment school sessions are held periodically, the various commanders acting as instructors. Two regimental school sessions have thus far been held in Tyrone under direction of the regimental commander, and one is planned for each month through the balance of the armory training year. At the October session the conference, attended by all field and staff officers, was on the employment of field artillery with cavalry.

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106th Cavalry—(Illinois Component)

MAJOR RALPH G. GHER, *Commanding*

The interest of the personnel of the 106th Cavalry is now centered on the proposed organization of the 23rd Reconnaissance Car Squadron. This organization will only affect Troop F and Machine Gun Troop at Springfield. Although details have not been announced, it is contemplated that Troop F will be transferred to Chicago and Machine Gun Troop to Urbana, thus giving each of these cities an additional horse cavalry unit. The present Troop F and Machine Gun Troop of Springfield will be converted to two mechanized troops comprising the 23rd Reconnaissance Car Squadron. The senior officer of the Springfield troops is Captain Mark Plaisted, now commanding the Machine Gun Troop, who is tentatively slated to command the new mechanized squadron. First Lieutenant Charles R. Bean of the Machine Gun Troop will probably succeed Captain Plaisted as a troop commander in the new organization. First Lieutenant William Kirby of Troop E will probably command Troop F upon its transfer to Chicago, and First Lieutenant John Hornfeld of Headquarters Troop is expected to assume command of the Machine Gun Troop when it is moved to Urbana.

The proposed change will leave Springfield with no units of the 106th Cavalry, and for the first time since 1896 the city will have no mounted troops.

Major Ralph G. Gher and Captain W. A. Crookston, Adjutant, visited Fort Riley, Kansas, October 5th, 6th and 7th. They travelled in a plane furnished by the 108th Observation Squadron and piloted by Lieutenant Eugene Fogle of that squadron. The purpose of the trip was to observe the annual cavalry demonstration, but due to the transfer of various units and other activities caused by the European crisis, it was necessary to abandon the plans for the demonstration this year. The observation of other activities at the Cavalry School however, proved valuable, among them the eliminations for places on the Olympic Games Jumping Team.

The seven-days winter training program has resulted in considerable activity in the troops of the regiment. Troop E spent the week of November 18th to November 25th at Fort Sheridan, Illinois, marching from Chicago. Headquarters Troop trained at Urbana during the same week, as did the Medical Detachment. Troop F and Machine Gun Troop spent the week ends of November 10-11, 18-19, 25-26 and December 2-3 in the field. The regimental staff divided its time between the various units at Springfield, Fort Sheridan and Urbana, and in terrain exercises, tactical marches and a command post exercise.

Major Gher, commanding the regiment in the absence of Lieutenant Colonel Kenneth Buchanan, who is on duty with the General Staff in Washington, attended the National Guard Convention in Baltimore in November.

Headquarters Troop and Medical Detachment now occupy their new armory in Urbana.

Progress is rapidly being made in the construction of the new armory of Troop E in Chicago.

Under the supervision of Major E. A. Franklin, Instructor, the Springfield officers have been participating in a map problem which will continue through the winter months. Captain Plaisted commands the Blue forces, and Captain Crookston the Reds.

A former member of this regiment recently took office as Adjutant General of Illinois. General L. V. Regan started his military career as a private in the 1st Illinois Cavalry in 1913, and served with the cavalry on the Mexican Border, and with the Field Artillery in France. Prior to his appointment as Adjutant General he served on the staff of the 33rd Division.

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112th Cavalry—Dallas, Texas

COLONEL CLARENCE E. PARKER, *Commanding*

OFFICERS ROSTER OF 112TH CAVALRY

Command and Staff: Colonel C. E. Parker, C.O.; Lieutenant Colonel A. S. Johnson, Executive Office; Captain G. A. Brewer, S-2-3; Captain B. L. Smith, Chaplain; Captain W. A. Johnson, S-1; Captain H. L. Phillips, S-4; First Lieutenant R. H. Johnson, Assistant S-1.

Headquarters Troop: Captain W. M. Hill, C.O.; First Lieutenants G. S. Metcalf, and T. H. Houghton, Second Lieutenant E. K. Morse.

1st Squadron: Major J. B. Dunlap, C.O.; First Lieutenant M. L. Bass, S-1-2-3.

Troop A: Captain C. W. Newman, C.O.; Second Lieutenants J. H. Neel and P. D. Hale.

Troop B: Captain W. T. Starr, C.O.; First Lieutenant D. M. McMains, Second Lieutenant W. H. Laird.

3d Squadron: Major M. McIntire, C.O.; First Lieutenant R. R. Houghton, S-1-2-3.

Troop I: Captain R. W. Davis, C.O.; First Lieutenant S. L. Hunnicutt, Second Lieutenant R. Lilley.

Troop K: First Lieutenant C. E. Grant, C.O.; Second Lieutenant J. L. Minter.

Machine Gun Troop: Captain L. A. Beecherl, C.O.; First Lieutenants R. F. Fenley and F. M. Cowman, Second Lieutenant L. Leonard.

2d Squdron: Major W. P. Cameron, C.O.; Second Lieutenant A. B. Wallace, S-1-2-3.

Lieutenant Colonel John M. Thompson, unit instructor, 12th Cavalry—Demonstrating cavalry exploitation: a successful break-through accomplished, envelopment contemplated.

Troop E: Captain J. A. Mann, C.O.; First Lieutenant W. R. Shaw, Second Lieutenant P. L. Hooper.

Troop F: Captain R. G. Phillips, C.O.; First Lieutenant M. E. Hood, Second Lieutenant T. R. Tipton.

Medical Detachment: Major W. B. Lasater, C.O.; Captains C. E. Williams and F. C. Steinman.

NOTE: Every officer named above is an *active, boasting,* member of the Cavalry Association and reads each issue of the CAVALRY JOURNAL from cover to cover to his professional advantage.

Although the Pyron Trophy Test, being conducted in the regiment during the present armory training period, has practically just started, Colonel Parker is very much pleased with the results this competition has already produced in the marked increase of attendance at drills and schools and the improved appearance of the enlisted personnel as a whole, at military formations.

All troops are working hard to win this competition and displaying keen interest. For example, to show how keen some of the troops are about winning the trophy, all the men of Troop A, commanded by Captain C. W. Newman, have had their spurs nickle plated, at their own expense.

Commencing with October 15th, as prescribed by Corps Area, all units of the regiment started drilling twice a week instead of once. These extra drills together with the prescribed seven days' field training, per quarter, will accomplish great results from a training standpoint.

Despite the added drills, the fine spirit that has always existed in this regiment, reference to extra time voluntarily devoted to drill, still holds. The minimum time devoted to a drill is three hours and on Sundays most of the troops drill four and five hours. In fact, it is not an uncommon occurrence for Troop F, commanded by Captain Royal G. Phillips, to start drill Sunday morning at 7:00 AM, drill all day Sunday, except a few hours in the afternoon, when the men are given passes, have a night maneuver that night, and the men get off in time for work Monday morning.

When one considers the fact that the men receive pay for only one and one-half hours drill and the extra time devoted is purely voluntary, it shows a splendid *esprit*.

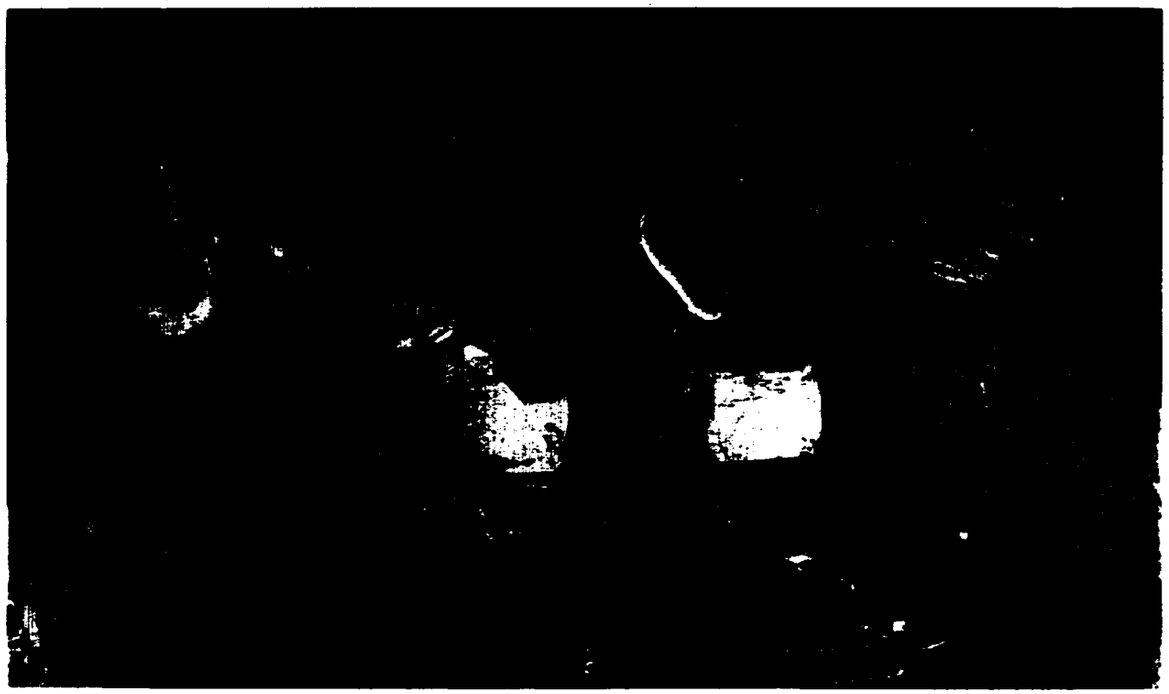
In order to carry on the mounted instruction at the night drills, Troop A has installed large floodlights. Other troops in the regiment are doing the same. The officers and men of the troops are paying for these lights out of their own pockets, as the quartermaster has no funds available for this purpose. This also shows fine *esprit*, when officers and men are willing to dig down into their own pockets and pay for training facilities.

On Saturday and Sunday, September 9 and 10, 1939, the Machine Gun Troop, Captain Louis A. Beecherl, commanding, held a most successful night march and problem. Horses were borrowed from Troop B, so the entire troop could be mounted. The troop left the armory at 8:30 PM marched about 18 miles to a previously selected camp site, solving a problem en route, spent that night and Sunday in field training, returning to the armory Sunday afternoon.

As the night was extremely hot, Captain Beecherl with his usual foresight for the comfort of his men, had procured ice-cold watermelon for the entire troop which was served at 3:00 AM, after the horses had been groomed, watered, and fed and camp prepared. This was greatly enjoyed by all as the picture shows.

At a recent meeting of the combined officers and noncommissioned officers school, at which over ninety officers and men were present, our beloved chaplain, Captain Bertram L. Smith, presented a beautiful trophy to Captain Bub Newman, commanding Troop A, as that troop was the winner of the brigade mounted pistol competition held at camp last July. The team was composed of Sergeant John Reynolds and Corporal B. M. Ford. This is the second consecutive time that Troop A has won this event and the second time that Sergeant Reynolds has been on the winning team.

The Annual Federal Inventory of property in the regiment was completed on October 30th. Captain L. M. Fellbaum, the State Inspector, was high in his praise of the excellent condition in which he found the property and stated that it was a pleasure to check the property in the 112th Cavalry, as the majority of troops always had



Machine Gun Troop, 112th Cavalry, participating in envelopment at 3:00 a.m. September 10th

their property neatly and correctly arranged to facilitate rapid checking and counting.

Out of the many fine bands in the State of Texas, the Regimental Band, was chosen as the official band for the Texas State Fair held in Dallas from October 8th to 22d, and played at functions and concerts every day of the celebration. The regiment has a right to be proud of its splendid band and the regimental commander has received many letters from outside sources commending the band on its excellent work during the fair.

Word has been received that the regiment will be issued 104 remounts in the near future. These remounts will be a Godsend as some of our old faithfuls are getting along in years and need replacing.

Lieutenant P. L. Hooper, Troop E, the shooting member of the 112th Cavalry, recently returned from Camp Perry with a flock of medals and trophies. Lieutenant Hooper is so modest that it is difficult to obtain from him exactly what he accomplished at Perry, but from reports he won about everything that one could be expected to win with both rifle and pistol. "Congratulations Lieutenant Hooper."

The regimental instructor recently completed an inspection of the two new troops, "I" at Texarkanna and "K" at Abilene, and reports that these troops are coming along in fine shape and making rapid progress.

' ' '

124th Cavalry—Houston, Texas

COLONEL CALVIN B. GARWOOD, *Commanding*

This regiment has received notice that we will have additional drills and also seven days of field training prior to January 31, 1940.

The Colonel was very anxious to get his entire regiment assembled for these additional days but being impractical to do so, each unit will train separately at their armory. The dates for additional training of this Regiment are as follows: December 2nd and 3rd. December 16th and 17th and January 12th, 13th and 14th. A complete schedule for training for the seven additional days has been worked out by the S-3 and the Executive Officer. Lt. Col. Harry H. Johnson and has been approved by Colonel Garwood. During the field training period a Staff Officer will visit each organization. This regiment is eager and looking forward to the results to be accomplished with the additional training.

The 124th Cavalry Officers are going to dress up! At camp last summer, Colonel Garwood appointed a committee composed of Lieutenant J. William Wiseheart, Lieutenant John E. Golding and Lieutenant Raymond W. Darrah to make recommendations as to the purchase of uniforms by the officers of the Regiment. These recommendations were made and approved by Colonel Garwood and measurements are now being taken so that at camp next summer all officers of the 124th Cavalry will be "dyked out" in great style.

Showing an indication that correspondence schools are very much in favor in this regiment, is that Colonel Willoughby, our Instructor, is putting in many hours grading papers of the men in the regiment. We have two new Inactive Officers in the Regiment Headquarters Troop; Sergeant R. O. Wyatt and Sergeant J. F. Spencer.

Congratulations to these men and hope we will have more before the school year is over.

Troops A and B in Fort Worth, Texas, staged a horse show on Sunday, November 5th. This horse show is an annual event handled completely by the non-commissioned officers and ribbons are awarded to the winners. Civilians are encouraged to enter. After the horse show, a party was given for Major Perry E. Taylor, the new Instructor at Fort Worth. Major Taylor, who relieved Major Harry Knight, is an old timer in this Regiment, having been an instructor of the 112th Cavalry, of which we were a part in 1927. He understands the problems of the National Guard and it is indeed our good fortune to have him reassigned as an Instructor in this Regiment.

The operations Officer of the 124th Cavalry, Captain J. W. Neville, returned last week from the Command and General Staff School at Camp Bullis, Texas. He reports that he gained valuable information and thoroughly enjoyed this important assignment.

Late in October Captain A. F. Marcais, an old timer in this regiment, and Commanding Officer of the Machine Gun Troop at San Antonio, resigned due to the press of private business. Captain Marcais has many friends in the Regiment to wish him success. Lieutenant John E. Golding has been promoted to Captain and Troop Commander of the Machine Gun Troop and the Colonel is looking to him to maintain the usual high standard of the Machine Gun Troop.

The Headquarters Troop of this Regiment marched in the Armistice Day parade with the other units of the National Guard of Houston, Texas, in spite of rain, on November 11th.

' ' '

62d Cavalry Division
305th Cavalry—Philadelphia, Pa.

COLONEL VINCENT A. CARROLL, *Commanding*

The 305th finished the active duty training with a flourish. The members of the regiment scored the most points in the horse show at camp which included the personnel of the 61st and 62nd Cavalry Divisions. In the military team class, Captain John Allen, First Lieutenant Frank Howley, and Second Lieutenant Scarlett, represented the 305th and captured 1st place with ease.

The annual meeting for election of officers was held on September 27th with the following results:

Colonel Carroll, President
Captain Ed Young, First Vice President
Lieutenant James Gentle, Second Vice President
Captain Thomas Meehan, Third Vice President
Captain Wm. Patterson, Secretary
Lieutenant Shaler Stidham, Treasurer
Lieutenant Paul Weimar, Historian
Captain John Watson, Major M. S. Easby } Executive Committee

The large turnout at the meeting showed continued enthusiasm and promised a successful year.

Captain Doug Morrow and Lieutenant Ken Rean put on a night terrain problem on the evening of October 20, which was similar to the mechanized night ride held last spring. The 20 participants enjoyed a lavish turkey dinner at the Old Mill Inn at Hatboro, Pa., and afterward spent an exciting evening scurrying around the countryside in a made race to locate given points on their maps before the other teams. The winners of the event were Lieutenant Renninger and Sergeant McGroarty. Incidentally, Sergeant McGroarty was selected as the best C.M.T.C. (blue) in the 3rd Corps area last summer and we understand that he is to receive his commission shortly.

Colonel A. H. Wilson has left us to take command of the 14th Cavalry at Fort Des Moines, Iowa. It was with regret that we bid Colonel Wilson goodbye at a farewell dinner on September 29th.

Pending the appointment of a new unit instructor, Colonel Joe King has been pinch hitting. For the past several years Colonel King's assignment has been with the Infantry, but since his recent association with the cavalry his family report that his disposition has improved immensely.

On Sunday November 12, the annual regimental church service was held at St. Davids chapel at Ithan, Pa. Chaplain Richard N. Gurley delivered a timely and impressive sermon.

Following the service the officers and their guests repaired to the Merion Cricket Club for an informal social function.

' ' '

306th Cavalry—Baltimore, Maryland

COLONEL MATTHEW F. JAMES, *Commanding*

The scheduled troop school program of both the Washington and Baltimore units began in October with reports from various officers of the several types of active-status training engaged in during the past summer. These included C.M.T.C. and tactical training at Fort Belvoir, Va., Army Maneuvers at Manassas, Va., and Seventh Cavalry Brigade training at Fort Knox, Ky.

The absence of the Regimental Commander, who will be away from the Regiment for three months due to a business trip through the South, was deeply regretted by all who attended the first meeting in Baltimore.

Practical horsemanship at Fort Myer began in November with facilities generously made available by the Third Cavalry. Lieutenant Colonel Edward B. Harry, 153rd Cavalry Brigade, will again be Master of the Horse on all cross-country rides, with Major Edward A. Kane, 306th Cavalry in command at mounted drill formations. The cross-country course south of Fort Myer has been made more sporting and now includes a fair assortment of jumps, slides and wood trails.

In a recent Pistol Match in which thirteen teams of Reserve Officers of the Washington District competed, the two Cavalry teams, captained and coached by Lieutenant Robert Castle, finished in fourth and sixth places. Watch us improve! Members of these teams are: Major Henry Ames; Captains Buell, Gleason, Gunderson,

Parker and Woodruff; First Lieutenants Castle, Hogan, Luckenbach, Morehouse, and Wilcox; and Second Lieutenant Knoll.

Recent changes in the regiment by Special Orders, Headquarters Third Military Area are:

Promotions: First Lieutenant Ford E. Young, Jr., from Second Lieutenant.

Assigned: Captain Frederick M. Sperry; First Lieutenants James A. Braddock, Edgar C. Roberts, and Clarence S. Wilcox; Second Lieutenants Edward T. Clark, Jr., William T. Gordon, Joseph V. Riggs, and Roland C. Wockenfuss.

Relieved: First Lieutenant Baxter C. Crane; Second Lieutenants Richard A. Jamison and Harry G. Randall.

* * *

310th Cavalry

LIEUTENANT COLONEL HUGH D. BLANCHARD, *Commanding*

The active 1939 summer training for the officers of the 310th Cavalry began with some of the officers being selected to assist in the training of the C.M.T.C. at Fort Oglethorpe, Georgia, during a part of June-July.

Unit training for the Regiment was August 6 to 19, inclusive, at Fort Oglethorpe, Georgia. For this training period thirty-one officers were ordered to duty with Major Earle L. Hunter acting as Regimental Commander. The training this year was very interesting and instructive by reason of the fact that the 310th Cavalry, Headquarters Troop 63d Cavalry Division, 463d Reconnaissance Squadron and 403d Engineer Squadron were ordered to duty for the same training dates. These units were quartered in the same area and officers of different units in some instances occupied the same tents. All units used the same messing facilities and were seated irrespective of units, which offered an opportunity for officers to make new friends and acquaintances.

The only regular army instructor present was Major H. B. Gibson, unit instructor for 310th Cavalry, who coördinated the training activities of all units. The training was so coördinated that when the different units had related subjects they combined their units for that particular subject. This was very helpful because it afforded an instructor who was trained in that particular subject. For instance, in map reading and aerial photography exercise an Engineer officer acted as instructor; for equitation the 310th Cavalry furnished a Fort Riley graduate, and the Armored Car Squadron furnished an instructor when the units had an exercise relating to this subject. This spirit of coöperation was carried out for the duration of the camp. Reserve officers acted as instructors in every instance except the period for gas instruction. For the gas instruction the 6th Cavalry furnished the instructor.

The unit training for the 310th Cavalry covered such subjects as Mess Management, Equitation, Security and Information, Care of Animals and Stable Management, Cavalry Drill, Map and Aerial Photography, Rifle and Pistol Marksmanship and Combat Principles.

Roster of Regular Army Cavalry Officers

(As of November 1, 1939)

Office, Chief of Cavalry, Washington, D. C.

Major General
John K. Herr

Colonel
Charles Burnett

Lieutenant Colonels
Karl S. Bradford
Willis D. Crittenberger
Robert W. Grow
Henry J. M. Smith
Frank L. Whittaker

Majors
Gilbert X. Cheves
Charles S. Kilburn

The Cavalry Board, Fort Riley, Kansas

Colonel
Dorsey R. Rodney

Lieutenant Colonel
John T. Pierce

Majors
Richard E. Tallant
Andrew E. Forsyth

Captain
Henry C. Hine, Jr.

Commandant, Staff and Faculty, The Cavalry School, Fort Riley, Kansas

Brigadier General
Robert C. Richardson, Jr.

Lieutenant Colonels
John J. Bohn
Harold C. Fellows
Frederick Gilbreath

Majors
William B. Bradford
John T. Cole
Eugene A. Regnier
Marcellus L. Stockton, Jr.

Captains
Paul G. Kendall
Henri A. Luebbermann
Hayden A. Sears
Jesse B. Wells
John P. Willey

Staff and Faculty, The Infantry School, Fort Benning, Georgia

Major
Thomas W. Herren

Staff and Faculty, The Field Artillery School, Fort Sill, Oklahoma

Captain
Samuel P. Walker, Jr.

Staff and Faculty, The Air Corps Tactical School, Maxwell Field, Alabama

Lieutenant Colonel
John C. Mullenix

Staff and Faculty, The Engineer School Fort Belvoir, Virginia

Major
Alexander B. MacNabb

Staff and Faculty, The Coast Artillery School, Fort Monroe, Virginia

Major
Carl J. Dockler

Staff and Faculty, Command and General Staff School, Fort Leavenworth, Kansas

Colonel
Kinzie B. Edmunds

Lieutenant Colonels
William C. Chase
John A. Considine
Paul R. Davison
Harold C. Mandell
Raymond E. McQuillin
Arthur P. Thayer
John B. Thompson

Majors
Harold deB. Bruck
Erle F. Cress
Roscoe S. Parker
Rufus S. Ramey
Albert C. Smith
Lucian K. Truscott, Jr.

Captain
Henry M. Zeller

Staff and Faculty, The Army War College, Washington, D. C.

Colonel
George B. Hunter

Lieutenant Colonel
James W. Barnett

Major
Earnest A. Williams

Historical Section, The Army War College, Washington, D. C.

Lieutenant Colonels
James K. Cockrell
Carl H. Strong

War Department General Staff, Washington, D. C.

Lieutenant Colonels
Roderick R. Allen
William M. Grimes
Geoffrey Keys
Harold M. Rayner
William E. Shipp
Robert W. Strong

Majors
Walton W. Cox
William K. Harrison, Jr.
Paul McD. Robinett
Herbert L. Earnest

Captains
George A. Rehm
Ira P. Swift
James H. Walker

General Staff with Troops

Colonels
Arthur W. Holderness, Manila, P. I.
Donald A. Robinson, Fort Bliss, Texas
Llewellyn W. Oliver, Atlanta, Georgia
Charles L. Scott, Boston, Massachusetts

Lieutenant Colonels
Wilson T. Bals, Omaha, Nebraska
David H. Blakelock, Atlanta, Georgia
John C. Daly, Fort Hayes, Ohio
John F. Davis, Governors Island, New York
Calvin De Witt, Jr., Fort Bliss, Texas
Henry L. Flynn, Baltimore, Maryland
Edward C. McGuire, San Francisco, California
Lester A. Sprinkle, Pres. of Monterey, California

Majors
Vance W. Batchelor, Fort Bliss, Texas
Leslie D. Carter, Panama Canal Department
Ray T. Maddocks, Fort Bliss, Texas
James C. Short, Fort Clark, Texas

Duty with General Staff

Lieutenant Colonels
Beverly H. Coiner, Fort Sam Houston, Texas
Richard W. Cooksey, Headquarters, Hawaiian Department
Norman E. Flake, Washington, D. C.
Otto B. Trigg, Governors Island, New York

Majors
William T. Hamilton, Fort Sam Houston, Texas
Charles S. Miller, Omaha, Nebraska
Herbert A. Myers, Atlanta, Georgia

Military Attaches

Majors
Samuel A. Greenwell, London, England
George E. Huthsteiner, Riga, Latvia

Captain
Egon R. Tausch, Mexico City, Mexico

Aides

Majors
Mark A. Devine, Jr., Panama Canal Department
James B. Patterson, Hawaiian Department
Carl J. Rohsenberger, Columbus, Ohio

Captains
Donald H. Galloway, Fort Sheridan, Illinois
William H. Greear, Fort Bliss, Texas
Harrison H. D. Heiberg, Fort Knox, Kentucky
Harry C. Mewshaw, Fort Bliss, Texas
Thomas J. Randolph, Panama Canal Department
Gustavus W. West, Fort Hayes, Ohio

First Lieutenants
Joseph E. Bastion, Jr., Panama Canal Department
Robert G. Fergusson, San Francisco, California
George R. Grunert, Vancouver Barracks, Washington
Joseph F. Haskell, Fort Riley, Kansas
Harold L. Richey, Fort Benj. Harrison, Indiana
Edward W. Williams, Manila, P. I.

Second Lieutenant
Kelton S. Davis, Fort Clark, Texas

Duty With Troops

First Cavalry Division, Fort Bliss, Texas

Major General
Kenyon A. Joyce

Colonels
Joseph P. Aleshire
John K. Brown
Innis P. Swift
William W. West

Lieutenant Colonels
Terry de la M. Allen
Edmund M. Barnum
Rinaldo L. Coe
Pearson Menoher
Clinton A. Pierce
Edwin E. Schwien

Majors
Harry H. Baird
William T. Bauskett Jr.
Sexton Berg
Louis G. Gibner
Percy S. Hayden
James S. Rodwell
James M. Shelton

Captains

Clarence C. Clendenen — Halley G. Maddox
William S. Biddle — Charles G. Meehan
John L. De Peyr — Alexander M. Miller, 3d
Robert Edwards — Gilman C. Madgett
Walter E. Finnegan — Ralph M. Neal
Aladin J. Hart — Charles H. Noble
Eugene C. Johnston — William J. Reardon
Laurence K. Ladue — Thomas P. Sheehan

Charles H. Valentine

First Lieutenants

Creighton W. Abrams, Jr. — Frederick H. Gaston, Jr.
Harry W. Candler — Robert E. Obrien, Jr.

Second Lieutenants

Joe Abee — John B. Maxwell, 2d
John K. Boles, Jr. — Don E. Ostrander
Frederic W. Boye, Jr. — William H. Patterson, Jr.
Hanbest L. Conner, Jr. — Ira B. Richards, Jr.
Edward M. Dannemiller — Edward M. Serrem
Robert R. Gideon, Jr. — William W. West, 3d
Walter S. Gray — Arthur H. Wilson, Jr.
Jack L. Grubb — Henry B. Wilson

Jasper J. Wilson

First Cavalry Brigade, (Less 12th Cavalry), Fort Clark, Texas

Brigadier General
Jonathan M. Wainwright

Colonels

Cuthbert P. Stearns — John A. Robenson

Lieutenant Colonels

Harry A. Flint — Gordon J. F. Heron

Oliver L. Holman

Majors

Roy E. Blount — Richard W. Carter

Charles G. Hutchinson

Captains

Woodbury M. Burgess — Frederick W. Fenn
Walter Burnside — Alan L. Fulton
Edward J. Doyle — Harry W. Miller

Thomas R. Starratt

First Lieutenant
Leonard C. Shea

Second Lieutenants

John J. Cernosne — George H. Minor
Richard L. Irby — Charles J. Parsons, Jr.
Clifford L. Miller, 2d — John P. Polk

John P. Tumbave

Seventh Cavalry Brigade, Fort Knox, Kentucky

Brigadier General
Adna R. Chaffee

Colonels

Henry W. Baird — Jack W. Heard

Lieutenant Colonels

Clarence C. Benson — Byron Q. Jones
Cornelius M. Daly — William Nalle
Keene G. Rathbun — Alexander D. Surles
Nelson M. Imboden — Victor W. B. Wales

Majors

Stephen Bean, Jr. — Ernest N. Harmon
Claude O. Burch — Charles R. Johnson, Jr.
Lee B. Cannon — George R. McElroy
William T. Fletcher — Redding P. Perry
James V. Gagne — Charles H. Unger

Captains

William L. Berriger — Edwin C. Greiner
George P. Berlin, Jr. — George B. Hudson
John M. Bethel — Malcolm D. Jones, Jr.
Wendell Blanchard — Rufus L. Land
Thomas J. Brennan, Jr. — Clayton J. Mansfield
Charles H. Bryan — Kevin O'Shea
Daniel F. Buckland — Frederick R. Pitts
Clyde A. Burcham — George W. Read, Jr.
Douglas Cameron — John L. Ryan, Jr.
George W. Coolidge — Claude A. Thorp
Wayne J. Dunn — Thomas F. Van Natta, 3d
Harold Esgared — David A. Watt, Jr.
Richard B. Evans — Grant A. Williams
William A. Fuller — Richard T. Willson

First Lieutenants

Philip H. Bethune — Jesse M. Hawkins, Jr.
Bogardus S. Cairns — Charles E. Leydecker
Karl T. Gould — Norman K. Markle, Jr.
David L. Hollingsworth — Donald M. Schorr

Graves C. Teller

Second Lieutenants

Roberts S. Dunkle — Meyer A. Edwards, Jr.

Edwin A. Russell, Jr.

Second Cavalry, Fort Riley, Kansas

Colonel
Harry D. Chamberlin

Lieutenant Colonels

Thoburn K. Brown — Cyrus J. Wilder

Majors

Alfred L. Baylies — James A. Kilian
Willie C. Burt — Harry Knight
Edward M. Pickett — Darrow Menoher

Captains

Roland A. Browne — Joseph R. Ranck
Edwin P. Crandell — John B. Reybold
Andrew A. Frierson — John H. Riepe
Leslie M. Grener — Theodore S. Riggs
Whitside Miller — John W. Wofford

First Lieutenants

Joseph A. Cleary — Richard A. Smith — Albert A. Matyas

Second Lieutenants

William F. Beaty — Lindsay C. Herkness, Jr.
Henry L. Crouch, Jr. — Allen D. Hulse
Phillip B. Davidson, Jr. — John J. Kelly
Robert C. Erlenbusch — Edgar W. Schroeder
Edward F. Gillivan — Wilbur C. Strand

Third Cavalry (Less First Squadron), Fort Myer, Virginia

Colonel
George S. Patton, Jr.

Lieutenant Colonel
A. Worrell Roffe

Majors

John A. Hettinger — Edwin M. Sumner

Captains

John H. Collier — Paul D. Harkins
Laurence R. Dewey — Charles B. McClelland, Jr.
Thomas Q. Donaldson, Jr. — James B. Quill

First Lieutenants

Loren F. Cole — James H. Polk
Brainard S. Cook — Jules V. Richardson

David Wagstaff, Jr.

Second Lieutenant
Richard E. Nelson

First Squadron, 3rd Cavalry, Fort Ethan Allen, Vermont

Lieutenant Colonel
Samuel V. Constant

Major
Ernest F. Dukes

Captains

James K. Mitchell — Paul A. Ridge

Theodore C. Wenzlaff

First Lieutenant
Robert E. McCabe

Second Lieutenants

Leslie H. Cross — Tracy B. Harrington
Ralph L. Foster — William A. Sussmann

Fourth Cavalry, Fort Meade, South Dakota

Colonel
Robert C. Rodgers

Lieutenant Colonel
John B. Coulter

Majors

Harold G. Holt — Lewis A. Pulling

Captains

Charles C. W. Allan — Louis B. Rapp
Martin A. Fennell — Thomas Robinson
Mitchell A. Giddens — Donald W. Sawtelle
Walter F. Jennings — Frank T. Turner

First Lieutenants

Edward C. Dunn — Robert J. Quinn, Jr.

Second Lieutenants

Perry E. Conant — Tom E. Matlack
James H. Critchfield — John H. Swenson

Neil D. Van Sickle

Sixth Cavalry, Fort Oglethorpe, Georgia

Colonel
John Millikin

Lieutenant Colonel
John A. Weeks

Majors

Chester E. Davis — Clyde Pickett
Hans E. Kloepfer — Candler A. Wilkinson

Captains

Brendan McK. Greeley — John O'D. Murtaugh
William O'C. Heacock — Gordon B. Rogers
Hugh F. T. Hoffman — Elmer V. Stansbury
Charles E. Morrison — Thomas F. Taylor

First Lieutenants

Anthony F. Kleitz, Jr. — Francis McD. Oliver, Jr.

Second Lieutenants

Benjamin M. Bailey, Jr. — David B. Goodwin
Thomas B. Bartel — Erwin T. Knight
Howard V. Cooperider — Thomas L. McCrary
William G. Dean — Gailon M. McHaney

Lemuel E. Pope.

Ninth Cavalry, Fort Riley, Kansas

Colonel
Stephen W. Winfree

Lieutenant Colonel
James N. Caperton

Majors

Harold E. Eastwood — Isaac G. Walker
John C. MacDonald — Vennard Wilson

Captains

Clarence W. Bennett — Carl W. A. Raguse
Murray B. Crandall — Virgil F. Shaw
Royce A. Drake — Carl D. Silverthorne
Robert L. Howze, Jr. — John H. Stodter
William H. Hunter — Earl F. Thomson
Morris H. Marcus — Isaac D. White
Paul McK. Martin — Willard G. Wyman
James H. Phillips — Wesley W. Yale

First Lieutenants

James O. Curtis, Jr. — Frank S. Henry
Charles G. Dodge — Robert W. Porter, Jr.
Marshall W. Frame — Franklin F. Wing, Jr.

William H. S. Wright

Tenth Cavalry (Less Second Squadron and Troop "F"), Fort Leavenworth, Kansas

Lieutenant Colonel
William H. W. Youngs

Major
William N. Todd, Jr.

Captains

Leander L. Doan — Zachery W. Moores
Robert G. Lowe — Raymond D. Palmer

Charles H. Reed

Tenth Cavalry ("F" Troop), Fort Myer, Virginia

Captains

Basil L. Riggs — Hugh B. Waddell

First Lieutenant
O'Neill K. Kane

Tenth Cavalry (Second Squadron), West Point, N. Y.

Major
Marion Carson

Captains

Edwin H. J. Carns — John L. Hines, Jr.
Peter C. Hains, 3d — Harry W. Johnson

First Lieutenant
Sherburne Whipple, Jr.

Eleventh Cavalry, Presidio of Monterey, California

Colonel
Homer M. Groninger

Lieutenant Colonels

Otis Porter — James E. Slack

Majors

Wayland B. Augur — Charles H. Gerhardt
Frank C. DeLangton — Gustav B. Guenther

Captains

William J. Bradley — Thomas L. Harrold
William S. Conrow — Lyman L. Judge
Alexander George — Frank J. Thompson
Joseph M. Glasgow — Frank G. Trew

First Lieutenants

Thomas W. Chandler — Albert E. Harris

Charles M. Iseley

Second Lieutenants

John W. Dobson — Cecil Himes
Stephen W. Downey, Jr. — Donald W. Thackeray
William H. Hale — Marshall Wallach

Charles W. Walson

Twelfth Cavalry (Less Second Squadron), Fort Brown, Texas

Colonel
Arthur E. Wilbourn

Lieutenant Colonels

Jay K. Colwell — Eustis L. Hubbard

Ralph I. Sasse

Majors

Harry A. Buckly — Olin C. Newell

John R. Thornton

Captains

Clarence K. Darling — Henry L. Kinnison, Jr.

Joseph M. Williams

First Lieutenant
McPherson LeMoyne

Second Lieutenants

Arthur W. Allen, Jr. — John B. Nance
Michael S. Davison — James L. Rogers
Samuel M. Hogan — Edward C. D. Scherrer

Alexander D. Surles, Jr.

Twelfth Cavalry (Second Squadron), Fort Ringgold, Texas

Lieutenant Colonel
McFarland Cockrill

Majors

Richard H. Darrell — Herbert L. Jackson

Captains

Charles V. Bromley, Jr. — Frederick W. Drury

John L. Hitchings

Second Lieutenants

Paul W. Scheidecker — John C. F. Tillson, 3d

Fourteenth Cavalry (Less First Squadron), Fort Des Moines, Iowa

Colonel
Arthur H. Wilson

Lieutenant Colonels

Edward J. Dwan — Terrill E. Price

Spencer A. Townsend

Majors

George A. Moore — Vernon L. Padgett

Captains

Charles P. Amazeen — Charles A. Sheldon
Frank O. Dewey — Prentice E. Yeomans

First Lieutenants

David V. Adamson — Donald P. Christensen

Russell V. D. Janzan

Second Lieutenants

Robert E. McMahon — Matthew Whalen

Fourteenth Cavalry (First Squadron), Fort Sheridan, Illinois

Lieutenant Colonel
Charles B. Hazeltine

Majors

Paul H. Morris — Royden Williamson

Captains

Joseph K. Baker — Henry S. Jernigan

Milo H. Matteson

First Lieutenants

William F. Damon — Robert W. Rayburn

Second Lieutenants

Leo G. Carlson — Leland W. Cramer

Walter G. Gleye

Twenty-sixth Cavalry (P. S.), Fort Stotsenburg, P. I.

Colonel
Robert Blaine

Lieutenant Colonels

Walter E. Buchly — James R. Finley

Majors

Lloyd W. Biggs — Donald C. Hawley
Jacob A. Blankenship — John D. Hood
Philip C. Clayton — Carter R. McLennan
Heywood S. Dodd — Frank Nelson

Garnett H. Wilson

Captains

Paul A. Disney — Hugh W. Stevenson
Harold M. Forde — Thomas J. H. Trapnell
James L. Hathaway — Lee C. Vance
Hubert W. Ketchum — Norman M. Winn
John J. LaPpage — Eustaquio S. Bachg (P. S.)

Juan S. Moran (P. S.)

First Lieutenants

James D. Alger — Harry J. Fleeger
Robert E. Arnett, Jr. — Ralph E. Haines, Jr.
William G. Bartlett — Hamilton H. Howze
Robert H. Bayne — Cornelius A. Lichirie
James C. Blanning — John F. Rhoades
William E. Chandler — Charles P. Walker

Second Lieutenants

Joseph R. Barker — Ralph B. Praeger

United States Military Academy, West Point, New York

Lieutenant Colonel
Joseph M. Tully

Captains
J. Paul Bruton
Eugene L. Harrison
Loren D. Pegg
Chandler P. Robbins, Jr.
Ronald M. Shaw
William H. Wood

First Lieutenants
Frank H. Britton
John L. Inskeep
George R. Mather
John K. Waters
Joseph H. O'Malley
Glenn F. Rogers
Karl L. Scherer

Students, Cavalry School, Fort Riley, Kansas
Advanced Equitation Course

First Lieutenants
Frederic W. Barnes
P. Clay Bridgewater
James B. Corbett
John W. Darrah, Jr.
John F. Franklin, Jr.
William B. Fraser
Perry B. Griffith
Theodore F. Hurt, Jr.
Harry E. Lardin
John R. Pugh
James W. Snee
Daniel E. Still
Donald O. Vars
William S. Van Nostrand

Regular Course

First Lieutenants
Raymond C. Adkisson
Andrew J. Boyle
Henry T. Cherry, Jr.
Kobo G. Chow
Roy W. Cole, Jr.
John J. Davis
Chester F. Fiore
Thomas D. Gillis
James E. Glattly
John S. Gosnell
Ralph S. Harper
Benjamin W. Hockemeyer
Loren B. Hillsinger
Stephen W. Holderness
Charles J. Hoy
Paul M. Jones
Norman A. Loeb
William V. Martz
Vernon P. Mock
Francis J. Murdoch, Jr.
Ned T. Norris
Bruce Palmer, Jr.
Edward W. Sawyer
Lawrence E. Schlanser
Edgar J. Treacy, Jr.
Shelby F. Williams

Students, The Command and General Staff School, Fort Leavenworth, Kansas

Major
William H. W. Reinburg

Captains
John L. Ballantyne
Raymond M. Burton
Logan C. Berry
Charles P. Bland
John J. Chapoton, Jr.
Frederic de L. Comfort
Raymond W. Curtis
Cornelis C. Jadwin
Christian Knudsen
Joseph A. Michela
Donald H. Nelson
William H. Nutter
Thomas D. Roberts
John K. Sells
Lawrence G. Smith
John H. Stadler, Jr.
Basil G. Thayer
Thomas T. Thornburgh
Henry R. Westphalinger
William P. Withers

Students, The Army War College, Washington, D. C.

Lieutenant Colonels
Frederick R. Lafferty
Thomas H. Rees, Jr.

Majors
Frank A. Allen, Jr.
Louis LeR. Martin
George I. Smith
Raymond E. S. Williamson

Captains
Clovis E. Byers
Henry L. Hodes
Willard A. Holbrook, Jr.
Verne D. Mudge
Francis P. Tompkins

Students, The Army Industrial College, Washington, D. C.

Majors
James T. Duke
Maurice Rose

Student, The Infantry School, Fort Benning, Georgia

First Lieutenant
William W. Culp

Student, The Signal School, Fort Monmouth, New Jersey

First Lieutenant
Albert B. Turner Jr.

Language Students — Japan

Captains
C. Stanton Babcock
Eric H. F. Svensson, Jr.
Frank D. Merrill

First Lieutenant
Dana W. Johnston, Jr.

Language Students — China

Captain
Edward J. McNally

First Lieutenant
Edwin M. Cahill

Language Student — France

First Lieutenant
Robert W. Fuller, 3d

Duty with the Organized Reserves

Colonels
N. Butler Briscoe, Louisville, Kentucky
Hugh H. Broadhurst, Kansas City, Missouri
Frank K. Chapin, Philadelphia, Pennsylvania
William C. Christy, Chattanooga, Tennessee
George Dillman, San Antonio, Texas
Oscar Foley, Tacoma, Washington
John B. Johnson, Chicago, Illinois
Guy Kent, Boston, Massachusetts
Joseph C. King, Philadelphia, Pennsylvania
Clarence Lininger, New York City
Carl H. Muller, St. Louis, Missouri
Bruce Palmer, Towson, Maryland
Ralph M. Parker, Detroit, Michigan
Emil P. Pierson, New Orleans, Louisiana
Harding Polk, Chicago, Illinois
Selwyn D. Smith, Philadelphia, Pennsylvania
John C. F. Tillson, Jr., Baltimore, Maryland

Lieutenant Colonels
Robert O. Annin, San Francisco, California
Horace T. Aplington, Los Angeles, California
Lucien S. S. Berry, Rutland, Vermont
Arthur B. Conard, Detroit, Michigan
Francis C. V. Crowley, Oklahoma City, Oklahoma
William T. Haldeman, Kansas City, Missouri
Harrison Herman, New Haven, Connecticut
John Kennard, Chicago, Illinois
Arthur T. Lacey, Albany, New York
Thomas F. Limbocker, Detroit, Michigan
John T. Minton, Tuscon, Arizona
Welton M. Modisette, Newark, New Jersey
Edwin O'Connor, New York City
Joseph L. Philips, Washington, D. C.
William G. Simmons, Columbus, Ohio
Herbert E. Taylor, Salt Lake City, Utah
Otto Wagner, Milwaukee, Wisconsin
John P. Wheeler, Richmond, Virginia
Frederic W. Whitney, Oklahoma City, Oklahoma

Majors
Henry T. Allen, Rochester, New York
Frank H. Barnhart, Champaign, Illinois
Charles W. Burkett, St. Louis, Missouri
Lathan H. Collins, Miami, Florida
Roy E. Craig, Omaha, Nebraska
Geoffrey Galwey, New York City
Roye P. Gerfen, Chicago, Illinois
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Thomas G. Hanson, Jr., Los Angeles, California
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Catesby apC. Jones, New York City
Kent C. Lambert, New York City
Leslie F. Lawrence, Pittsburgh, Pennsylvania
Paul J. Matte, Knoxville, Tennessee
Cornelius F. O'Keefe, Richmond, Virginia
Milton H. Patton, Charleston, West Virginia
Holmes G. Paullin, Camden, New Jersey
Theodore M. Roemer, Altoona, Pennsylvania
Frederick H. L. Ryder, Du Bois, Pennsylvania
Henry M. Shoemaker, Harlingen, Texas
Curtis L. Stafford, Des Moines, Iowa
James B. Taylor, San Antonio, Texas
Benjamin A. Thomas, Charleston, South Carolina
Thomas D. Wadelton, Indianapolis, Indiana
Robert O. Wright, Norfolk, Virginia

Captains
George G. Elms, Atlanta, Georgia
Ralph T. Garver, Atlanta, Georgia

Duty with the National Guard

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Robert M. Cheney, San Antonio, Texas
Guy W. Chipman, Chicago, Illinois
Benjamin O. Davis, New York City
Thomas L. Sherburne, Chicago, Illinois
Howard R. Smalley, Baltimore, Maryland

Lieutenant Colonels
Wilfrid M. Blunt, New York City
Frederic W. Boye, National Guard Bureau, Washington, D. C.
Richard L. Creed, Harrisburg, Pennsylvania
Julian W. Cunningham, Hartford, Connecticut
Mack Garr, Cleveland, Ohio
Wharton G. Ingram, Rochester, New York
Jean D Kelly, Topeka, Kansas
John T. McLane, Chattanooga, Tennessee
Duncan G. Richart, Des Moines, Iowa
Kramer Thomas, Philadelphia, Pennsylvania
John M. Thompson, Dallas, Texas
Arthur H. Truxes, Nashville, Tennessee
Rexford E. Willoughby, Houston, Texas

Majors
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Kirk Broaddus, Glasgow, Kentucky
Carlisle B. Cox, Cheyenne, Wyoming
Charles E. Dissinger, National Guard Bureau, Washington, D. C.
Donald R. Dunkle, Cincinnati, Ohio
Charles W. Fake, Douglas, Wyoming

Hugh J. Fitzgerald, Wilwaukee, Wisconsin
Lawrence G. Forsythe, Boston, Massachusetts
Erskine A. Franklin, Springfield, Illinois
Charles F. Houghton, Santa Fe, New Mexico
Dwight Hughes, Jr., Newark, New Jersey
Thomas W. Ligon, New Orleans, Louisiana
Manly F. Meador, Frankfort, Kentucky
Gyles Merrill, Deming, New Mexico
George Millholland, Sunbury, Pennsylvania
Hans C. Minuth, Boise, Idaho
Callie H. Palmer, Savannah, Georgia
Herbert V. Scanlan, Watertown, Wisconsin
Otto Stillinger, Detroit, Michigan
Perry E. Taylor, Fort Worth, Texas
Guy D. Thompson, Burlington, Iowa
Herbert E. Watkins, Brooklyn, New York
Lawrence B. Wyant, Albany, New York

Captains
Clyde B. Bell, Iola, Kansas
Don E. Carleton, Newark, New Jersey

Duty with the R. O. T. C.

Colonels
Frederick D. Griffith, Jr., Michigan State College, East Lansing, Michigan
Herman Kobbe, Los Angeles High Schools, Los Angeles, California
Kerr T. Riggs, University of Georgia, Athens, Georgia

Lieutenant Colonels
George S. Andrew, Norwich University, Northfield, Vermont
Benjamin F. Hoge, Culver Military Academy, Culver, Indiana
Renn Lawrence, Chicago High Schools, Chicago, Illinois
John W. McDonald, University of Illinois, Champaign, Illinois
James G. Monihan, St. Ignatius High School, San Francisco, California
Thomas G. Peyton, University of Arizona, Tucson, Arizona
Richard B. Trimble, University of Georgia, Athens, Georgia

Majors
Frank E. Bertholet, Pasadena Junior College, Pasadena, California
Carleton Burgess, University of Arizona, Tucson, Arizona
Edwin M. Burnett, Texas A. and M. College, College Station, Texas
Harry L. Branson, Pueblo High School, Pueblo, Colorado
Henry H. Cameron, Owensboro High School, Owensboro, Kentucky
Charles R. Chase, Oklahoma Military Academy, Claremore, Oklahoma
George P. Cummings, Polytechnic High School and Junior College, Riverside, California
Alfred J. de Lorimer, University of Illinois, Champaign, Illinois
Frederick F. Duggan, Kansas City High Schools, Kansas City, Missouri
Murray H. Ellis, University of Illinois, Champaign, Illinois
Waldemar A. Falck, University of Arizona, Tucson, Arizona
Claude W. Feagin, Glendale High School, Glendale, California
Glenn S. Finley, Oklahoma Military Academy, Claremore, Oklahoma
Horace W. Forster, Mattoon High School, Mattoon, Illinois
Rossiter H. Garity, University of Illinois, Champaign, Illinois
William R. Hamby, Columbus High Schools, Columbus, Georgia
Stanton Higgins, Johnson City High Schools, Johnson City, Tennessee
Charles A. Horger, Ashland High Schools, Ashland, Kentucky
William R. Irvin, Texas A. and M. College, College Station, Texas
Marcus E. Jones, New Mexico Military Institute, Roswell, New Mexico
Joseph I. Lambert, Chicago High Schools, Chicago, Illinois
John E. Maher, Central Catholic High School, San Antonio, Texas
Gene B. Mauger, Houston High Schools, Houston, Texas
Bertrand Morrow, University of Georgia, Athens, Georgia
Halbert H. Neilson, Nashville High Schools, Nashville, Tennessee
William V. D. Ochs, New Hanover High School, Wilmington, N. C.
John P. Scott, Phoenix High Schools, Phoenix, Arizona
John E. Selby, New Mexico Military Institute, Roswell, New Mexico
Phillip B. Shotwell, Logan High Schools, Logan, Utah
James Van V. Shufelt, University of Georgia, Athens, Georgia
Harold P. Stewart, Massachusetts State College, Amherst, Massachusetts
Benners B. Vail, Montgomery High Schools, Montgomery, Alabama
Russell C. Winchester, University of Arizona, Tucson, Arizona
Melvin S. Williamson, Decatur High Schools, Decatur, Illinois
George D. Wiltshire, Virginia Military Institute, Lexington, Virginia
Donald A. Young, Massachusetts State College, Amherst, Massachusetts

Captains
Wallace H. Barnes, Norwich University, Northfield, Vermont
George W. Busbey, Chicago High Schools, Chicago, Illinois
Augustine D. Dugan, Michigan State College, East Lansing, Michigan
Powhatan M. Morton, Virginia Military Institute, Lexington, Virginia
Clark L. Ruffner, Norwich University, Northfield, Vermont
Albert S. J. Stovall, Jr., University of Illinois, Champaign, Illinois
David A. Taylor, Michigan State College, East Lansing, Michigan
H. Jordan Theis, Massachusetts State College, Amherst, Massachusetts
Arthur N. Willis, Shreveport High School, Shreveport, Louisiana

First Lieutenant
Matthew W. Kane, Western Military Academy, Alton, Illinois

Duty at Corps Area Headquarters

Colonels
George H. Baird, 2nd Corps Area
Harley C. Dagley, 5th Corps Area
Clarence A. Dougherty, 2nd Corps Area
Edward A. Keyes, 8th Corps Area
Henry R. Richmond, 4th Corps Area

Major
Howard A. Boone, 7th Corps Area

Captain
Cary B. Hutchinson

Detailed in the Adjutant General's Department

Major
Winfield C. Scott, Panama Canal Department

Captains
Gordon S. Armes, Fort Sam Houston, Texas
Kenneth G. Hoge, Washington, D. C.
Lawrence E. Schick, Fort Sam Houston, Texas

Detailed in the Quartermaster Corps

Majors
Richard N. Atwell, Holabird, Maryland
Edward H. deSaussure, Front Royal, Virginia
Robert MacD. Graham, Kansas City, Missouri
William L. Hamilton, Philadelphia, Pennsylvania
Ralph E. Ireland, Fort Reno, Oklahoma
John H. Irving, Fort Douglas, Utah
Fred W. Koester, Pleasonton, California
James V. McDowell, Fort Brady, Michigan
Albert E. McIntosh, Philadelphia, Pennsylvania
Lawrence Patterson, Fort Ringgold, Texas
Christopher C. Strawn, Fort Bliss, Texas
Mortimer F. Sullivan, Fort Ethan Allen, Vermont
Mordaunt V. Turner, Hot Springs, Arkansas
Marion I. Voorhes, Fort Worth, Texas
Andrew J. Wynne, Fort Sill, Oklahoma

Captains
George C. Claussen, Fort Riley, Kansas
Clyde Massey, Fort Thomas, Kentucky
John G. Miniece, Jr., Fort Robinson, Nebraska
Granville V. Morse, Manila, P. I.
Samuel L. Myers, Manila, P. I.
Francis L. Ready, Baltimore, Maryland
Carroll H. Prunty, Fort Reno, Oklahoma
John T. Ward, Fort Winfield Scott, California

First Lieutenants
Maynard D. Pederson, Fort Snelling, Minnesota
Carl D. Womack, Fort Logan, Colorado

Detailed in the Finance Department

Captains
August W. Farwick, Chicago, Illinois
Charles H. Martin, Omaha, Nebraska

Detailed in the Ordnance Department

Captain
Paul W. Shumate, Frankford Arsenal, Pennsylvania

First Lieutenants
Gerard C. Cowan, Aberdeen, Maryland
Angelo R. Del Campo, Jr., Fort Sam Houston, Texas
Edward D. Mohlere, Watertown Arsenal, Massachusetts

Detailed in the Signal Corps

First Lieutenants
Richard M. Bauer, Fort Monmouth, New Jersey
Ewing C. Johnson, Fort Monmouth, New Jersey
Wilfred H. Tetley, Hawaiian Department

Second Lieutenant
Carl L. Lindquist, Fort Monmouth, New Jersey

Detailed in the Inspector General's Department

Colonels
William W. Gordon, Boston, Massachusetts
Charles F. Martin, Washington, D. C.
Troup Miller, Governors Island, New York
Edgar W. Taulbee, Fort Bliss, Texas

Lieutenant Colonels
Robert E. Carmody, Chicago, Illinois
Thomas A. Dobyns, Jr., Panama Canal Department
Frederick Herr, Hawaiian Department
Oliver L. Haines, Fort Sam Houston, Texas
Donald S. Perry, Fort Lewis, Washington
Frank G. Ringland, Fort Sheridan, Illinois
Pearl L. Thomas, Boston, Massachusetts

Major
John O. Lawrence, Manila, P. I.

Duty with Air Corps

First Lieutenants
Howell M. Estes, Jr., Randolph Field, Texas
Jergen B. Olson, Randolph Field, Texas
William R. Prince, Fort Bragg, North Carolina
Carl L. Rickenbaugh, Randolph Field, Texas
Hilwert S. Streeter, Fort Sill, Oklahoma
Jack W. Turner, Randolph Field, Texas

Second Lieutenants
Charles R. Bowers, Santa Maria, California
Vincent L. Boylan, Tuscaloosa, Alabama
Adam K. Breckenridge, Lincoln, Nebraska
Robert W. Crandall, Dallas, Texas
William A. Garnett, Dallas, Texas
James D. Green, Glendall, California
Robert D. Hunter, Lincoln, Nebraska
Victor L. Johnson, Jr., Lincoln, Nebraska
William C. Jones, Tulsa, Oklahoma
George Y. Jumper, San Diego, California
Levin L. Lee, Tuscaloosa, Alabama
William L. McDowell, Jr., Dallas, Texas
James E. Mather, Santa Maria, California
Jack G. Merrell, Dallas, Texas
Richard VanW. Negley, Jr. Tuscaloosa, Alabama

William W. Nichols, Lincoln, Nebraska
Lyle E. Peterson, Dallas, Texas
Robert C. Richardson, 3d, Tusla, Oklahoma
Donald M. Simpson, Glenview, Illinois
William L. Turner, Tuscaloosa, Alabama
Thomas B. Whitehouse, Glenview, Illinois
Arthur T. Williams, 3d, Tuscaloosa, Alabama

Detailed to Chemical Warfare Service

First Lieutenant
Charles P. Harrison, Edgewood Arsenal, Maryland

Duty, Panama Canal Department

Colonel
John D. Long

Lieutenant Colonel
Harold Thompson

Major
Clifford A. Eastwood

Duty, Camp Dix, New Jersey

Colonel
Arthur Pollon

Lieutenant Colonel
Lawrence C. Frizzell

Recruiting Duty

Colonels
Charles B. Amory, Jr., Baltimore, Maryland
Stanley Koch, Houston, Texas
Aubrey Lippincott, Los Angeles, California
John C. Pegram, Baltimore, Maryland
Daniel D. Tompkins, Atlanta, Georgia

Lieutenant Colonels
Charles L. Clifford, Jackson, Mississippi
John L. Rice, Boston, Massachusetts
Edward F. Shaffer, Chicago, Illinois

Majors
Harry W. Benson, Brooklyn, New York
Herbert E. Fischerstone, Fort Slocum, New York
James I. Gibbon, Fort McDowell, California
Samuel B.Goodwin, Fort Slocum, New York
Oscar W. Koch, Fort McDowell, California
Brook Putnam, Hartford, Connecticut
Gilbert Rieman, Fort McDowell, California
Randolph Russell, Brooklyn, New York
Alden H. Seabury, Peoria, Illinois
William R. Stickman, Fort McDowell, California

Captain
Rogers A. Gardner, Fort McDowell, California

Liaison Officers

Lieutenant Colonel
Willard S. Wadelton, Edgewood Arsenal, Maryland

Majors
Francis T. Bonsteel, Philadelphia, Pennsylvania
Hugh G. Culton, Quantico, Virginia

Captain
Dana G. McBride, Fort Monmouth, New Jersey

Miscellaneous Duty

Lieutenant Colonel
Edward L. N. Glass, Instructor, Guatemalan Army, Guatemala

Majors
Walter W. Boon, Commanding Officer Troops, U. S. Army Transport
Alton W. Howard, Commanding Officer Troops, U. S. Army Transport
Edward A. Everitt, Jr., U. S. Disciplinary Barracks, Governors Island, New York
Harry W. Maas, New York Port of Embarkation, Brooklyn, New York
Hal M. Rose, Battle Monuments Commission, Washington, D. C.

Captain
Clifford I. Hunn, U. S. Disciplinary Barracks, Governors Island, N. Y.

Duty with Civilian Conservation Corps

Lieutenant Colonels
Sidney V. Bingham, Baltimore, Maryland
Howell M. Estes, Fort Oglethorpe, Georgia
Henry McE. Pendleton, Baltimore, Maryland
J. Frank Richmond, Fort Bliss, Texas

Majors
Theodore B. Apgar, Fort Lincoln, North Dakota
Truman E. Boudinot, Fort Knox, Kentucky
Malcolm Byrne, Fort Meade, South Dakota
John W. Carroll, Little Rock, Arkansas
Gerrum Cronander, Charleston, West Virginia
Paul C. Febiger, Sacramento, California
Wade C. Gatchell, Fort Knox, Kentucky
George A. King, Fort Des Moines, Iowa

Ordered Home to Await Retirement

Colonels
William W. Edwards
Francis W. Glover

Majors
Henry H. Cheshire
Harvey N. Christman

Captain
William A. Bugher

Duty at West Point, New York

Second Lieutenant
John C. Habecker

Notes from the Cavalry Board

(Continued from page 519)

his gas mask, but in the meantime his mount and his led horse are breathing as usual. How much damage has been done to the horses before the soldier can fit each in turn with a mask? Or how much can led horses that are left mobile or immobile be cared for in this respect? Under what circumstances and in what situation do cavalrymen put gas masks on their horses preparatory to a mounted attack? Or must we avoid chemical attack whenever we can—and take our losses whenever we can't? These are but some of the aspects of the problem. Being without historical example we must rely upon conjecture, imagination and common sense. The Cavalry Board takes this means to urge upon all cavalrymen and other interested individuals to give the subject their serious thought and give the board the benefit of their ideas and experiences. It is suggested that in map problems and terrain exercises effort be made to conceive situations that might throw light upon this subject.

Other current projects before the board are: Preparation of Basic Field Manuals for the Caliber .50 HB, M2, Machine Gun, Ground Course, Caliber .30, M1919A4 Machine Gun, Ground Course, and the Pistol, Caliber .45, M1911; the 81-mm. Mortar Pack; Small Arms Armament for Scout Cars and Motorcycles; Small Bore Practice in Caliber .50 Machine Gun Training; Pull-type Selective Single Shot Auto-Fire Trigger Mechanism for Browning Machine Gun, Caliber .50, M2, HB; Anti-aircraft Mount and raised Mount for Light Machine Gun and raised Mount for Caliber .50 Machine Gun: New Type Magazines for Automatic Pistol, Caliber .45, M1911; Command Post Car; Bullet-seal and Sealed Air Tubes; Canvas Watering Tanks; Cellulose Sponges: Legging Top Boots; Service Gas Mask Facepiece: Diaphram Gas Mask Facepiece; Scabbards for Thompson Submachine Gun; Experimental Pistol Rack; Stereoscopes; Sun Glasses; General Revision of Tables of Organization; The Required Number of Radio Channels for Cavalry; Strip film for ROTC.

CAVALRY JOURNAL INDEX

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Authors

Titles