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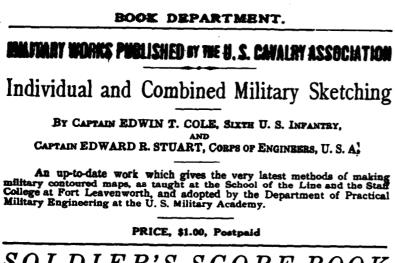
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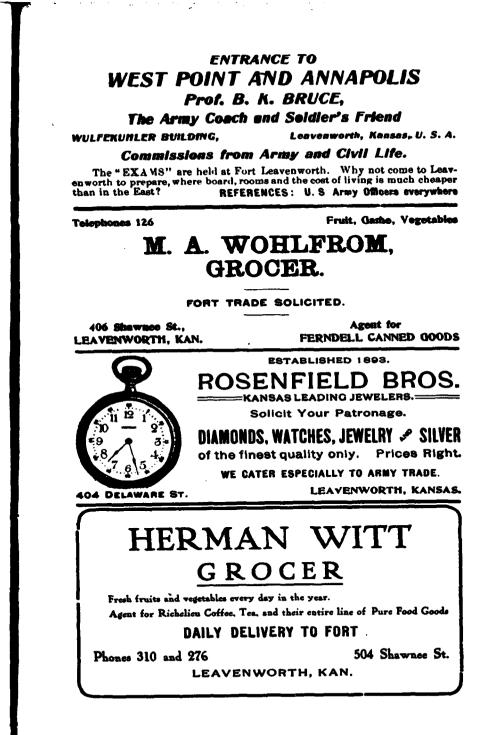
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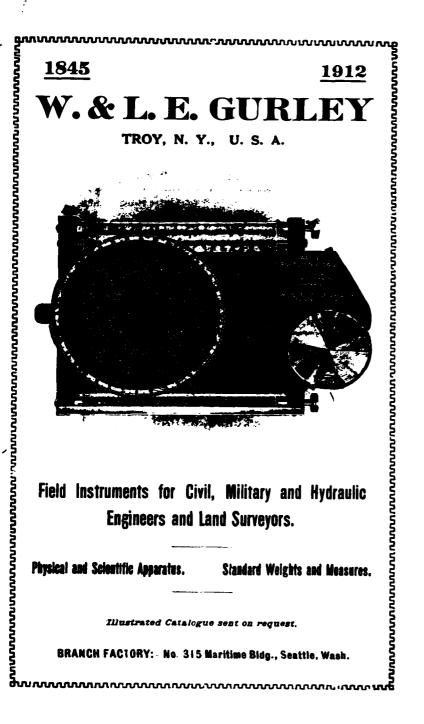
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United States Cavalry Association.

Vol. XXIII.

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No. 94

FORGOTTEN CAVALRYMEN.

BREVET LIEUTENANT COLONEL JAMES E. HARRISON, FIFTH CAVALRY.

BY COLONEL EBEN SWIFT, EIGHTH CAVALRY.

I T is a discouraging fact that the question of success depends upon so many uncertain elements. The qualities which win elsewhere do not guarantee success in the military service. In other words, the chances are that the fittest will not survive. The cavalry service suffers from this unfortunate condition apparently to a more marked degree than other branches. For instance, we find in history brief passages about Steingel, the Alsatian, to whom Napoleon awarded the palm as "a model commander of horse," and Winterfield of whom Frederick the Great said that he lost many great leaders but only one Winterfield, both of whom died at an early age.

Among our cavalrymen the clutch of circumstances has held many Steingels and Winterfields, and among those, threadng war's red field, who widely sowed but lightly reaped, and

U. S. CAVALRY JOURNAL.

are now almost forgotten, no one stood higher and had a brighter prospect in the early part of the Civil War than James E. Harrison of the Fifth Cavalry. Harrison's first appearance was in 1854 when he was twenty-two years of age, a Lieutenant in the Revenue Service, when he was presented with a silver goblet by the citizens of Charleston in appreciation of his courage in the rescue of a shipwrecked vessel.

In the following year he happened opportunely to be in Puget Sound with his ship at the time when the Indians of that district were on the war path. A shortage of officers in the field gave him a chance to volunteer and he joined a mounted company commanded by Lieutenant W. A. Slaughter, who was killed at his side in a night attack on the camp at Brannan's Prairie shortly afterwards. Harrison took the command and conducted it to Fort Steilacoom. Thus, rudely changed from a sailor to a cavalryman in the field, he had experience in the best schools although his struggles with tactics and particularly his efforts to remember the command "mount" in a certain tight pinch were long a fruitful theme at watch and bivouac.

Highly commended for gallantry on several occasions in this campaign, Harrison was rewarded by an appointment in the old Second (Fifth) Cavalry which he joined in Texas, in 1857. At that time Indian hostilities reached the most destructive stage. The great Comanche tribe had harried the white settlements for years over more than a thousand miles of border. They were then at the summit of their pride, power and numbers. A hard riding, well mounted gang of desperadoes, they had to be fought and beaten at their own game. Harrison immediately took a high place in the choice collection of youngsters then collected to do this work. Out of six years of hard campaigning, two expeditions commanded by Major Earl Van Dorn were notable as the most complete successes that had yet occured in the uncertain page of Indian history. One was the battle of Wichita village in 1858. The march and action were typical, though on a larger scale, of hundreds of border scouts that had been followed for years with varying success. On this occasion the command, after having been continuously in the saddle for sixteen and one-half hours, and after a forced march of ninetymiles struck the enemy, fought him and defeated him in a hand to hand fight lasting for an hour and a half. In the pursuit which followed, Harrison with a small party overtook a band of eighteen warriors endeavoring to escape with a herd of horses. He attacked them, killed and wounded a number and captured the horses. In this engagement Harrison killed three Indians warriors with his own hand.

.

Van Dorn's second success occured in the following year: Harrison, when scouting to a flank, captured an Indian boy



BREVET LIEUTENANT COLONEL JAMES E. HARRISON, FIFTH CAVALRY

from whom information about the Indians was obtained. When overtaken the Indians took refuge in a ravine, well suited for defense, being deep and densely covered with a stunted undergrowth, through which a small stream meandered from bluff to bluff on either side. It was impossible to penetrate this jungle but slowly, and it was equally impossible to get a glimpse of the concealed enemy until he chose to show himself. The problem of getting him out was solved by sending Harrison with a command of dismounted men to "beat up" the ravine.

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FORGOTTEN CAVALRYMEN.

U. S. CAVALRY JOURNAL.

The quarry was flushed in the creek bottom behind a breast work of logs. Other detachments were then sent forward and a most decisive victory was obtained.

In the list of casualties on these two occasions the familiar names of Earl Van Dorn, Kirby Smith and Fitzhugh Lee were among the wounded.

Harrison accompanied the regiment out of Texas after its surrender by General Twiggs, putting aside many handsome inducements in the way of promotion, to join his native Virginia in the coming struggle.

In the Bull Run and Peninsula campaigns Harrison commanded a squadron and was in great demand for reconnaissance and scouting service. In the pursuit after Hanover Court House he went after two companies of the 28th North Carolina Infantry who were attempting to escape across the Pamunkey River. Finding them in a thick wood near the banks of the river he closed upon them with drawn pistols. The enemy surrendered and he marched them into camp with their Enfield rifles decapped and bayonets unfixed, making quite a noted exploit in its day.

During the McClellan regime, when the principal duty of the cavalry was to "strike" for the various headquarter officials, the Federal cavalry was outnumbered by the enemy in front and persistently hawked at by its own people in rear. Cavalry action was hard to find. So we got through the Seven Days battles and the Antietam campaign and at the end Harrison comes in for this word from General Pleasonton: "One exception came under my notice at Amissville. The gallantry and efficiency of Captain Harrison, commanding the Fifth Cavalry, against a superior force of the enemy." That enemy, it appears from Lee's report, consisted of one brigade of cavalry and two brigades of infantry, trying to penetrate the picket line and to reconnoiter the Federal army.

When Stoneman made his Richmond raid, it will be remembered, he halted at Thompson's Cross Roads, about thirty miles from Richmond, and sent out the command fan fashion toward the east, retaining Harrison with about one hundred men, six miles in his rear (west) at Shannon's Cross Roads, and retaining only five hundred men with himself. Harrison sent

out outposts to the front, flank and rear at 3:00 A. M., and lay down to sleep. He was awakened at dawn by shots in his rear. It was Rooney Lee's brigade of about one thousand Virginia cavalry which had been riding all night, having missed all the Federal columns, and was now on its way back to Gordonville. Quickly mounting and getting together thirty men, Harrison prepared to charge, counting not the cost, but determined to make a bold attempt to save his outposts. The relics of the outpost came back on the run, followed by the yelling Confederates who were however charging down a wood road and unable to deploy or get a full view of the front. Just where the road emerged into an acre of clear ground, Harrison struck them at full tilt. They were staggered by the blow, slackened their pace, and Harrison got away to the north, carrying off his wounded. Lee says: "Enemy charged at same time; fought hand to hand four or five minutes, routed the party; killed six, wounded a number and took thirty-three prisoners, Captain Owens and Lieutenant Buford being among them."

After this Harrison, collecting what he had left of his 100 men, made arrangement to hold North Anna Bridge, at Yanceyville, for the main command. On the afternoon of this day, May 4, 1862, he suffered a sun stroke, from which he never fully recovered.

At Beverley Ford, June 9, 1863, Harrison commanded the Fifth Cavalry, fighting dismounted all day and losing thirtynine officers and men, and sixty-two horses out of a strength of 200.

At this time General Hooker had plans for the improvement of the cavalry by the promotion of a number of the younger officers to be Brigadier Generals. Harrison was one of those selected but his health became gradually worse so that another got the place. He was forced to accept less active service and died of consumption in 1867.

In the unwritten history of the Civil War is the story of a visit by the Prince de Joinville and the Orleans Princes, members of General McClellans' staff, to the Confederate lines, by arrangement, in order to see something of the other side, and there were high jinks with some of the gay blades of a certain

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old cavalry regiment. John B. Hood, Fitzhugh Lee, G. N. Anderson, not to speak of "Marse Robert" himself may have been there. And the French Bourbons were pleasantly introduced to Kentucky Bourbon, much to the delight of all.

Harrison received high praise from Scott, McClellan, Porter, Pleasanton, and Buford but perhaps his best monument is in the words of Buford who said: "There was not a single engagement in which he took part but he performed most meritorious services and generally with some signal act of gallantry."



NOTES ON THE NEW RUSSIAN CAVALRY DRILL REGULATIONS.

BY CAPTAIN N. K. AVERILL, U. S. CAVALBY, MILITARY ATTACHÉ.

(Continued from page 252 of the September 1912, CAVALRY JOURNAL.)

THIRD PAPER.

CHANGES OF DIRECTION.

N the Russian Drill the changes of direction are carried out by wheeling and though the regulations provide two systems, one called the "turn" and the other the "wheel," yet in reality both are wheels, the term "turn" being generally applied to the smaller units, and executed from a fixed pivot.

TURNS.

Turns are carried out: (a) by each rank of each section, a sect on being a double rank of three or six men in all; (b) by sections; (c) by platoons. When the command or signal is "About" (180 degrees) the turns are always made to the left about.

To halt after the turn the command is "Halt," "Dress." The dress being always center, we find a simplification in the command.

WHEELS.

The section acting alone (platoon or larger) generally uses the wheel in changing direction. The system is very simple, the officer who is the guide of the leading or base unit simply follows the commander along a curve which is the greater, the broader the front of the wheeling section; the inner flank decrease the gait and describe a smaller circle; the outer flank ride at an increased gait on a larger circle.

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FORMATION OF COLUMN.

The only noteworthy point under this heading is that the squadron (troop) or larger unit may form column on one of the central subdivisions. The indicated sections moves out, followed at first by those on the right and afterwards by those on the left, or in numerical order if so indicated in the command. In other words, if applied to us, the troop being in line, say with four platoons, a column of platoons could be formed on any platoon.

USE OF SIDE ARMS.

Under the use of side arms we find that the saber, if not • already drawn, is drawn at the command or signal "March;" and further that in line the arms are drawn at the command or on the personal example of the platoon commander.

PATROLS.

Patrols are designated to proceed the formation in all its movements, to reconnoiter the ground, give warning of obstacles, show the way the same may be avoided and especially to see that the enemy does not appear unexpectedly. They report on all that they have observed to their squadron (troop) commander. Patrols are sent out by the captains who are responsible for this being done even when the squadrons are a part of a larger body.

PLATOON DRILL.

All that has preceded has been in the nature of general instructions, and we now come to the actual drill which is first taken up under the heading of platoons. It is of interest that the platoon is the smallest unit for purposes of drill in the Russian cavalry, they having no squad drill. The subject covers many pages, but being based on the double rank formation, it is unnecessary to examine it in detail and the more instructive points only will be touched.

The platoon consists of from nine to twenty-one files, the average number being twelve or fifteen, with about twentyfour to twenty-six troopers; it is first formed in line and divided into sections of three files (six men). In case a rider of the first rank becomes *hors de combat*, his place is at once taken by his rear rank man. The post of the platoon commander is two paces in front of his center trooper, and the N. C. O.'s are placed on the right and left flank of the first rank, the third N. C. O. being posted as the rear man of the first file of the right flank; the trumpeter is four paces in rear of the center trooper of the rear rank. A platoon is divided into two squads, the commanders of the squads being the right flank N. C. O. and the left flank N. C. O. respectively.

A platoon may have the following formations:

1. Line.

2. Column of ones.

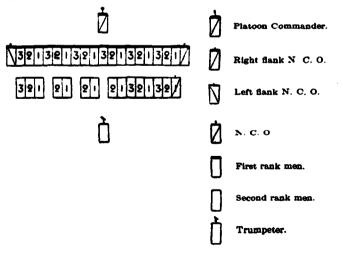
3. Column of twos.

4. Column of threes.

5. Column of sixes.

6. Extended order (either of single or double rank or in columns.)

For this paper the subject of the platoon in close order only will be touched. The attached drawing (Cut No. 1) will show the normal formation of a platoon in line, with the posts of the officers.





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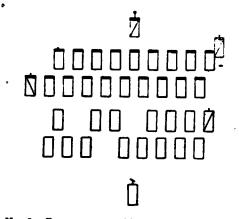
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MOUNTING AND DISMOUNTING.

For mounting and dismounting the men are numbered by twos, the command being, "By Twos," "Count." At the preliminary command all the men in the front rank turn their heads to the right except the right flank trooper who turns his to the left: at the Command "Count" the right flank man calls out "One," and turns his head to the front, the next man turns his head to the third man and says "Two" and then faces the front, the third man says "One" like the first and so on. The men in the rear rank have the same numbers as their front rank men.

To mount the platoon the command is: 1. "Platoon Mount." 2.—"Dress." 3.—"Front." At the first command all the first numbers in the front rank lead out four paces to the front; all the second numbers of the rear rank and the trumpeters rein back four paces, and all mount. At the second command all close and dress. To dismount, the command is similar but in the execution all the troopers move out to the front to take the same formation and then dismount. When the riders are dismounted, at the command "Dress" they step in front of the horses, face them and align the horses, at the command "Front," they take their places. The formation can be seen in the attached drawing. (Cut No. 2).



CUT NO. 2 .- FORMATION FOR MOUNTING AND DISMOUNTING.

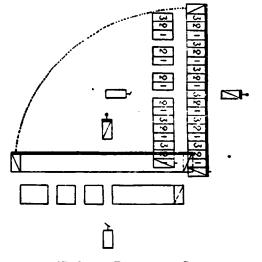
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TURNS AND WHEELS.

As has been already stated, the turns and wheels of the Russian drill are practically both the same, with the exception that the turn is made on a fixed pivot, and the wheel on a movable one. Both are wheels as we understand the word, there being nothing like our turns in the cavalry work here.

In making turns, the pivot trooper and the one on the marching flank turn their heads toward each other, and the intermediate men turn theirs toward the marching flank; adapted to our service, a column of fours changing direction, say column right, numbers one and four would turn their heads, toward each other, numbers two and three would turn theirs toward number four until the wheel was completed.

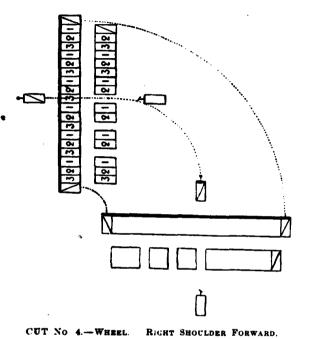
A commander of a platoon makes the latter wheel by describing a curve and gradually changing the direction; he is followed by the center trooper of the front rank; all the others look toward the guide and describe curves, the inner flank reducing the gait and the outer one increasing it.





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The attached drawings (Cuts Nos. 3 and 4) show the difference between a "Turn" and "Wheel," Cut 3 showing the turn and 4 the wheel.



COLUMN.

In the platoon we find four different columns, by ones, twos, threes or sixes. The usual route march is the column of threes, and the only special feature are the posts of the officers. The platoon commander goes in front of the leading section, by his side rides the N. C. O. of that flank, and on the latters right rides the trumpeter; thus the head of the column consists also of three, the lieutenant, a N. C. O., and a trumpeter. We find many commands and descriptions for the other columns and how to form and reform them, but none appear of particular interest. Cut No. 5 indicates the normal column of march.

CAVALRY DRILL REGULATIONS.

FORMATION OF LINE.

The forming of line is similar to ours, except that when no command "Right" or "Left" is given the front is formed to the left if the column was formed from the right, and for those formed from the left the front is formed to the right.

If no gait is indicated, then, from a halt the front is formed at a trot, when moving, the gait is increased.

If at a halt the head section moves forward seven paces and halts, when moving the head section continues the march.

Thus applied to our service, if the command "Form front," "March" was given all would know at what gait and to which side the front would be formed.

It is difficult to give any summary in a few words of the salient points of this drill; perhaps the following are the most noteworthy:

1. Use of the double rank.

2. The column of threes, the usual route march.

3. Use of the wheel, no such thing as our turns are known.

4. The turning of the men's heads when counting numbers and when wheeling.

5. The simple way of forming line from column, Column from as to command and gait.

6. All abouts being to the left about.

7. No squad drill, the platoon being the smallest unit for drill purposes.

FOURTH PAPER.

PLATOON IN EXTENDED ORDER.

There is no separate drill prescribed for squads, the platoon being the smallest drill unit in the Russian cavalry.

There are three methods of deploying; the first is single

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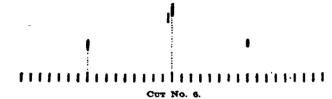
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rank (Cut No. 6), the second is double rank (Cut No. 7) the third in column (Cut No. 8). In all three if no gait be indicated, the deployment is executed at an increased gait, but never slower than a trot. If the side for the extension be not indicated, the platoon extends from the center. The intervals between troopers unless otherwise indicated is three paces.

Cut No. 6 represents a platoon extended in single rank, the commander is twenty paces in front of the center; the right and left flank N. C. O.'s are ten paces in front of the center of their squads; the trumpeter joins the platoon commander.



Cut No. 7 represents a platoon extended in double rank; the posts of the platoon commander, the N. C. O.'s and the trumpeter remains the same in as close orders. The distance between the rank is increased to six paces.

Cut No. 8 represents a column of sixes deployed; the posts of all remain the same, the distances remain the same; but the interval between the troopers is increased to three paces, unless otherwise ordered. The spreading out of a column in this manner has evidently been taken from the new infantry drill, the idea being to avoid losses when the column is under fire.

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THE SQUADRON.

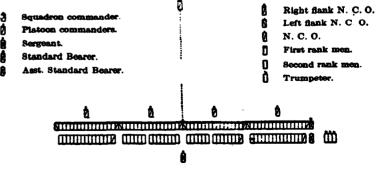
The squadron usually has four platoons designated by their numbers, first, second, third, fourth; in the original formation the first and second platoons form a half-squadron, the third and fourth the other half-squadron. The platoons are equalized as nearly as possible.

The squadron may have the following formation:

- 1. Line.
- 2. Column of platoons.
- 3. Line of columns of threes.
- 4. Column of ones.
- 5. Column of twos.
- 6. Column of threes.
- 7. Column of sixes.
- 8. Extended order.

Of these the column of platoons is the most favorably considered, the reason as given being that the squadron is well in hand, the question of command is easy, and this formation is convenient for maneuvering, especially when the squadron is a part of the regiment. The line of columns of threes is considered as almost equally advantageous. The smaller columns of ones, twos, threes and sixes are used principally in marches or during campaign. The marching column is formed according to the width of the road, and the nature of its surface.

The formation of the squadron in line is shown in Cut No. 9.



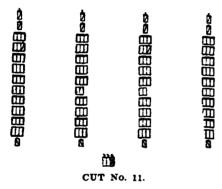
CUT No. 9.

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Cut No. 10 shows the squadron when turned to the right in column of sixes.

Cut No. 11 shows the squadron in line of columns of threes. The post of the captain is two platoons distance ahead of the line of platoon commanders, and the commander of the base platoon follows in trace.



Cut No. 12 shows the column of twos; the Russian command being, "From the Right," "By Files," "March."

Cut No. 13 shows the column of threes, the usual column of March.

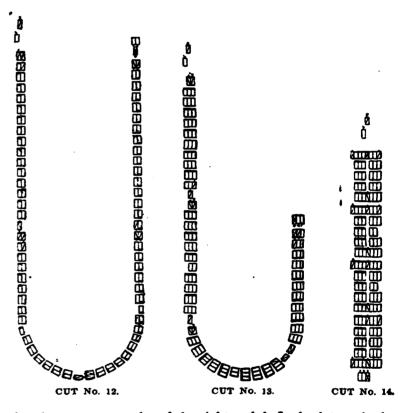
Cut No. 14 shows the column of sixes.

ALIGNMENT

The squadron acting alone and in line dresses on the center; the base for the alignment being the platoon commander of the right center platoon, all other platoon commanders dress on him. The base platoon always dresses on the center. The platoons

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of the squadron in column of platoons always dress on the center. When at the halt, the command for the alignment is "Squadron," "Dress." To move forward the command is "Squadron," "Gait," "March." In cases of necessity the guide can be announced "Right" or "Left," but in these cases it means that



the platoon commander of the right or left flank platoon is the guide and that his platoon is the base.

When the commander of a squadron (the captain) leaves his post he charges the officer next in command to lead, or he indicates the direction to be taken by the commander of the base platoon giving the command "Squadron," "Direction toward such and such an object." This principle is carried out through all the cavalry work there, whether platoon,

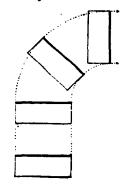
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squadron or regimental; the commander must lead himself, and if he leaves his post he designates the second in command to lead or must specifically state the objective. For the squadron drill the captain therefore leads personally and the commander of the base platoon follows him at a distance of two platoons.

From the above it can be seen that the questions of alignment and of dress as well as of troop leading are much simpler in the Russian service than in our own.

THE TURN AND THE WHEELS.

As stated in the last paper under platoon drill, the turns and wheels are both really the wheels; the former being on a fixed, and the latter on a movable pivot. For the squadron" they are executed as for a platoon. Cut No. 15 shows the change of direction of a squadron in column of platoons.





TO FORM COLUMN FROM LINE AND LINE FROM COLUMN.

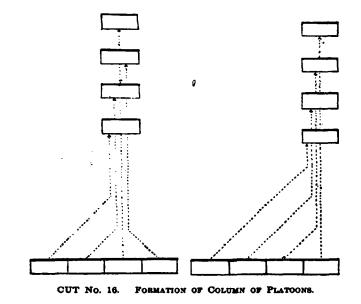
The forming of column or of line presents several points of difference to our work as follows: First, the normal com: mand is simply "Form Column" or "Form Front;" second, on the command or signal "Form Column" or "Form Front" the gait is always known; third, the manner of executing these simple commands is fixed; fourth, the platoons follow in trace after their commanders; fifth, from the smaller columns the platoons first form line and then the platoons form the squadron line.

The question of gait is determined by the general principles already stated in a previous paper.

The manner of execution is as follows: Being in line at the command "Squadron by Platoons" and always at the signal "Form Column of Platoons," the column is formed on the second platoon from the right (see Cut No. 16). Being in column of platoons, the command is "Form Front" and is executed as indicated in Cut No. 17. In forming column those platoons standing to the right of the base platoon are the first to follow it, then comes the platoon from the left; to form line each platoon returns to its proper place. No commands are given for the platoons, they simply follow their commanders in an oblique direction at his signal.

In column of ones, twos, threes or sixes, if the command or signal "Squadron" "Form Front" is given, each platoon first forms front and then without other command the platoon execute the front into line.

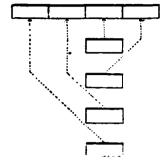
Cut No. 16 shows the normal manner of forming a column of platoons, and also the formation on the right platoon.



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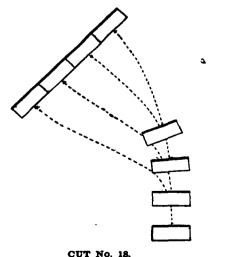
Cut No. 17 shows the normal manner of forming line from a column of platoons.





• While in the normal formation the right center platoon is the base as indicated above, yet the column and the line can be formed on any flank desired by special command.

To form line in some other direction it is only necessary to wheel the head of the column to the desired direction and then give the command or signal for form ng line. The basis of this is of course the individual leading of the commander, by which, without special command, a line can be formed in any direction as shown in Cut No. 18.



FORMING LINE IN AN OBLIQUE DIRECTION FROM & COLUMN OF PLATOONS.

CAVALRY DRILL REGULATIONS. 5

SUMMARY.

The salient features of this paper are the following:

1. Platoon in extended order.

There is no squad drill, the platoon is the smallest drill un't. The platoon in extended order can have either a single rank or a double rank as may be needed. The co'umn can be deployed if it suddenly comes under fire, when marching.

2. Squadron in close order.

The formations of the squadron in close order are in reality only four: 1. Line; 2. Column of platoons; 3. Line of Column of threes; 4. Columns of march. Besides the necessary detail for forming and reforming the four different columns of march, one at once notices the lack of the multitudinous details given in our thirty-six pages of troop drill. We find no detailed description of the exact minutiae of a movement, no alternative right or left, no guide specially commanded, no on into line, no echelons, no obliquing by platoons.

Simplicity is the key note.

The question of alignment and dress is much simpler than with us.

The question of the captain leading his squadron is the fundamental principle, not to be departed from except under fixed rules.

The forming of column and of line is much simpler than our method, especially the commands, the question of the gaits and the normal manner of execution.

FIFTH PAPER.

THE SQUADRON (TROOP) IN EXTENDED ORDER.

We have seen in preceding papers that in close order work the platoon is the smallest drill unit in the Russian cavalry, and the same is true in extended order, hence we find no squad formations specifically described.

The general rule covering the deployment of the squadron is: "A line may be extended in one or two ranks; at the same

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time the number of extended platoons and their mutual dispositions may be modified according to the circumstances." This general rule is the basis for all the work of the squadron in extended order; one, two, three or four platoons may be developed, and one, two and three, or, if necessary, even four lines may be formed. The basic idea being that the mounted extended order is a formation particularly suited to attack infantry when deployed, artillery or machine guns; therefore the multiple lines of attack must be such as can be quickly formed and of the desired weight, *i. e.*, of single or double rank. We find absolutely nothing looking toward the use of an extended order dismounted, no line of platoons, no line of squads, no dismounting on the skirmish line; in short, the extended order as used is solely a method of mounted attack.

If part only of the squadron is to be extended, such part is specifically designated; if all is to be deployed, there are wo methods of execution depending on whether it is desired to have a single or a double rank.

To extend the squadron in single rank, the command is:

- 1. Squadron in single rank.
- 2. At so many paces.
- 3. Gait.
- 4. March.

or the signal for "Extended Order" may be given. If especially desired to extend the squadron from one flank the same can be indicated in the first command. The normal deployment is from the center, and when from the right or left, the base is the right or left platoon commander and the deployment made on the trooper following him. If the squadron be in column of platoons, the leading platoon deploys on the center; the others follow their platoon commander to their place in rear of the line already extended, after uncovering the preceding platoon they extend, while marching, toward the outer flank, on the command of their leader.

To deploy the squadron when in a column smaller than platoons the column of platoons must first be formed (a point of weakness.) If certain platoons only are designated for the extended order the general command over the deployed section is taken by the senior commander of the deployed platoons. The remaining platoons are led forward by their senior officer when from 300 to 400 paces in rear of the leading section; if necessary the platoons in reserve may be formed in double rank.

To deploy the platoons one in rear of the other, the command is:

1. Such and such platoons, by platoons.

2. In single rank.

3 At so many paces.

4. Distance at so many paces.

5. Gait.

6. March.

The distance between the platoons varies from 100 paces, when acting against infantry, to 400 paces when acting against artillery. In case all the platoons do not have to extend, the remaining ones follow at the distance indicated in the command, they may be either in close order or extended in double rank. Unless specially designated in the command the interval between troopers in extended order is always three paces. The closing of the extended line is executed as with us except that at the signal "Assemble" a column of platoons is formed in rear of the squadron commander.

To deploy any formation in double rank, the command is:

- 1. Squadron Deploy.
- 2. Gait.
- 3. March.

The entire formation whether in line or column, deploys by an oblique movement from the center, unless otherwise indicated; the interval between troopers is three paces (normal), and the distance between the ranks is six paces except in column where it remains the same as before.

The above are all the commands for the extended order of Russian squadron (troop); for the single rank there are but three; to extend the entire squadron, to extend part only of

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the squadron and to extend the platoons in two or more lines; for the double rank there is but one command and this applies to both line and column.

The salient features therefore of this extended order drill may be summarized as follows:

First, the extended order is limited to mounted work, there being no dismounting.

Second, the use of single or double ranks.

Third, the simplicity of the commands, there being but four in all.

Fourth, the platoons follow in trace, and the base is normally center.

Fifth, the use of two or more lines (usually three) for the attack of infantry, artillery or machine guns.

Sixth, the rapid deployment of a column which suddenly comes under hostile fire.

ATTACK.

The question of attack for a squadron is not treated as a mathematical subject; general principles are stated, and the rest left to the individual initiative of the squadron commander.

An attack against cavalry is executed generally in line; if not swept by fire the gallop is taken at from 500 to 400 paces from the enemy, and the charge at from 200 to 100 paces. For the success of the attack the charge must develop the greatest possible speed while maintaining a closed order. When circumstances will allow, part of the squadron may be used for flank attacks; or in case of danger of being attacked in flank, a platoon may be dropped back in echelon. For this latter the command is: "Such a platoon," "In Echelon to the Rear," at which the indicated platoon drops back to 60 or 75 paces and attacks the surrounding enemy.

The command for the attack is:

1. Squadron, sabers in battle order, lances to the side.

2. Gait.

3. March and when at the proper distance from the enemy:

4. Charge.

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5. MARCH, MARCH.

If necessary to execute a sudden attack, the last two commands only are given; at the first, all weapons are held for action; at the second all rush at the enemy. All vacancies occurring in the front rank are filled at once by men of the rear rank.

If when close to the enemy he turns aside, certain platoons are designated to pursue him and these rush forward without maintaining any special formation, their only object being to overtake the enemy.

If after a hand to hand fight the enemy turns tail, the men engaged in the mêlée must immediately pursue him, but the squadron commander endeavors to assemble a part of his men and these are led by him in close order in rear of the pursuing riders.

An attack against infantry, artillery or machine guns is generally executed in extended order. The objective and his manner of carrying out the same are indicated to the platoon commanders by the squadron commander, who then gives the needed commands. The distance at which the trot or gallop must be taken cannot be exactly stated; over open ground swept by fire the field gallop (sixteen miles an hour) may be taken from a distance of four versts (two and two-thirds miles.)

Infantry in regular order must be attacked in several lines; the first a deployed single rank; the second a deployed single rank with diminished intervals; the third which must remain in the hand of the squadron commander, will often be deployed in double ranks.

Artillery can in most cases be attacked by using two lines; the first a deployed single rank; the second, at a distance of about 400 paces, in deployed double rank.

PATROLS.

The question of patrols differs in no essential from our practice. There is no distinction between Combat Patrols

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and Ground Scouts, all patrols being for one purpose, observation of the ground and enemy. They usually go further to the front than with us, about 600 yards when the squadron is acting alone, and two-thirds of a mile when it is part of a regiment.

SUMMARY.

The extended order and the attack in the Russian cavalry are so intimately related, that one being the supplement of the other, that no special points can be mentioned beyond those already indicated under the extended order. The use of the three lines in attacking infantry, and of two lines against artillery are especially worthy of notice, but the minimum unit of attack being normally the regiment, this matter will be taken up under the heading of the regimental work.

SIXTH PAPER.

THE REGIMENT.

The regiment is the fighting unit of the Russian cavalry. All work of the men, platoons or squadrons is simply preparatory to the regimental drill; and to this, the fighting unit, the most attention 's paid; the great portion of the summer encampment being devoted to the same.

Here at once appears the greatest difference to the American cavalry. We have no fighting unit, no charging unit, most of our time is spent in troop work, a little in squadron work, and ractically none with the regiment.

Such a total and radical difference of system makes it difficult to compare the work of a Russian cavalry regiment with anything that we have. Before attempting this discussion, I will presuppose one of our squadrons at war strength of 100 men, in double rank or two lines for mounted work; I will presuppose it a cohesive charging unit, and that our squadron drill is adapted thereto. If we had some such fighting unit of 400 men in double rank for the charging home, then the drills could be compared, for the Russian regiment is normally of 600 men in ranks. Assuming, therefore, the American squadron to be a fighting unit, I will discuss the Russian regimental drill from the standpoint of such a squadron drill.

REGIMENTAL DRILL-CLOSE ORDER.

The first and great point of difference is the universal principle of leading, or the following in trace.

The second marked difference is the habitual use of signals, the lack of practically all noise except the gallop of the horse; the trumpet being rarely used and then only during extended order work.

The third point is that the base is habitually center and all changes of formation are normally made on this principle.

The fourth point is the very general use of the platoon column.

COMPOSITION.

The Russian cavalry regiment consists of from four to six squadrons (troops) designated by numbers from one to six. The normal number of squadrons is six and the drill is so adapted, but the instructions will apply for a regiment of four to five squadrons.

When the entire regiment is posted at parade or in battle order it is divided into two sections called "Divisionne," the first three squadrons being in the first, and the fourth, fifth and sixth being in the second "Divisionne."

FORMATION.

The regiment can be formed:

- 1. In Line.
- 2. In Line of Columns (of platoons).
- 3. In Mass.
- 4. In Column of Platoons.
- 5. In Double Column.
- 6. In Column of March.

A line of columns of threes may also be formed, but this is considered as a variation of the formation in line, for the Rus-

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sians recognize but one "Line of Columns" and that must be of platoons.

Furthermore the squadrons may be posted as desired in two or more lines, in echelons, or at a certain interval on one flank or both.

The formation in line is used for the attack in close order.

The line of columns is used during the time preceding an attack: it is a convenient formation for maneuvering over uneven terrain, and permits a speedy development of the line in the direction of the movement.

The line of columns of threes is also well thought of, especially for maneuvering under the enemy's fire.

The formation in mass is never used except when beyond the range of the enemy's fire.

The Column of Platoons is used when riding over rough ground without roads; this formation is favorably regarded for a flanking movement, for when the enemy is encircled the line can be quickly formed toward the desired flank.

The Double Column is used for maneuvering, for a line can be quickly formed toward either front or flank.

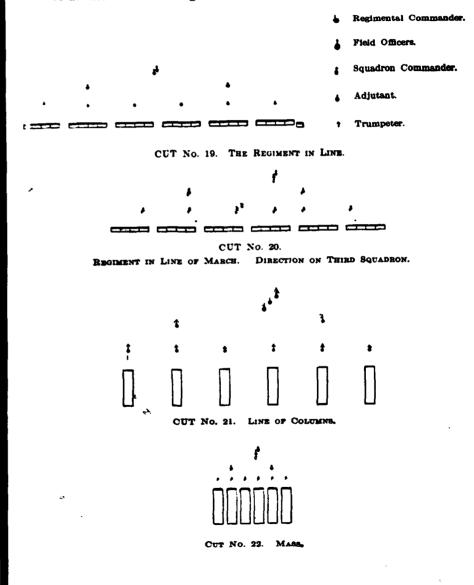
The formation in two or more l nes is used for the attack on infantry, artillery or machine guns, and for riding across areas swept by fire or across very rough ground.

The disposition in echelons, being equally strong both to the front and the flank, is used when the battle conditions have not as yet been definitely determined.

FORMATION IN LINE.

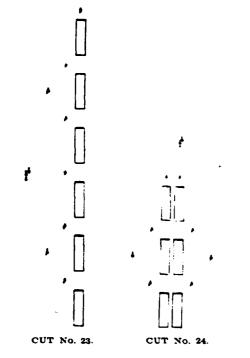
The formation in line is shown in Cut No. 19. The commanders of the "Divisionne" stand at a distance equal to the front of two platoons in front of the line of squadron commanders, and the regimental commander is at an equal distance ahead of the field officers.

Before beginning a movement and at the command indicating the gait all take their posts for *leading*. The platoon commanders being already two paces ahead of the center of their platoons, the captains take post ahead of the lieutenants commanding the base platoon; the commander of the Divisionne take post ahead of their base captain, and the colonel is ahead of the captain commanding the base squadron of the regiment. The positions of all are shown in Cut No. 20; and I wish particularly to emphasize this, the fundamental principle of the Russian drill, the leading of platoon, of squadron, of divisionne and of regiment.



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The Line of Columns is shown in Cut No. 21. The Mass is shown in Cut No. 22. The Column of Platoons is shown in Cut No. 23.



The double Column is shown in Cut No. 24.

The "Line of Columns," the "Mass" and the "Double Column" are *always* in column of platoons, and a great portion of the regimental drill is based on this one principle, the habitual use of the platoon column.

As can be seen from Cuts 21, 22, 23 and 24, the posts of the officers are somewhat different than with us, but the formations need no detailed description.

DIRECTION AND ALIGNMENT.

In all regimental formations the base unit is normally the center or right center one, and to align the regiment but one command is usually given: 1. Regiment; 2. Dress.

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When in line the base squadron dresses on the center and the other squadron commanders order the alignment toward the base. In mass or in line of columns the platoon commanders dress on the commanders of the platoons of the base squadron, the platoons all dress on the center. In double column the right column is the base. When the regiment is properly aligned the colonel commands: "Attention."

In all movements the same idea is carried out, the colonel leading his regiment personally.

MOVEMENT-HALT AND TURNS.

As shown in the platoon drill, the Russian turns are in reality wheels executed on a fixed pivot, and not as we use the word; other than this but two points are of special interest. First, on the command of execution March being given by the colonel all the captains simultaneously give the same command. Second, the halt has but one command, 1. "Regiment Halt." 2. "Dress," which is executed as follows: the officers of the base squadron advance so that none of the other squadrons are ahead of them, the officers of the other squadrons immediately align themselves on these, and at the second signal the captains command "Dress," at which the formation gradually approaches the *line of officers*.

FORMATIONS IN COLUMNS FROM LINE.

To form Line of Columns or Mass each squadron forms a column of platoons on the right center platoon, and to form a line of columns of threes each squadron forms each platoon in column of threes as shown in Cut N > 11.

The column of platoons may be formed in two ways: (a). By turning the regiment by platoons toward a flank, after which the head of the column can take any desired direction. (b) On one of the squadrons at the command: 1. "Regiment (on the----squadron) in column of platoons," 2. "Gait," 3. "March."

The designated squadron, or if none be designated then the base squadron forms column of platoons on the right center platoon; the squadrons on the right turn (wheel) by platoon to the left and follow the leading squadron; the squadrons

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on the left turn by platoons to the right and follow the others. To form double column the command is: 1. Regiment.

In double column; 2. Gait; 3. March.

Unless some special squadrons be designated to lead them the two center ones are at the head. These squadrons form column of platoons, the right center one forming on the left platoon, and the left center squadron forming on the right platoon; the others follow in a similar manner.

The formations of the different co'umns of march present no special point of interest.

TO FORM LINE FROM COLUMN.

The line of a regiment may be formed: (a) In the direction of the movement on the head unit; and (b) Toward one of the flanks by a simultaneous or successive turn (wheel) of the parts of the column.

To execute a line formation on the head unit, the first, second and third squadrons form line to the right of the base, and the fourth, fifth and sixth form line to the left. If it be necessary for all squadrons to form line to one flank, the same must be specially stated in the command as "Form Front to Right."

Squadrons forming line follow their commanders at an increased gait and when opposite their places take the proper direction and form front toward the outer flank, arriving on the line they take the gait of the base squadron.

To form the line in an oblique direction, the head of the column will first change direction as desired and the line will then be developed.

The above rules for forming line from column are general.

To form line from any column of ones, twos, threes, sixes or of platoons there is *but one command*.

1. Regiment, Form Front; 2. Gait; 3. March.

All squadrons, if in column of small groups, first form column of platoons; then the leading squadron immediately forms line, all the others advance in column of platoons by the shortest way in rear of their place in line and then form front.

To form line to a flank by simulatneous turns or to form it to the front from a line of columns, present no special points. To form line to a flank from a line of columns the commands are: 1. Regiment, Form Front, To Right (left); 2. Gait; 3. March.

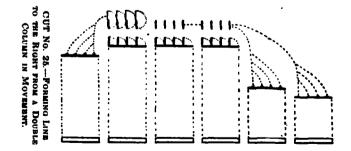
The right squadrons turns by platoons to the right; the two standing next to it continue to move in column of platoons, but change direction and ride to their new places on the left of the squadron already in line, they then form front to the left and take their places in the line; the other squadrons turn 180 degrees to the rear, left about by platoons, and then extend the line in a similar manner to the right.

To form line to the front from a double column has nothing of special interest.

To form line to a flank from a double column, the command is the same:

1. Regiment, Form Front, To Right (left); 2. Gait; 3. March.

The squadrons standing on the indicated flank turn by platoons toward that side; the two leading squadrons of the other divisionne continue in column of platoons and move in the shortest line to their places in the line, form front toward the outer flank, and enter the line of the regiment; the rear squadron of this divisionne turns to the rear 180 degrees, platoons left about, and then developes front in a similar manner on the other flank. See Cut No. 25.

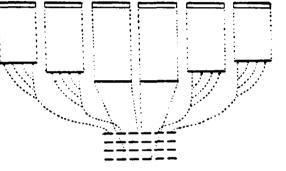


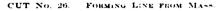
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If the double column be first turned by platoons toward one flank, and be moving in the new direction in two lines, the same command for forming front may be given. At this command the squadrons of the front line continue the movement, the flank squadrons of the second line turn by platoons toward the outer flank, the middle squadron turns toward the side to which it belongs (if first, second or third to the right, if fourth, fifth or sixth to the left) and develop the line in a similar manner.

Being in mass the command is the general one:

1. Regiment, Form Front; 2. Gait; 3. March. The formation is developed as shown in Cut No. 26. It



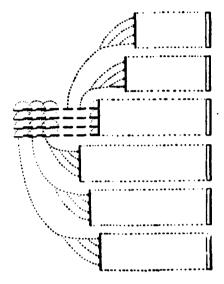


will be noticed that the two center squadrons both form front at once, thus saving the valuable element of time when forming for a charge. There is, however, one point of weakness in this development, the two center squadrons do not move out at an increased gait and clear the way for the others before forming line. I have been informed, however, that this point was overlooked and will be remedied in the new edition.

To form front from mass toward a flank the command is as before: 1. Regiment, Form Front, To Right (left); 2. Gait; 3. March.

This movement is executed as described for a line of columns and as indicated in Cut No. 27.

If the formation in mass be previously turned by platoons toward a flank (our close column) the line can be formed by the general command and is executed by the rear squadrons forming on their proper flank as described for the double column.



CUT NO. 27. FORMING FRONT FROM MASS TOWARDS & FLANE.

CHANGE OF FORMATION IN COLUMN.

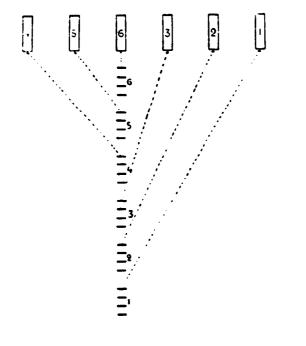
With the many columns of march, the changes in column formation are numerous; a few points are of special importance, and these only will be mentioned.

The general rule is that all changes of column formations from larger to smaller units are executed successively; from smaller to larger the movement is simultaneous. After changing the formation, the parts of the column in each squadron first take their proper discances, then the squadrons being formed they move at an increased gait to their proper places in the column.

From a column of ones, twos threes or sixes, if it wished to form line, line of columns, mass or double column, it is first necessary for each squadron to form a column of platoons.

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From a column of platoons to form a line of columns, the formation is executed as indicated in Cut No. 28.



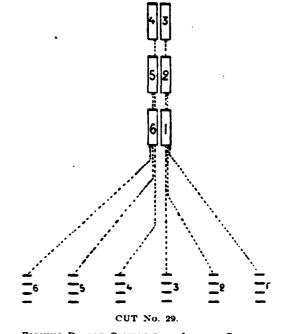
CUT NO. 28. Line of Column from Column of Platoons.

To form a double column from column of platoons the three rear squadrons move up at the command of the divisionne commander and take their places on the left of the leading squadrons.

The double column can be formed from a line of columns as indicated in Cut No. 29.

If on account of the condition of the ground it is necessary to reduce the front formation in mass, the command will be given: Flank Squadrons, Double.

The flank squadrons decrease the gait, and by a change of direction take their places in rear of the next squadron. If, when in this formation, the regiment is marched to the rear then for convenience in marching, the two center squadrons will advance at the command: Middle Squadrons, On the Line.



FORMING DOUBLE COLUMN FROM LINE OF COLUMNS.

Moving at an increased gait they will take their places at the head of the new line. This formation in mass with the double flanks can form line to the front or to a flank, or the normal formation in mass can be taken as previously indicated.

CHANGE OF DIRECTION OF THE REGIMENT'S FRONT.

A change of direction of the regiment's front when formed in line, in line of column of threes, in line of columns and in mass is executed by a wheel. This movement is personally led by the colonel or he may command: 1. Regiment, Wheel to Right (left); 2. Gait; 3. March, and when completed, 4. Forward.

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In all cases the regiment wheels as a unit to the new direction.

ECHELONS.

Far more attention is given to the work in echelon than in our service; no definite hard and fast rules are, however, laid down, the strength and number of the echelons being determined by the commander.

A movement in echelon may be carried out by single squadrons, by two or three squadrons in each echelon, the number of squadrons in different echelons may be different. The echelons may be formed from the center as well as from the flanks. The regimental commander determines all these questions and by his orders designates the section to commence the movement, and determines the strength of each echelon, the distance and interval at which it must march, and the gait to be taken by all.

If the distance be not indicated, it must be equal to the front of the section forming the echelon.

The commander of each echelon must see that the distances indicated are strictly observed and that the flank of his section which is nearest the head echelon (the inner flank) is *always* free to pass by the flank of the front echelon.

But one command is given for forming echelons:

1. Regiment, From the Right (From the left, From the Center) By Squadrons (By two Squadrons, By Divisionne) In Echelon; 2. Distance, so 'many paces; 3. Gait; 4. March.

The head echelon moves out in rear of the regimental commander, for as we will see in the attack the colonel must lead the attack in a charge.

If it is desired to leave one squadron echeloned on a flank. this can be done either to the front or to the rear by the command:

Right (Left), flank Squadron Echelon Forward (Back-ward).

The throwing of one squadron forward is to hit the enemy in flank, the echelon to the rear is to parry a flank attack.

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MULTIPLE (TWO OR MORE) LINES.

Attention is also paid to the formation in two or more lines, one behind the other. These multiple lines, like the echelons, may be composed of a different number of squadrons; no commands are prescribed, the strength of the lines, their formation, the distances between them, and when necessary the commanders of the same are determined by the regimental commander and appointed in his orders.

SUMMARY.

The foregoing being practically all of the close order regimental drill of the Russian cavalry, it can be seen at once how simple it is; nothing is complicated, simplicity is the key note. A child could learn the commands and the formations are all executed on certain fundamental principles easy to remember.

While many movements that we have are left out and some that we do not have are considered essential, yet the whole is a perfectly logical well developed plan, and includes every movement that could in reason be used mounted in time of war.

Should the time ever come when we can have a charging unit, the necessity for a new drill will be apparent to all, and then it will most certainly be our duty to study well this simple system of the largest cavalry force in the world.

SEVENTH PAPER.

THE ATTACK-BY THE REGIMENT.

The regiment is considered a unit of sufficient strength to fight under the various conditions of battle, separately or as a part of larger units.

The battle order of a regiment acting alone consists of a fighting line and a reserve; the fighting line to be formed of as many squadrons as the circumstances of the fight may require; the regimental commander must personally lead the fighting line to the charge, leaving a field officer to command the reserve.

We find no definite detailed instructions as to the method

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of conducting the attack, practically all is left to the individual initiative of the colonel. The following may be considered as the general rules to be followed:

1. The fighting line advances, having, if necessary, the flank squadrons in echelon to the front or to the rear; if no echelons are ordered by the colonel, then the flank squadrons are obliged to form them by platoons on the initiative of their captains.

2. The formation for the attack will usually be in line of columns, but other formations may be used according to battle conditions.

3. The reserve must be not more than 400 paces from the fighting line.

4. Line must be formed in good time to give the squadrons time to gather full speed for the charge.

5. The more the attacking line is in solid line at the moment of collision, the better the chances for success.

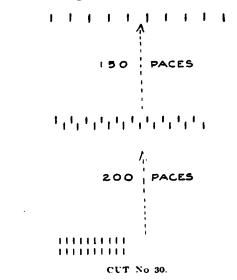
6. If the enemy makes a sudden flank attack, the captain of the flank squadron must on his own initiative parry the blow, even if, for that purpose, his squadron leaves the rest of the regiment.

7. Any squadron either in the center or on a flank which has no enemy in its front must turn and hit the enemy in flank or in rear.

8. If a regiment forms part of a brigade, the reserve is controlled by the brigade chief, but the regimental commander must always take measures for the safety of his outer flank, without waiting for special orders to that effect.

For an attack on the enemy's infantry suddenness is essential—exactness of the formation is not so important as the rapidity of execution. For maneuvering under fire of infantry the line of columns of threes is used.

The normal method of attack on infantry is for the fighting line to form two deployed lines; the first line in single rank and the second in double rank or single rank with diminished intervals. The reserve closes to about 200 paces and normally charges in close order. The formation looks something like this drawing: Cut No. 30.



While the above may be considered as the normal formation, yet it is subject to any variation as desired by the regimental commander. The squadrons may be extended all on one line, or they may be extended by platoons in two or more lines. The latter is the favored formation, for, being in greater depth, it gives the captain better control of his squadron than if the same was all extended in one single line of great width.

The Russian cavalry fully believe, that with this formation in three lines, they can get at the infantry; *if* the latter has been somewhat demoralized at the end of a hard day's fight or if it be in extended order, shaken by fire and not behind intrenchments.

The attack on artillery over open ground is executed at full speed from a distance of 3-4 versts $(2-2_{74}^3 \text{ miles})$. The squadrons of the fighting line are given the objective and the attack is executed by the whole fighting line, except the special group detached to attack the escort. Attacks on artillery are generally executed in two deployed lines with about 400 paces between them (out of the sheaf of the bursting shrapnel);

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the first rank being in single rank and the second in double rank.

In the attack on both infantry and artillery the regimental commander commands the reserve, he does not lead the fighting line as in the charge in close order.

The pursuit is carried out by the squadrons making the attack, if all squadrons have taken part the regimental commander must immediately assemble those nearest to him in order to have a reserve in case of emergencies.

For all attacks when the regiment becomes scattered, and for all drill in extended order but two commands or signals are used to reform the regiments in close order. The first is "On the Front Echelon," at which all squadrons take the field gallop and form in regimental line on the leading squadron. The second is, "Assemble;" all squadrons form first in column of platoons and ther at a trot form in mass behind the regimental commander. Should another gait be desired the same is added to the signal "Assemble."

The above points cover practically all the instructions for the mounted attack of a regiment of Russian cavalry. The first and great point of difference and to the American mind, a great source of weakness compared to our system, is that the possible use of a mounted extended line for fire action has evidently never entered the Russian mind. Dismounted action is treated under a separate heading and the attack when on foot is very closely assimilated to the new Russian Infantry Tactics.

The questions of attack as above given are the general principles to be followed in a mounted action. There is, therefore, but little in this part of the regulations that approaches our instructions for battle action.

The following points are of special importance:

1. The colonel must lead the fighting line to the charge when in close order.

2. The importance of compact order in the squadrons as well as between the squadrons is mentioned; i. e., a solid charging mass without holes in the line.

3. The use of multiple lines, usually three against infantry.

4. The use of multiple lines at greater distances against artillery.

EIGHTH PAPER.

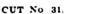
HIGHER UNITS.

In America the division or brigade cavalry work is never seen, in Russia nearly a month each year is devoted to the same; therefore, a study of this sort of work, as carried on here should be of interest.

The Russians, first of all, when out of reach of the enemy's fire, use a concentrated formation called "reserve order" in which each separate part is in mass or in double column and the parts are posted next to each other or one behind the other. In this "reserve order," if intervals and distances be not indicated by the orders they will be fo ty paces between regiments and brigades and eighty paces between divisions. Artillery and machine guns may stand behind, on one of the flanks, or between the regiments; the intervals and distances between the batteries and machine gun companies is forty paces and between them and the neighboring cavalry units sixty paces.

"Reserve orders" of a brigade are four: "Reserve column," regiments side by side in mass (Cut No. 31) "Close Reserve Column," regiment behind regiment in mass. "Double Column," regiments side by side in double columns (Cut No. 32). "General Double Column," regiment behind regiment in double column.





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To pass from "reserve column" to "close reserve column" the command is:

- 1. Brigade, From Right (left) by regiments.
- 2. Gait.

3. March.

To pass from "reserve column" to a "double column" the command is:

1. Brigade in Double Column.

2. Gait.

3. March.

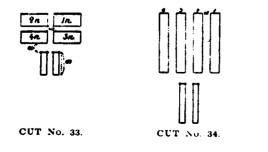
Besides these two, there is but one other command specified for the work of a brigade and this is the general one for putting the command in movement in any direction. One of the regiments will be designated as the base regiment and this the brigade commander usually leads in person at squadron distance ahead of the colonel. To put the brigade in movement the command is:

1. Brigade, Direction on-regiment. 2. Gait. 3. March.

All movements and formations are executed according to the general rules given for the regiment. When the regiments are placed one in rear of the other, the rear regiment when coming on the line *always* forms on the left of the preceding one.

A brigade is managed by orders (command or signals may be used) and for the transmission of orders each regiment and each battery send an *officer orderly* to report to the brigade commander.

For the division the formation in concentrated order is similar, the brigades, in one of the orders indicated, will take posit on side by side, or one behind the other. Cuts Nos. 33 and 34 show the "reserve orders" of a division when the



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brigades are posted in mass, one behind the other; in double column, side by side.

A division is managed by orders for the transmission of which each brigade and each horse artillery section will send an officer orderly to report to the division commander; in special cases commands or signals may be used.

For marching a base brigade is designated and this follows the division commander or receives special instruction as to as to direction; the other brigade conforms its movement to that of the base.

Both the brigade and the division when passing open spaces under fire, or when maneuvering for the attack may employ "maneuvering orders."

"Maneuvering orders" are combinations of various formations and columns (mostly double or line of columns), of divisionnes, regiments and brigades at various intervals and distances, depending on the circumstances they can be in one line in echelon, or one behind the other.

The disposition of the regiments in the brigades and of the brigades in "maneuvering orders" is indicated by the division commander, or by the brigade commanders, for their brigades; as regards the formations of regiments, if not indicated by the brigade commander, they will be determined by the colonels according to circumstances.

One part of the "maneuvering order" will be designated as the base, and the control will be by orders. Artillery and machine guns will be on the side where their action is most probable.

For the "maneuvering orders" two commands only are given and these are self-explanatory.

Being in any massed formation:

1. Brigade, From right (left), By divisionne, on such divisionne, such regiment, in echelons.

- 2. Interval ---- paces.
- 3. Distance paces.
- 4. Gait.
- 5. March.

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If in column of platoons or in double column the first command will be:

1. Brigade, after head divisionne, in echelon to left (right). The second command applies to all formations, whether in column of platoons, double column or in mass:

. 1. Brigade, first regiment in line of columns.

2. Second Regiment, Echelon to right (left); or by divisionne in echelon to right (left); or by divisionne in echelon behind the flanks.

For all the brigade work of the Russian cava'ry we find but three commands; and for the maneuvering orders of both brigade and division there are but two; all else is left to the individual initiative of the chief; his actions to be based on the general principles laid down in the chapter on Combat (discussed later) and in the Attack.

THE ATTACK-MOUNTED.

When the given cavalry unit has approached sufficiently close to the enemy to form a plan of attack, the cavalry will form in "battle order."

A "battle order" consists: First, of battle groups (several squadrons, regiment, artillery, machine guns) who act independently for attaining the common end; second, of the reserve.

Battle groups as well as the reserve in advancing may take such maneuvering orders or formations as will allow, under the given conditions, a speedy and hidden approach to the enemy and a speedy development for the attack.

A fight of large cavalry units mounted is short, and consists of blows delivered on the enemy by battle groups and ends with the charge of the reserve on the decisive point. Artillery and machine guns take part in the beginning of the fight and help at its decisive moment.

The plan of attack may be: An immediate frontal attack by all forces; a combination frontal attack with an encircling of one, or of both flanks; the delaying of the enemy by part of the force in order to send other parts to his flank or rear; the watching of the enemy to fall on him when our gun fire causes disturbance in his ranks, or when crossing broken ground has deranged his formation. There is, therefore, no normal "battle order."

The senior chief indicates the common aim of the attack, the distribution of the parts in battle order; he gives general instructions only to the chiefs of the battle groups and to the artillery and machine guns. Having received the instructions, every group will execute the same according to the order, but independently and at the initiative of its own commander.

The reserve will conform to the order received, advancing behind the battle groups or in echelon on a flank. The timely sending in of the reserve to cast a decisive blow at the needed point is particularly important.

In case of successful action the battle groups pursue the enemy as indicated for the regiment. The best direction to be taken by the pursuing party is on the flank of the enemy.

In case of unsuccessful action the reserve will protect the retreat and assembly of the regiment; the best way to renew the action is for the reserve to attack the enemy in flank.

The chief of artillery receives from the senior commander instructions as to the general aim, the artillery objective, the direction in which it must act, and the time for opening fire. As to the choice of position and the particular targets, the most important of which is the enemy's cavalry, the chie^c of artillery will act on his own initiative.

In case of a successful attack the guns will assist by taking a new position ahead; if the attack be unsuccessful the artillery must protect the cavalry's retreat, then the chief of artillery will decide himself whether to continue firing from the same position or take up a new position to the rear. The protection of the artillery is entrusted to special cavalry units.

Machine gun companies will act as a full contingent (four guns) only in special cases, they will generally be employed by platoons (two guns) and will be added to battle groups or be given independent āims. By reason of technical limitations the machine gun company commander will have to display his own initiative to a still larger extent than the artillery chief. Only a prompt and brave decision, in accordance with the general aim and the always varying conditions of battle, can insure

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the successful action of the machine gun company. During pursuit and retreat the machine guns will act according to the indications given for the artillery.

REMARKS.

While the nominal strength of a Russian cavalry regiment is much greater, yet the actual number of sabers in ranks is but little over 600. In other words the Russian cavalry brigade is about the size of one of our regiments at war strength.

For our regiments of 1,200 men in single rank we give a most elaborate regimental drill, commands in great numbers and detailed instructions covering over twenty pages of our drill book; all is controlled by the colonel who may give his commands by message. In the Russian brigade drill of the same number of men we find but three commands, and two for the "maneuvering orders;" furthermore the drill is carried out by orders, for the transmission of which each regiments sends an orderly officer to report to the brigade commander; commands may be used.

In one, the three attenuated squadrons of 400 men in single rank are supposed to be handled in numerous fixed and rigid formations by one man; in the other, the two charging units of 600 men in double rank have only the "reserve column" as the normal formation, all else being left to "maneuvering orders" and "battle orders" on the initiative of the commanding chief.

Such a great and radical difference of handling the same number of mounted men makes any comparison impossible; and to try and compare our brigade work to the Russian is almost as hopeless, the one being largely a hypothetical paper thesis, and the other a practical drill ground actuality.

NINTH PAPER

DISMOUNTED FORMATION.

The first and distinctive feature of the new Russian drill is that fighting on foot is treated as a separate subject. Not a word is to be found about dismounting for fire action until the same is taken up in a special chapter, and in this one chapter the entire subject is covered.

The second distinctive feature is that all the work dismounted is based, so far as possible, on the new infantry drill, the basic features of which are the large degree of independence given to the platoons (their smallest unit) and the use of "battle orders."

As this subject is treated at length, and as it pertains to the domain of infantry work, it will not be necessary to go into it in detail, especially as we have our new infantry regulations. Certain points are, however, well worthy of notice and these it is hoped to bring out.

In the Russian cavalry dismounting to fight on foot is of two kinds: "Ordinary" and "in force;" the latter being used only in those cases when the horses will not be obliged to move. For "ordinary" dismounting No. 2 of both ranks of each section is the horse holder, in other words the middle man of each set of threes holds the horses on his right and left, two men out of three dismount. For dismounting "in force" No. 2 of the rear rank of each section is the horse holder, five men out of six dismount; the horse holder also dismounts to hold the horses.

The Cossacks have another method of dismounting in force by which but one man is left with each platoon as horse holder or rather guard. Their custom is unique and well worthy of serious thought, for the horses seem anchored in place, and twenty-four out of twenty-five men can get on the firing line. It is true that the Cossacks have only the snaffle bit, but if we have the bit and bridoon I can see no reason why it could not be adopted by us.

The command for this peculiar Cossack method is:

1. Prepare for dismounted action with horses tied.

2. Dismount.

At this command, after dismounting, the front rank horses are turned to the left about so as to 'ace the rear rank horses; each horse is then moved up till he stands, right shoulder to right shoulder, against the other horse of the same file. Each Cossack standing on the left of his horse passes the bridle rein

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over his horses head, under the girth of the other horse, throws them over the cantle and pulls them up tightly. In this manner the horses are tightly tied together by twos, but one Cossack is left in each platoon to look after the tied up horses and he remains mounted.

Besides these three methods prescribed for taking the dismounted action, latitude is given the squadron commander and under favorable circumstances he can decrease the number of horse holders for dismounting "in force."

Within a year all the front rank of the Russian cavalry will be armed with a lance and it is of interest to see how this change will effect the work on foot; so far as I can see it will have none whatever, for provision is especially made for the lance. For "ordinary" dismounting the lances are handed to the mounted horse holder; as all lances have a foot and arm loop, all he has to do is to slip them over the right foot, put his right arm through the arm loops and all swing clear and out of the way to the rear of his right shoulder. For dismounting in force the lances are placed on the ground by platoons ahead of the horses.

Another point well worthy of notice is that the Russian cavalry does not have to be in column to figth on foot; in fact they can only dismount "in force" when in line of at least platoon front. While this latter might be a source of weakness for quick work, yet the point remains—they can dismount irom line and take any position in the front, right or left as fndicated by the following command:

- 1. Dismounted action to the front (right, left).
- 2. Dismount.

Why then is it not possible for us to halt a line, and quickly throw forward or to a flank, a dismounted skirmish line?

The following general rules for the formation of the dismounted units are especially valuable, for we find no time wasted trying to station the trooper one yard to the front or five yards to the flank of his horse and have him there wait for commands; on the contrary the instructions are very simple and effective. The dismounted men form to the front, right or left as indicated in the command, at a *run*, by squadrons, as follows: from a line, in line; from all columns, in column of platoons.

When a regiment dismounts the colonel designates an officer to take charge of the horse holders; if they are not concentrated he may appoint officers to command each group. A junior officer and three N. C. O.'s are appointed as separate escort for the standard which remains with the horses.

But one command is given for mounting:

Squadron (regiment, Mount (at a run). If desired in "ordinary" dismounting the led horses can be brought out to meet the men. After mounting the command for alignment is given.

DISMOUNTED WORK.

As already stated the dismounted work is largely based on the new infantry drill; the close order work is gone into in detail which presents no points of special interest.

The skirmish order of a platoon is of more value for we find that it usually advances by driblets, if it can be so called, this principle is now universally adopted by the Russians; first a few men rush or creep ahead to a new point, these are followed by others till finally all the line is advanced to the new position. We find also a special command if it is desired to occupy some particular line along some landmark, as follows: Platoon—Along the ditch, road, etc. As skirmishers (run); and if it be necessary to indicate special intervals the same is added to the command.

BATTLE ORDER.

The "battle order" of a squadron acting alone is composed of platoons dispersed in a chain (skirmish line) and of the platoons left in the reserve. The space occupied or designated for the battle order of a squadron is called the "battle zone" of the squadron, the space occupied by a platoon in the chain is the platoon "zone."

The chain is composed of "links," the half platoons or squads. The chain is reinforced from the reserve by being lengthened or thickened; in the first case new links are added to the chain on one of its flanks, in the second case the platoon sent to reinforce the chain disperses among the intervals.

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No hard or fast rules are laid down; all details of the parricular manner of execution are left to the squadron commander; the platoon commanders, following the general aim, act on their own initiative within the limits of their zone, and all the firing in the chain is under the platoon commander's supervision.

The following are the only special instructions to be followed in all cases:

"The captain after a preliminary reconnaissance, communicates to his men all his information, he explains the task and how he intends to carry it out. He then designates the platoons for the chain and for the reserve, he determines the zones they must occupy, announces the places for the cartridge cart and the place for the field dressing station; when two or more platoons are dispersed he will designate one as the base platoon."

After this is done the captain will command:

- 1. Such platoons.
- 2. To a chain (at run).

At this command the platoons of the chain move out and disperse at the command of the platoon commanders; the commander of the reserve leads it to the place indicated. Should there be any machine guns attached to the squadron, then the commander of the squadron will appoint their places, when used in a chain the best places must be given them.

The squadron in battle order may be moved forward or backward or at a slight angle as desired by the captain, the only rule in retreating is to avoid obstructing the fire of those units standing behind. To change the line at a considerable angle, a new chain to the desired front must first be thrown out for the reserve, after which those portions of the old chain no longer needed are assembled as the new reserve.

The "battle order" of a regiment or of several squadrons follows the same ideas as those given for the squadron, with this difference that the reserve is usually, terrain permitting, mounted.

The colonel notifies the captains of his information, the objective. his intentions, the distribution of the squadrons and

machine guns, the tasks alloted to each, the base squadron, the posts of the cartridge carts, the post of the field dressing station, his own station and where reports must be sent. The colonel further gives the necessary instructions to the horse holders and designates their support. He must also organize the observation of the flanks, the scouting and the connection with the adjacent forces.

The "chain," the "reserve" and the "zones" are used for the battle order as in the squadron, only the colonel must give the suitable orders.

BAYONET FIGHT.

Quite a little space is devoted to the bayonet charge for all the Russian cavalry except the Cossacks are armed with the bayonet, it being carried on the outside of the saber scabbard. In the bayonet charge of a platoon the platoon commander must lead them and be the first to reach the enemy.

In the attack by the regiment the colonel will if necessary give the signal for the charge; usually, however, this final phase will be executed on the initiative of the forces nearest to the enemy, at which all the others must rush forward. If the reserve remain mounted it will be most effective on the enemy's flanks.

REMARKS.

From reading the above it can be seen that the Russian system of dismounted work is quite different in detail from ours. The American methods are more flexible and quicker to get into action, for we can dismount from any extended order mounted. At the same time the Russian system presents several points of importance worthy of careful study.

1. The entire question of dismounted action is treated under a separate head and is not mixed up with the mounted work.

2. Two kinds of dismounting are specified—"ordinary" and "in force."

3. Dismounting "in force" the Russian can, with the regular cavalry, put five out of six, and with the Cossacks twenty-four out of twenty-five in the firing line.

4. Dismounting may be done from line.

5. After dismounting the formations to be taken on foot are simple and quick of execution; line from line, column of platoons from all columns.

6. Work dismounted is based on the new up to-date infantry drill.

4. We find no special commands for line of "troops," "platoons" or ""squads," but in the battle order a chain (skirmish line) is formed as desired.

⁶ 8. No specific formations, no fixed distances, no series of commands are to be found. All depends on the commanding officer, who establishes his battle order and his battle zone as he wishes, after first giving full information to all under him.



FORT KEOGH REMOUNT DEPOT

BY VETERINARIN G. E. GRIFFIN, THIRD FIELD ARTILLERY.

THE Fort Keogh Remount Depot is located between the Yellowstone and Tongue Rivers in the State of Montana, about three nulles west of Miles City.

The reservation is ten miles square, well watered and drained, and its southern half is ecxellently sheltered from cold northern winds by a chain of tall bluffs. Its pastures abound in the nutritious and bone building "buffalo grass," which as a horse forage has no superior, and in addition to this valuable grass there is present a good supply of "blue stem" and "gramma."

This station has been in operation for about three years and in that short period, under the able management of Captain H. P. Howard (Cavalry), it has done remarkable work in developing among the horse raisers of the territory tributary thereto an intense interest in the type of animal needed by the service.

From time immemorial the Northwest has been satisfied with the native "Cayuse" horse, which appears to have filled the needs of the stock raiser. Agricultural pursuits are more and more curtailing the area devoted to stock raising and as a consequence there has been a demand for a heavier type of animal to do the planting and harvesting of crops. To meet this demand, draft stallions of the Percheron, Clyde and Shire breeds were introduced and these animals crossed on the native mares with not altogether pleasing results.

It is true that a heavier type of horse has been produced, but he is devoid of symmetry and of clean, easy action; in fact, as a rule, he is something of a nondescript, heavy of head, short of neck, straight of shoulder, large of joint, wide of breast, small of barrel, weighty of croup, shaggy of leg, flat of hoof,

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and nasty in disposition, but nevertheless possessing good bone, wind and hardiness.

It must be admitted that the native horses were not much improved by the introduction of the draft sire. The cross was too violent to begin with. for it is a well known fact that among *horse breeders*, of whom there are many in the Northwest, violent blood crosses among horses are repungant to nature.

It should be understood by the interested reader that these remarks on the draft cross apply to horse raisers, not horse breeders, horse breeding being a profession, horse raising a trade.

While horse conditions were at their worst in the Northwest, viewed from a purely military standpoint, the Fort Keogh Remount Depot was established, and not a moment too soon either. Had it been established ten years earlier, the Northwest could now be depended upon to creditably horse the army in any emergency.

The first attempts of Captain Howard to furnish the service with mounts from this depot were, to say the least, discouraging. He had little that was even fair to choose from. The horse raisers did not know what the service needed and they were disappointed to discover that the best of the material on hand was barely suitable for army needs, and even this was purchased grudgingly on account of a start having to be made.

The horse raisers were unacquainted with the conformation of desirable military horses; therefore, it was a large part of the duty of the depot to educate and enlighten them along desired lines. This duty was up-hill work, but it has borne fruit and at present many of the ranch owners are breeding with the army in view as a market. For this purpose standard Hackney and Morgan sires have been secured and a few cases Coach and Thoroughbred. These sires have been crossed on selected mares with apparently good results so far as one may judge by the youngsters produced.

The strangest part of the cross with the drafters is that the second or third generation has produced many excellent artillery horses.

In conjunction with the difficulties encountered in pro-

curing suitable military horses in the first two years of the depot's existence, Captain Howard had to contend with the prejudices of the service itself against Northwest horses with their disfiguring brands and notoriously bad dispositions.

Many of the older mounted officers had been educated in a school of good military equine conformation established by Missouri and Kentucky horses. This well known conformation has for many years been accepted, subconsciously no doubt, as a standard until now any minus deviation therefrom is looked upon with disapproval, contempt and even scorn. This is natural enough, too, but we, for the next two years at least, must become reconciled to a minus standard; for it should not be forgotten that the trolley car and the automobile have practically supplanted the light type of horse in those states on which the army has been in the habit of depending for its mounts. Even in the State of Missouri the draft animal is taking the place of the desirable combination horse so dear to the heart of every true cavalryman, and to such an extent that it is becoming more difficult each year to find a decent representative of the cavalry type of horse.

Had the Remount Depots not appeared when they did, our horse problem would have been by this time a very serious one indeed.

Superficial observers of horse conditions frequently remark that there are more horses in the country now than there were at any other period since its settlement. This remark is undoubtedly true, and the price is higher too, but if the markets are searched and the class of horses considered, it will be found that eighty per cent. of the horses are of the draft type and that where we could find ten good cavalry horses five years ago, two cannot be found now.

It has been my own custom to purchase, train and develop a youngster each year. This year I have been unable to find one at a reasonable price, and only two at an exorbitant one. It is not that my standard has become more exacting that I am unable to find a decent colt, but it is due to the fact that they are very scarce and expensive even in the famous Platte County, Missouri. Such is the condition of the military horse market and such it will remain until the Remount Depots have con-

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vinced the people that it will pay them to raise a military type of horse.

There is considerable after-dinner horse talk now-a-days; some of it sentimental twaddle about the disappearing Thoroughbred. The Thoroughbred may disappear from the race course where he was usually a weedy looking, short distance racing machine on which to foolishly bet money, but he will always remain here with credit to himself so long as decent, healthy men and women ride to hounds and demand speed, spirit, endurance, cleverness, weight and height in their mounts.

We do not need the thoroughbred horse in the ranks; as a cavalry horse he is undesirable mostly on account of temperament, conformation, inability to carry heavy weights for long periods, and an alarming loss of condition when exposed to the elements and skimped in his rations. He will do to cross with selected dams from which the cavalry conformation must come if it comes at all. Very little has been said of the "Saddler" as a sire when breeding for the service is considered, nevertheless I venture the opinion that the true cavalry, and light artillery horse will be produced from such a sire on carefully selected dams of good ancestry.

With all its discouragements the Fort Keogh Remount Depot is remarkably well organized and runs as smoothly as a well oiled machine in good order.

At this depot horses are first gentled by polite man-handling and then trained without the use of spurs and oaths. Cavalry horses are given a course of several months in the saddle, and artillery horses a less time in saddle and draft, before they are considered ready for distribution.

The methods of handling differ slightly at the different Remount Depots, but the general principle is the same. At Fort Keogh they have to use a "squeeze gate" to halter the new arrivals and draw a plan of the unsightly brands, which are now beginning to disappear entirely. It is believed that the "squeeze gate" may be dispensed with in a year or two when the new crop of desirables with good reliable dispositions begins to arrive.

The cavalry horses now at that station are good. It is true they have not the style and class we have been accustomed to, but they are such an improvement over those of two years ago that our trust is in the depot and we believe our faith to be well founded.

The internal economy of this depot was something of an agreeable surprise; here was a small herd of sheep which furnished a carcass of mutton at least once a week; over there was a decent looking beef herd which supplied the American staff of life; yonder was a graded dairy herd furnishing an abundance of milk, cream and butter, while in a well sheltered swale was observed a large flock of white leghorns, carefully kept up to standard.

On the lowlands of the Yellowstone River were extensive fields of alfalfa, oats, corn, and some wheat, all of which were used to advantage in the feeding scheme. There was no haphazard farming indulged in at Fort Keogh; everything was done in a manner that indicated intelligent knowledge of the subject. A strict system of accounts is maintained and the profits from sheep, cattle, chickens and crops known exactly.

A special page could be devoted to the system of hog raising employed here. Suffice it to say that the animals composing this herd were first class in every respect and a source of considerable profit to the station. Perhaps it will be thought by some that the farm products are the perquisites of those connected with the station. Such is not the case. All profits are turned into the station fund and used for the running of the machine.

It is believed that this station will be self-supporting in a few years under management similar to that of the present.

We have it figured out for us at regular intervals that the price of a cavalry horse laid down at final station, under the remount system, is all the way from two hundred and fifteen to three hundred and fifty dollars. When all overhead expenses are considered it is probably high, higher than what the animals would cost under the old system of purchase.

In any new extensive industry, where the original investment is large, the first few thousand articles manufactured would cost enormously if the investment were charged against them. It certainly is not a business method of fixing cost price early in the campaign; consequently those who are now crying

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• against cost of production at Remount Depots must eliminate the original investment from their calculations for a few years more at least, until these depots are firmly established and have a decent opportunity to demonstrate their usefulness and economic value to the service.

It was not the writer's good fortune to see much of the commanding officer, Captain Howard, he having to depart on a purchasing expedition, but he had the good luck of becoming well acquainted with his assistant, Captain Archie Miller (Cavalry), who proved to be an energetic, painstaking, hardworking officer; a thorough horseman whose knowledge of the horse situation in the Northwest was surprising. This officer had every subject connected with the depot and its work tabulated in his brain in a wonderful manner. His whole heart seemed to be in his work and to such an extent that not a detail was overlooked. For the interest of Fort Keogh may the time be long until he is Manchued.

It might not be amiss at this point to say something about the proper time at which to make requisitions for young horses. All of us know that it has been the custom to call for remounts in the spring; at that season they were expensive and were beginning to shed their winter coats. On arrival at station the dealer's condition melted like snow in the sunshine; the coat dropped out in patches, and often with it the pen or pasture lice that had bred there during the winter. By May these young horses looked like "the devil;" nevertheless, out they went to be trained—save the mark- and hardened for the summer maneuvers, which killed a goodly number of this class of mount each year.

All remounts should be requisitioned for just after the summer's work. On arrival they should all be placed in one building, under the supervision of a sensible Fort Riley graduate and worked until the following spring under his direction. About April or May they may be turned over to the units to which they pertain.

Under a system similar to this there is little doubt but what remounts would give a good account of themselves during the summer. The chances are that some one will remark: What are these Remount Stations for anyway if they cannot shape horses and put them in condition to be issued for immediate service? Are they not supposed to do the training?

It may be proper to reply that we do no expect Recruiting Depots to turn out finished and hardened soldiers, ready to take the field under all conditions on arrival at station; they need as much, and perhaps more, additional training and conditioning as the Remount Depot youngsters.

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OUR CAVALRY DRILL REGULATIONS.

BY FIRST LIBUTENANT C. R. MAYO, TENTH CAVALRY.

(Suggested changes and additions to the present Casalry Drill Regulations.) DURING the past summer some of the troops of the Tenth Cavalry have tried out various experiments based on linking horses by twos, head to tail. . Some of these experiments are detailed at more or less length later on in this article. It is believed that the system has considerable merit and that troop commanders will recognize its advantages as soon as they give it a fair trial.

When pitching shelter tent camp.

As now required by the existing regulations and orders on the subject, the troop is formed in line and the men dismounted on the same ground where the tents are placed later. This often results in spots of the ground becoming undesirable as sleeping places for the troopers.

When the wagons are later than the troops in getting into camp and the picket line has not been brought along on a pack animal or other conveyance, the horses are temporarily secured to a picket line composed of lariats and held down by picket pins. The picket pins are easily pulled up, causing confusion and, in some cases, burns. The present regulations prescribe that the horses shall be tied to the line with the saddles still on. Horses are very prone to roll as soon as they are tied to the line, and it usually requires the active efforts of two or three men, constantly on the alert, to prevent them damaging the equipment. Some troop commanders prefer to leave the horses saddled, until the packs have had time to cool off, especially when the horses are hot and have made a long march.

The following alternative method is suggested of going into shelter tent camp. Instead of forming the troop where

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the line of tents is to be, the troop is formed and dismounted where the picket line is to be laid down, either in front of the line of tents or in prolongation, as directed by the commanding officer. After dismounting the bridles are taken off and the horses linked by twos. The odd unmbers then turn left about with their horses and secure the halter strap in the near cantle ring of the saddle of the even numbers. At the same time each even number ties his halter strap in the near cantle ring of the odd numbers. The packs, sabers and rifle boots are then removed and the rifles, placed in the boots, if they have been removed on dismounting.

The horses very soon become accustomed to being secured in this manner, and remain practically where they are left. They can not move very far and then only in small circles. On one occasion the First Squadron, Tenth Cavalry, dismounted and left all the horses linked by twos for half an hour without a single man being left with them. At the end of the period the horses were all in place without any damage to the equipment.

While the packs and arms are being removed, the guidon sergeant and a principal guide stretch a light line to mark the front of the line of tents. This line has the proper intervals, eight feet, marked off on it, either by tieing knots in it, or by attaching pieces of tape or cloth. The line is carried by the guidon sergeant, who should be allowed to carry it in the place of his lariat. Usually the guidon sergeant precedes the troop to the camp and is placed by the adjutant to mark the position of the troop. When he leaves the troop he should be accompanied by one of the principal guides, and, in this event, the line can be down on the arrival of the troop.

The men pick up their packs and arms and fall in, lining up on the guidon. After a little practice each pair falls in opposite their place on the line in a very short time. This plan secures a straighter line of tents than any other that I have seen tried.

All the men can pitch their tents at once as no one is needed to watch the horses and prevent them from rolling or pulling up the picket pins. By allowing sufficient length of halter strap the horses can graze without difficulty. If there is an odd horse he can be linked to one of a quiet pair.

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This method has been thoroughly tried out and has given universal satisfaction; and, I believe, that all troop commanders who are familiar with this system, would rather use it in preference to any other.

When dismounting to fight on foot:

Most books on the subject state that cavalry, when dismounted, can only put seventy-five per cent. of their available strength on the firing line; the other twenty-five per cent. being required to take care of the led horses. In cases of emergency, where the number of rifles is paramount to any other consideration, or where suitable cover is available close at hand, every rifle in the troop can be put on the firing line, and the horses will remain where they were left. The troop can be mounted and dismounted as rapidly when linking by twos as by following the method prescribed in the Cavalry Drill Regulations.

If the troop is suddenly subjected to fire when marching in column of twos or fours, the odd or even numbers can be dismounted at once and deployed to the front, flank or rear by command or by prearranged signal and firing opened almost instantly. The men remaining mounted can gallop to cover, link by twos, and return to reinforce the firing line; or form the regulation column of led horses and the supernumerary men return to take part in the fire action.

When a cavalry command is fighting a delaying action, or annoying a superior force on the march, and the commanding officer has considerable latitude in the choice of positions, he will be able to bring every available rifle to bear where it will do the most good, or the most damage, depending on which side forms the opinion, as the number of rifles largely determine results. When the commanding officer has this choice of position he can ordinarily pick ground with suitable cover.

When scouting and patrolling:

Several opportunities for using this method of linking will occur when scouts are working in pairs, and in patrol work.

When horses are linked by twos without being unbridled, as in "Dismounting to fight on foot" the cavalry link is used instead of the halter strap. This while not so secure as the halter strap, is a quicker method, and is more suitable where rapid action is essential.

Captain F. P. Holcomb, Tenth Cavalry, adopted a short stout strap fitted with a strong snap, which is secured to the near cantle ring. This can be used when the horse is bridled or unbridled; the snap being fastened to the halter ring. This method of linking is quicker than using halter straps, and more secure than using the cavalry links. It also does away with the possibility of breaking bridle headstalls. The one objection to its universal use for linking by twos is its fixed length, as it can not be adjusted for various lengths as can a halter strap. It is very valuable where mounting and dismounting has to be done on the run, as horses are more apt to shy when the men rush at them, and more severely tries the strength of the materials holding them than when the movements of the troopers are less strenuous.

During the Connecticut Maneuvers of 1912, one troop, "B" of the Tenth Cavalry, at Berkshire, Conn., being linked by twos, with every rifle on the firing line, made a brigade deploy and held it for fifteen minutes. One of the umpires informed the troop commander that he was being outflanked, and that he must get out or loose his troop. The umpire's report showed that one minute and thirty seconds later the entire troop was gone without the loss of a man or horse. Later in the day the troop repeated the performance with the same brigade.

PROPOSED MOVEMENTS AND COMMANDS.

Being in line to dismount, and link by twos:

(a) 1. Prepare to dismount; 2. Dismount; 3. Link by twos. The first two commands are executed as in par. 249, C. D. R. At the third command the odd numbers turn their horses left about, and lead them close alongside the horses of the even numbers. The men work in pairs, numbers one and two and numbers three and four working together. Each man unsnaps his cavalry link, or unties his halter strap, and secures it in the near cantle ring of the other man's saddle. The men then fall in front (original) of the horses, unless otherwise directed.

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Being in line, to dismount, link by twos, and pitch shelter tonts:

(b) 1. Prepare to dismount; 2. Dismount; 3. Unbridle; 4. Link by twos; 5. Remove packs; 6. Pitch shelter tents. The first four commands are executed as in paragraph (a), with the exception that the horses are unbridled before being linked by twos and that they are linked by the halter straps, or by special cantle straps. At the fifth command, the packs and arms are removed from the saddles, the rifles placed in the boot, if not already there, and carried to the rear of the line stretched by the guidon sergeant and principal guide. The packs are lined up by placing the front ends six inches in rear of the line. The odd numbers place themselves in rear of the knot, or mark, on the line indicating the position of the front tent pole. At the sixth command the tents are pitched. It is understood that the guidon sergeant and principal guide have preceded the troop to the place designated for the camp.

The troop being dismounted, and the horses linked by twos, to mount the troop:

(c) Mount.

The men proceed rapidly to their horses, unlink, straighten out the horses and mount. They form columns of twos, fours, or in line, according to whichever formation they were in when dismounted, unless otherwise directed.

Being in column of fours, or twos, to dismount to either flank, to the front or rear, and commence firing at once with half the troop:

(d) 1. Number ones (twos) Dismount, 2. To the right (left), or 2. Guide right (left), or 2. To the rear, guide right (left); [§]3. At so many yards, at such an object; 4. Commence firing. The designated numbers dismount and deploy without further command, first passing over their reins to the man remaining mounted. If the command is "To the right" "(left) they deploy to the flank. If the command is "Guide right" (Guide left) they deploy to the front, guide right or guide left. When the command is "To the rear, guide left (right)" the deployment is to the rear, guide left or guide right.

The mounted men take the horses to cover at a gallop under the direction of the guidon sergeant. If so directed, the horses are linked by twos, and the men return and take their places on the firing line. The regulation column of led horses can be formed and the supernumerary men return to the firing line.

Using whistle signals; one blast denotes odd numbers; two blasts, even numbers. If no other whistle signals are given the designated numbers dismount at once and deploy to their flank. Three blasts following one blast, or following two blasts means that the odd numbers will deploy to the front, guide left; or that the even numbers will deploy to front, guide right. Four blasts in the place of three would signify that the deployment is to the rear.

Captain F. P. Holcomb with Troop "B," and Pirst Lieutenant C. H. Muller with Troop "I," have elaborated on the first idea and originated some of the movements. The success of this method, as shown on the various marches and while participating in the Connecticut maneuvers during the past summer, is largely due to their efforts.



intended to protect our present interests and territory from the aggression of other nations.

Offensive Policies call for Offensive Strategy to enforce them while Defensive Policies will only require Defensive Strategy for their maintenance. This will serve as an illustration of the close relation if not identity of Foreign Policy and Military Policy. Lord Roberts in "Fallacies and Facts" says: "Foreign Policy and Military Policy are, in fact, only different aspects of the same thing—the External Policy of a nation."

All modern wars are caused by conflict of national policies and as policy determines the political objective, which, in turn, controls the military objective, it becomes absolutely essential that the Naval and Military branches of the government be in touch with, and have an understanding of the policies announced by the State Department to other nations, so, that, when diplomacy proves inadequate, war may take its place and the substitution of "battles" for "diplomatic notes" may take place without delay.

"An ideal policy would be one with a grand aim and a great force behind it; pursued with consistency from generation to generation, never deviating from its course and utilizing ever opportunity to approximate toward its final object. In democratic states lack of continuity and persistence, due to change of officials, make policies weak. An autocratic state possesses three great advantages (1) greater continuity of policies, (2) greater ability to obtain allies (having a permanent government independent of parties can make agreements for longer periods) and (3) more experienced ministers owing to longer continuance in office."

"The first mark of the competence or efficiency of a government in relation to an international conflict is the clearness with which it knows its own mind, the facility with which it distinguishes between aims which are vital and must therefore be pursued without hestiation, whether in peace or war, and those which are subordinate and accidental."

"Under a despotic ruler one head alone settles the policy of the state and directs the strategy during war. Under democratic rule statesmen and politicians representing parties frame the foreign policy, and a different set of men, the military

POLICY.*

BY COMMANDER J. S. MCKEAN, U. S. NAVY.

"This paper is largely made up of extracts from the following: Art of War—Jomini; On War—Clausewitz; War and Policy— Wilkinson; Co-ordination before and during war—Hill; Fallacies and Facts—Roberts; History of International Law—Taylor; The Futute Peace of the Anglo-Saxon—Murray; Diplomatic Relations of the United States and Spanish America-Latane; American Diplomacy—Moore.)

THE Century Dictionary defines Policy as an object or course of conduct, or the principle or body of the principles to be observed in conduct; specifically, the system of measures or the line of conduct which a ruler, minister, government or party adopts and pursues as best for the interests of the country.

There are various kinds of policies but this discussion is limited to National Policy. National Policies are divided into two general classes, (a) Foreign or External, (b) Domestic or Internal.

The latter, Domestic or Internal Policies, are settled by our own people without regard to other nations:

The Foreign or External Policies are established by the the Government (acting for the people) and are in the domain of International Law and conflicts under them are settled by Diplomacy or War. It is this class of Policies, Foreign or External ones that may ultimately bring on war that we are specially studying in an effort to determine the proper relation between War and Policy.

Foreign Policies may also be divided into two classes (a) Offensive, those looking toward increasing our territory or interests beyond their present limits and (b) Defensive, those

*Lecture delivered at the Army War College, Session of 1912-13.

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keaders, plan and carry out the war. This brings about the difficulty of insuring harmony and co-operation between policy and strategy."

It is only possible to obtain a proper conception of policy, if we regard it as continuous both in peace and war, using sometimes diplomatic negotiations, sometimes war negotiations, as circumstances require to obtain the political object.

It is a mistake to suppose that when diplomatic negotiations between two states cease and war breaks out, therefore the political negotiations cease, for they do not cease, they are continued in another form—in the form of war. The statesman still retains control, and uses the military events as they occur to attain his object. He is still responsible for the success of the warlike as well as the peaceful policy of the nation. The statesman is, therefore, bound to study war as he does his other instrument—diplomacy. This means only the general principles of war, the means, resources, and forces required to attain the object of the war—viz: the submission of the enemy.

The political object of a war is determined beforehand by policy, which orders the war, determines the type of war it is to be, with what means, resources and expenditures it is carried on, when its object has been attained and when it is to cease. In fact, policy prepares for, leads up to, orders, supports guides and stops the war.

Clausewitz said: "All the leading outlines of a war are always determined by the Cabinet—that is by a political, not a military functionary." For this reason war being subordinate to, and a part of policy the statesman must study war and the strategic policy.

The director of a nation's affairs whether he is a despotic monarch or the chairman of a committee, must be supposed, before he begins to correspond on a contentious subject with the government of another power, to determine as well as he can whether the purpose he proposes to himself is vital for the nation which he represents so that it must be pursued at all costs, and also whether the opposite purpose of the other goernment is regarded by that government as indispensable. If both sides take the matter seriously a trial of strength is inevitable. In a democratic state is it most important that the people should study war and take an interest in national policies for upon the strength with which they grasp the central idea of the policy will depend its strength and continuity through successive changes of administrations.

Our policy is formulated by the President and his Cabinet and as all are civilians, policy and strategy cannot be considered together. The Secretary of War and the Secretary of the Navy have their expert advisers, but by the time the advice gets to the cabinet it is second hand and liable to be more or less damaged in handling. It would be much better from this point of view if the Secretaries were officers of the services they represent.

A logical order of procedure would be:

(1) The government decides on a policy.

(2) The military experts inform the government what this policy will entail should it lead to war.

(3) The government educates the nation so that it realizes its responsibilities, and prepares itself to meet them in case of war.

A government that knows its purpose will be quick to detect the beginning of a quarrel upon a vital issue, it will divine opposition in the distance, and long before there is any palpable sign of the coming struggle will have analyzed all its possibilities have thought of every difficulty, and made ready for every emergency.

An illustration of the concrete declaration of a Policy is given in the Czars message to Alexieff in 1904—"This struggle must definitely assure the preponderance of Russia on the coast of the Pacific. To attain this end it is indispensable to conquer Japan completely, to force her to submit definitely, and to deprive her of the desire for embarking on dangerous military enterprises for several years to come. If we do not do this, we shall lose all our prestige in the East. The present war is summed up in the question, "Who will have the supremacy on the Asiatic Coast of the Pacific, Russia or Japan?" To share and agree is impossible." Surely a splendid policy definitely expressed but which failed for two reasons—Russia had not pre-

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pared to enforce it and Japan had been preparing every day for ten years to defeat it.

It is a military platitude that the soldier is the servant of the politician and it is therefore the duty of the statesman to ensure by foresight that he, the soldier, shall not start a war with the odds against him.

Success or failure of a state's policy depends on the amount of armed force behind it, for upon this depends the greater or less amount of resistance-friction, that it will meet from other nations. If the armed force be small, it will be checked, foiled and bullied by its neighbors, till at last it is goaded into a war which could have been avoided if its prestige, its armed force, had been greater. On the other hand, a national policy supported by a great armed force finds its opponents much more reasonable and inclined to a fair compromise. So that the greater the armed force behind the policy of a nation, the greater will be its prestige, and the more likely is it that all its negotiations will be settled by peaceful compromise, and the longer will it enjoy peace.

When a statesman has discovered that the question he is about to raise may possibly lead to the use of force, he will, if he be prudent, avoid raising it untill he has satisfied himself that for the war which he may have to conduct, he has secured as far as human foresight can secure anything, the certainty of success. He may safely assume that the other side, fighting for an object of vital importance will exert itself to the utmost of its resources. He will, therefore, take the full measure of those resources and compare it with the forces which he can bring to bear against him. If the comparison shows in his own hand such a preponderance, as making due allowance for accidents and miscalculations, give a reasonable probability of success, he will raise his contentious question; but if the calculations show the slightest doubt either as to the readiness or the superiority of his forces, he will use his utmost efforts to avoid a dispute until such time as his preparations are completed and the certainty of ultimate success has been practically assured.

The Art of War is governed by one great principle---to secure at the outset every possible advantage of time, place, armament, numbers and morale. In modern war more depends upon what has been accomplished before the commencement of hostilities than upon what is done after the first shot is fired and this preparation rests with the statesman not with the military leaders. In these days, that nation which is beaten in preparation for war is already half beaten in the war itself.

"Mistakes made in the original assembling of armies, can scarcely be made good during the subsequent course of the campaign." (Von Moltke); and such mistakes are usually due to the incapacity of a government to judge rightly the time when the assembling should begin.

The value of preparation is shown in another quotation from Von Moltke: "It is the sword alone that now keeps the sword in the scabbard." It is the great armies of the Continent and their complete preparation, in combination with the British Fleet, that have kept the peace of Europe for the past forty years.

History shows that in practically every war, that nation has been successful whose rulers have recognized that a policy is useless unless the means of carrying it out are provided. An example is the bold bluffing policy of Russia without preparation being overcome by the Japanese Policy, with ten years systematic preparation of the means to enforce it.

The most important duty of the statesman is to provide the necessary means for carrying into effect the policies adopted. As our statesmen do not have any practical military training and do not live in a military or naval atmosphere, it is all the more important that they should supply the practical deficiency by theoretical study of the principles of war. Our cabinet and party system of government make us, as a nation. weak in both "preparing for" and "carrying out" war. There is a lack of harmony between policy and strategy and of cooperation between statesmen and military leaders, we lack both the tendency and the machinery to bring about proper coordination and cooperation. Responsible statesmen and military leaders must work together so as to synchronize and maintain in their due relative proportions the policy and strategy of a state. The only effective way to bring this about is by an intelligent grasp by both statesmen and soldiers of the

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broad principles of strategy and policy and their relation to one another. To bring this about Clausewitz says: "If war is to harmonize entirely with the political views and policy to accommodate itself to the means available for war, there is only one alternative to be recommended when the soldier and statesman are not combined in one person, which is to make the Commander-in-Chief a member of the Cabinet."

The dependence of policy upon preparation and means is well expressed by Lord Roberts—"Whatever the object and character of a nation's foreign policy, the success of the policy is directly dependent upon the actual fighting strength behind it" and in another form by Secretary Meyer when he said: "The Monroe Doctrine is just as strong as our fleet and no stronger."*

"If you wish for peace prepare for war" is another form of "In time of peace prepare for war." Our wars have shown the folly of the other method. *i. e.* "In time of peace prepare for peace and in time of war prepare for war." This latter method increases tenfold the cost in time, money and lives and may lead to national humiliation.

The better the preparation the shorter the war, the less the cost in both time and money, and the poorer the preparation the longer and more expensive the war.

That the preparation of means and plans for war is not a new idea can be gathered from the following Biblical quotation: "What king going to war against another king, sitteth not down first and consulteth whether he be able with ten thousand to meet him that cometh against him with twenty thousand? or else, while the other is yet a great way off, he sendeth an ambassage and desireth conditions of peace."

The right can often only be maintained by force and the great test of character for nations, as for men, arises when they are confronted by a dilemma which requires them either to risk their existence in a conflict for the support of what they believe to be right, or to commit moral suicide by acquiescence in what they know to be wrong.

This brings us to the definition of war-Wilkinson savs: "War is a form of political action, the only means by which a nation can assert against challenge its conception of right." Again "War is a part of policy, the means whereby a nation attempts to enforce its will upon another nation and to obtain its political object by force." Every negotiation implies itself that the pen is in one hand and the sword in the other. The pen and sword are the two mutually complimentary instruments of state policy-diplomacy and war. As a further illustration: "War is merely a means to an end; it is a piece of political action." No statesman in his senses would resort to violence and bloodshed if he saw a way to attain his object without them: still less would any prudent man wish his nation to make the sacrifices and run the risks involved unless he was satisfied of success. One of many definitions of war given by Clausewitz is as follows: "Violence arms itself with the inventions of art and science in order to contend against violence. Violence, that is to say physical force, is therefore the means: the compulsory submission of the enemy to our will is the utimate object. To attain this object fully the enemy must be disarmed-the real object of hostilities."

"War is not a science. It may rather be compared to a business for the successful management of which a number of sciences and arts must be mastered."

The popular belief regards war preeminently as the domain of luck and pluck. The strength and courage of the soldier and the genius of the general are thought to be the essential matters. In a higher view which embraces the whole subject, courage and right leading are consequences rather than causes are the result of sound management of a nation's affairs.

It is a generally recognized principle of war, that once war has been declared the method of its conduct should be left to the discretion of the Commander-in-Chief, who should be given a free hand in carrying out his plans, but unfortunately time after time the commander in the field has been interfered with from the seat of government, has had his plans thwarted and been faced with the alternative of either resigning his com-

[•]In an article entitled "The Monroe Doctrine—Its importance to our Military Policy," written by Major J. W. McAndrew, U. S. Infantry, and published in the *Infaniry Journal* for July-August, 1911, several months before Secretary Meyer made the statement quoted, the same principle is expressed as follows: "The Monroe Doctrine is just as strong as the military force behind it, and no stronger."

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mand nor of acting centrary to his best military judgment. Modern systems of communications will increase this tendency and cutting the cable will be of no use in these days of wireless telegraphy. Every war we ever had has shown numerous examples of this interference.

Behind the General is the Government and the best of leaders will be embarrassed and perplexed whenever, either in the preparation or during the course of a war, his government fails to know its own mind—that is fails to have a well understood policy.

The above discussions of policy and its relations to the war which may follow its enforcement shows the necessity of *First*, a definite well considered *policy*. Second, thorough and complete *plans* to be followed in enforcing the adopted policy; *Third*, supplying the means to carry out the plans, and *Fourth*, the absolute necessity of some governmental organisation to bring policy, plans and means into harmonious cooperation toward the common objective—the purpose of the policy.

In an absolute monarchy this co-ordination of effort is simple as all the elements—policy, strategy and preparation are under one head, the Monarch, who is often Commanderin-Chief as well. This simplifies difficulties and leads, under an able head, to great efficiency.

In our country the various elements are in different hands—Policy in the hands of the President and his Cabinet, Strategy in the hands of the military and naval experts; the providing of the means or preparation are largely in the hands of Congress; and to be successful each of these elements policy, strategy and means must, in a general way, be known to, and approved by the people to assure proper support. There is at present no organization by which cooperation, coordination; in short, unity of purpose and unity of action can be brought about.

There are two methods suggested for correcting this weakness of our government:

First.—To fill the offices of Secretary of the Navy an Secretary of War by carefully selected officers of Navy and Army respectively. This would harmonize policy and strategy in the Cabinet by bringing the Secretary of State, representing policy, in touch with strategy and the Military Secretaries in touch with policy; but is defective in that, while it might determine the means necessary they would not be in such direct contact with Congress as to assure that these necessary means would be provided. There is also the fundamental objection of our people to having military officers form a part of the Civil Government. A second and more popular method of overcoming our difficulties is by the formation of a Committee of National Defense made up of the Cabinet Members representing policy and strategy; of Army and Navy experts representing strategy; and of influential Members of both houses of Congress to represent means for preparation. This plan is now before Congress in the form of a bill to organize a Council of National Defense. The present bill did not include the Secretary of State and was weak in that respect, but has been amended to include him.

As National Defense is the highest duty of a statesman it is difficult to understand anyone objecting to serving on such a committee. This committee has the President as Chairman ex-officio. It is not to meet in time of war and will therefore not interfere with strategy. It is suggested that the bill should be further amended so that the Military and Naval Members form a joint Board of advisers to the President during the war. He must have such advisers and if selected during peace to make plans for war, for the success of which they will be responsible, the President will get much more valuable advice than from any voluntary or impromptu board he may be forced to rely on, if no legal one is provided.

Even with one of the above plans in operation we have no scheme for the education of the people so that the whole country would understand and support the Government in carrying out any of our policies. This cannot, under a system of party government, well be carried out by any official organization but must be left to some voluntary society such as the Navy League, which should receive direct encouragement and sympathetic aid from the government. Such voluntary organizations have their greatest use in time of peace—that is during the time in which we must prepare for war.

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We have several well recognized policies which in the course of time have come to be generally accepted by the people and by both political parties either of which may, under certain conditions, directly or indirectly, cause war.

Our well established national policies are as follows:

First.—"No entangling alliances." This was given its first formal expression in Washington's Farewell Address and has been referred to in many State papers since. It grew out of the difficulties with France during Washington's administration.

While undoubtedly the oldest, and probably, most generally accepted policy, its importance in relation to strategy and means has not been appreciated. This policy in its consesequences logically bars us from having the support of allies and, with equal logic, calls for such plans and preparations as will enable us to protect ourselves and our policies as against any other power or powers that may oppose them.

The next policy in point of time—"The Monroe Doctrine" was first formally announced by President Monroe in his message to Congress, December 2, 1823. This policy grew out of two distinct situations. Russia in Alaska and the plan of the Holy Alliance (Russia, Austria, Prussia) as expressed in the "Treaty of the Holy Alliance," Art. 1 of which announced their intention to "put and end to the system of representative governments in whatever country it may exist in Europe and to prevent its being introduced in those countries where it is not yet known." The country referred to was Spain and the plans included the Spanish Colonies in America which were then in revolt.

The two parts of the Monroe Doctrine appear in separate paragraphs in the message. The first part forms the concluding sentence of the paragraph referring to Russia's proposal for a settlement of the dispute between England, Russia and the U. S., as to the boundaries between Alaska, British Columbia and the Oregon Territory; it is—"In the discussions to which this interest has given rise and in the arrangements by which they may terminate, the occasion has been judged proper for asserting, as a principle in which the rights and interests of the United States are involved, that the American Continents, by the free and independent condition which they have assumed and maintain, are henceforth not to be considered as subjects for future colonization by any European powers."

The second paragraph refers to the threat of "The Holv Alliance" to re-establish the Spanish Monarchy in the revolted Colonies whose independence the United States had recognized. The substance of this part of the doctrine was expressed as follows: "We owe, it. therefore, to candor and to the amicable relations existing between the United States and those powers to declare that we should consider any attempt on their part to extend their system to any portion of this hemisphere as daneerous to our peace and safety. With the existing colonies or dependencies of any European power we have not interfered and shall not interfere. But with the governments who have declared their independence and maintained it, and whose independence we have, on great consideration and on just principles acknowledged, we could not view any interposition for the purpose of oppressing them, or controlling in any other manner their destiny. by any European power in any other light than as the manifestation of an unfriendly disposition toward the United States."

The doctrine as expressed in President Monroe's message has from time to time been explained and extended by various state papers. President Polk in a message of December 2, 1845, said, "It should be distinctly announced to the world as our settled policy, that no future European colony or dominion shall with our consent, be planted or established on any part of the North American Continent." This declaration by the use of the word "dominion" forbade the acquisition by conquest or purchase of any territory already occupied. In obedience to that principle France and Great Britain were more than once notified that the United States could not witness with indifference the transfer of Cuba and Porto Rico by Spain to any other European power.

France's intervention in Mexico was finally put an end to in December, 1867, by a notice to France that friendship with that nation must cease "unless France could deem it consistent with her interest and honor to desist from the prosecution of armed intervention in Mexico to overthrow the domestic republican government existing there and to establish upon its

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ruins the foreign monarchy which has been attempted to be inaugurated in the capital of that country."

Secretary Fish in a report to President Grant, published with the President's message of July 14, 1868, said: "This policy is not a policy of aggression; but it opposes the creation of European dominion on American soil, or its transfer to other European powers, and it looks hopefully to the time when, by the voluntary departure of European governments from this continent and the adjacent islands, America shall be wholly American." Secretary Fish then gives the basis of the claim, "The United States * * coccupy of necessity a prominent position on this continent, which they neither can nor should abdicate, which entitles them to a leading voice, and which imposes on them duties of right and honor regarding American questions whether those questions affect emancipated colonies, or colonists still subject to European domination."

President Cleveland in his special message to Congress December 17, 1895, in reply to the claim of the British Prime Minister that the Monroe Doctrine had been given a new and strange extension and development said, "The doctrine upon which we stand is strong and sound, because its enforcement is important to our peace and safety as a nation and is essential to the integrity of our free institutions and the tranquil maintainance of our distinctive form of governemnt. It was intended to apply to every stage of our national life, and cannot become obsolete while our Republic endures. If the balance of power is justly a cause for jealous anxiety among the governments of the Old World and a subject for our absolute non-interference, none the less is an observance of the Monroe Doctrine of vital concern to our people and their government. The Monroe Doctrine finds its recognition in those principles of international law which are based on the theory that every nation shall have its rights protected and its just claims enforced."

Commenting on the settlement of the Venezuela incident by Great Britain agreeing to our acting as arbitrator an English writer said: "It admits a principle that in respect of South American Republics, the United States may not only intervene in disputes, but may entirely supersede the original disputant and assume exclusive control of the negotiations." As illustrated above the Monroe Doctrine has grown with the growth of the country and now stands ready to adapt itself to all future developments. The change that has taken place is less in its outward form than its inward spirit.

It is taken for example to apply to Hawaii since annexation although not a part of the territory originally covered.

The latest extension of the Monroe Doctrine prohibits the acquirement and control by foreign steamship companies, etc., of coaling stations which might later be used by foreign governments as naval advance bases.

The third of our national policies to be considered is the so-called "Open Door" policy. In effect this guarantees "equal and impartial trade with all parts of the Chinese Empire." This policy was first announced by Great Britain in opposition to the "Sphere of Influence" policy according to which Russia, England, Germany, France and Japan had certain well defined areas in which their interests, influence, or control was to be primary and all others secondary. As the United States had no "Sphere of Influence" and would have been alloted no section of China, in case of partition, we stood to lose all trade opportunities in the greatest new market in the world. This state of affairs caused the then Secretary of State -the late John Hay-to send a note to Germany, with copies to the other powers, suggesting an agreement by Germany, that, in view of our treaty rights, duties, taxes, etc., should be the same for all nations in the lately leased territory and port of Kiao-Chow, and that the other powers had been requested to make a like agreement as to the Chinese ports under their control. All the powers finally agreed. The next step was a circular note to all the powers whose troops were then marching on Pekin requesting an agreement "to seek a solution which may bring about permanent safety and peace to China, preserve Chinese territorial and administrative entity, protect all rights guaranteed to friendly powers by treaties and international law, and safeguard for the world the principle of equal and impartial trade with all parts of the Chinese Empire." By the acceptance of all the powers this note prevented the partition of China and reaffirmed the policy of the "Open Door." Our govenrment showed its sincere support of the "Open Door" by applying it to

ur new oriental possessions, the Philippine Islands, where the United States products pay the same duties as those from other countries.

The fourth policy "Asiatic Exclusion" has only lately met with acceptance by the whole country. This policy is considered essential for the protection of American labor in the Pacific Coast States and the rest of the country have accepted it as a national policy although the people of some parts of the country doubt both its necessity and its wisdom.

The latest policy, not more than three years old, and the wisdom of which is still disputed by some of our people is "The exclusive military and commercial control of the Panama Canal." After a prolonged discussion Congress finally decided to fortify the canal, and passed laws permitting our coasting trade to use the canal free of tolls, while placing our vessels in foreign trade on the same footing as foreign vessels.

Each of the above policies call for particular plans and means to carry them out although the plans and means provided for one might serve perfectly in the enforcement of one, or more, of the others. In fact, were full and complete plans and adequate means provided to insure the carrying out of our first and oldest policy that of "No entangling alliances," or in slang: "Playing a lone hand against the world" we would be splendidly equipped to carry out each or all of the others.

Having provided through the Committee of National Defense to bring the policy, strategy and means together our remaining task is to insure the education and training of our Naval and Military Officers to make the best plans, to select the best means and methods with which to carry out these plans and most important to educate the people to understand and therefore to support the administration in its policies, the Congress in providing the means, our Commanders-in-Chief in the execution of the plans.

This will insure proper preparation which will, with a Nation in Arms, insure success in war should it come; but will, if well done, serve its higher purpose, that of keeping the peace.

THE NEW CAVALRY EQUIPMENT.

BY CAPTAIN EDWARD DAVIS, THIRTEENTH CAVALRY.

I N the September number of the CAVALRY JOURNAL, some of the more important articles of the proposed new equipment were described. In the following pages it is proposed to mention other articles which are less interesting, possibly, but nevertheless very important. Upon this basis of classification, it is appropriate to mention first the humble and down-trodden horse-shoe.

A WINTER HORSE-SHOE.

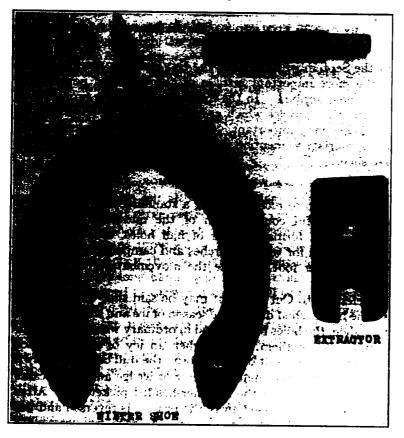
In addition to recommending a standard shoe for summer use, with careful consideration of the questions of weight, material, sizes, forms, number of nail holes, etc., the Board made provision for winter marches and campaigning, when ice and sleet under foot paralyze the movements of unprepared armies.

Referring to Cut No. 1, it may be said that the idea is to have the horses shod during the season of ice and snow with this winter shoe, the holes being closed in ordinary weather by keeping dull calks in them. Then when an icy or sleety surface materializes, as a result of some storm, the dull calks are drawn out by the use of the small extractor or wedge and sharp calks are put in by a tap of the hammer-headed picket pin. After the icy surface has passed away the process is reversed and the dull calks are replaced in the shoes. As each trooper carries sixteen ice calks, and one extractor, in his pommel pockets, he can prepare for slippery marching in a few minutes with no aid from the horseshoer, whilst the process of reshoeing the command with sharp shoes would consume several days.

Had our cavalry possessed these shoes and calks during the Civil War, the battle of Nashville, for instance, need not

have been postponed seven days on account of ice and snow under foot, in so far as mounted operations were concerned.

In making this special provision for icy going, we have been preceded by the Austrians who carry sixteen calks and a wrench, and by the French who provide sixteen frost nails.



CUT NO. 1 -- WINTER HORSE SHOE

The Japanese and Russians have also investigated this subject. One naturally asks why these calks do not drop out of the holes. They are held in place by the peculiar taper of the holes and plugs, an interesting mechanical phenomenon. In this connection it should be said that the holes in this winter shoe

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generally need a slight re-shaping of the taper after having been heated in the process of fitting them to the horse. For this purpose a small punch (See Cut No. 1) is provided and the horseshoer should always have several of these. The simplicity of these taper calks gives them a great advantage over the calks which screw into the horseshoe.

THE HORSESHOE NAIL.

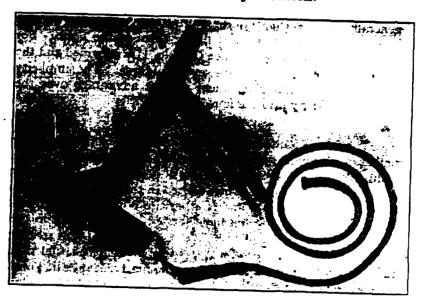
The Board found no particular objection to the horseshoe nail as now provided, but recommended a special nail for use in campaign or on field service in time of peace. As the ordinary nail is very liable to rust when carried in the field and then becomes difficult to drive, and is otherwise objectionable, it was recommended that the ten nails carried by the trooper in the field be electro copper plated. Tests have proved that rusting is thereby greatly lessened if not entirely eliminated, and that there are no objections either from the mechanical stand point or from the health stand point. It is understood that a similar copper plating process has given satisfaction for some time in the British Army.

STABLE HALTER.

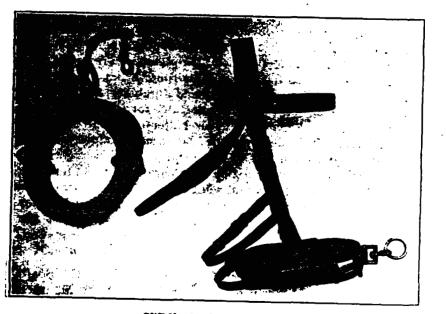
This is made of olive drab web. The cheek straps and nose band have a tensile strength of about 980 pounds and the throat latch about 650 pounds. Tin plated iron rings are used and where the web folds over these rings, a brass mesh reinforcement contributes to strength and durability. The web is round edged as that is more comfortable for the horse than is the square edged material. This halter costs but little and wears well. It is designed for the security of the horse in the stable and when tied to the corral picket line in garrison, as the halter bridle designed by the Board is intended for issue to each man individually and will be kept with his other equipment when in garrison. All things considered the web halter is better fitted to serve general stable purposes than is the present comparatively expensive leather halter.

CAVESSON AND LONGE.

The models of these articles recommended by the Board are practically those which have been in use at the Mounted Service School for several years. It was thought that each



CUT NO. 2.-STABLE HALTER



CUT NO. 3 .--- CAVESSON AND LONGE.

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troop ought to have two or three of these articles as an initial allowance. With the present progress of interest in and attention to horse training in the service, it would seem that time may bring a small increase in this allowance.

POMMEL POCKETS AND CONTENTS.

In size, location and use these articles are in no sense experimental and we are only availing ourselves of an article of proved efficiency. They are intended to carry certain necessities and their size fixes a limit to their contents. The material is bag leather.

In the upper right hand corner of Cut No. 4 we see the proposed canteen. This aluminum vessel, flasked shaped and slightly concave on one side was recommended by the Infantry Equipment Board⁴ and is a development of the canteen which we have known for some time as a part of Major Guy H. Preston's mess kit. It is fitted with screw cap top and its capacity in ultimate manufacture will be one quart.

The cup corresponds in shape to the lower half of the canteen, fits over the same and is provided with a folding handle of sheet steel, nickle plated. This handle, opened and fixed in position, makes a support for the cup when placed on the ground, contributing to its stability. The nested canteen and cup are carried in a canvas, felt lined cover, which is closed by two snap buttons which render the removal of the cover easy.

By placing canteen and cup in the pommel pockets the rattling, glittering and flopping of these articles, and constant swigging of water are avoided. A double hook attachment on the canteen cover fits readily into a sliding attachment on the belt, thus permitting easy carriage on the person of the dismounted trooper.

In the lower right hand corner of Cut No. 4 we see a small, light and powerful, but comparatively inexpensive wire cutter with which it is proposed to equip each cavalry soldier, including regimental and squadron staff and all troop officers. They are insulated so that they can be used against electrically charged wire. The distribution above indicated was thought to be more desirable than to give wire cutters to certain selected troopers because when the selected trooper is desired, in the critical moment, he is frequently absent. The great prevalence

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of wire fences, in these days render the wire cutter a very useful article of the trooper's equipment.

In Cut No. 4 we also see, below the articles of the mess kit, the canvas bag which contains the same. On the left of the canvas bag, the grooming cloth is shown folded, and in the upper left hand corner we see the cooling strap and below this in turn, the containers for leather oil and soap, the sponge, the

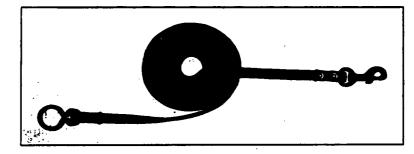


CUT NO. 4.-POMMEL POCKETS AND CONTENTS.

horse brush and curry comb, all of which were mentioned in the September number of the JOURNAL.

THE LARIAT.

The lariat recommended by the Board is fifteen feet long and the material is woven web, olive drab in color, with oval cross section. This latter feature is expected to lessen the liability of rope burns. The woven web has greater initial tensile strength (approximately 600 pounds and upward) than the present braided linen rope, keeps its strength longer and is more pliable. One end carries a snap for engaging in the halter ring and for use in uniting two or more lariats into an extended line. The other end is finished with a ring through which the picket pin is driven to secure the rope, and should the horse



CUT No. 5.-LARIAT.

pull up the picket pin and run, the pin will fall out of the ring thus avoiding the possibility of damage by reason of a picket pin flying through camp at the end of a lariat.

There are those who maintain that the great growth of rail and water transportation in every direction, during recent years, has created the probability that our cavalry in its future wars can look confidently to an ample supply of long forage, placed at the picket lines by the Quartermasters Corps, and, therefore, the resort to grazing will be unnecessary. This hopeful view has been blasted as recently as last year, when for several months it seemed that our cavalry was confronted by the easy possibility of service in a country strikingly barren of transportation facilities, in most districts. The theaters of land

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operations in the recent Russo-Japanese War and in the present Balkan conflict present the same dearth of railway lines with the consequent impracticability of maintaining an adequate - supply of long forage.

While grazing on the lariat has undoubtedly caused rope burns in numerous instances in the recent past, the fact remains that the lariat system was thoroughly understood and successfully practiced by the cavalry on our northern plains thirty years ago, and often for months at a time furnished the only means by which the horse secured his long forage. There are times, of course, when herding is practicable but this system has its disadvantages especially in the presence of an enemy.

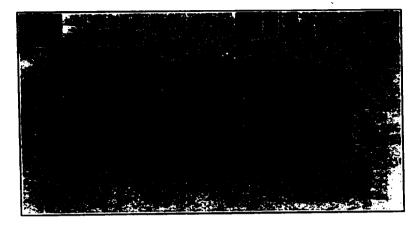
However, the lariat has other important uses, viz.; sustaining wagons on side hill roads or pulling them out of the mud, fastening raft and bridge timbers, establishing temporary picket lines, etc. For these purposes as well as for grazing, the lariat or some rope equivalent forms a part of the cavalry equipment of the following countries: Great Britain, Germany, Russia and Austria.

The picket pin recommended by the Board is shown in Cut No. 9, page 275, of the CAVALRY JOURNAL for September, 1912. In addition to its use with the lariat in grazing and as a handle to the several intrenching tools, its hammer shaped head and claw hook make it a good shoeing hammer, always available to the trooper for use whenever needed on the march, for shoeing purposes or to set and remove ice calks. This picket pin is of steel and weigh three ounces less than the present issue.

FOLDING WATER TANK.

This tank is of canvas with galvanized iron supports, the latter being jointed, thus permitting quick setting up or taking down of tank. It can be carried conveniently on a pack mule or wagon. Actual experience has shown that this tank is of particular convenience on practice marches during the dry season through thickly settled communities where, in the cities, small towns, or on the farms, the hydrants or wells are generally insufficiently equipped with tanks or troughs, and a command of any size not equipped with something like this canvas tank is handicapped by spending too much time in watering that

. . could just as well be spent in marching. The capacity of this tank is approximately 250 to 300 gallons, and ten or twelve



CUT NO. 6.—FOLDING WATER TANK.

horses can drink at the same time. It weighs about sixty pounds.

FIELD DESK.

This article is about the size and shape of a large suit-case, has a leather handle and is fitted with interior compartments suitable for blank forms and records. When open it has the usual desk slope. The material is wood, well reinforced by corner irons and hinge irons. This small field desk, if adopted will save much space in the wagons and will contribute toward the present attempt to diminish the amount of "book keeping on the firing line." The general form of this desk was developed by the Infantry Equipment Board.

RATION BAGS.

In Cut No. 8 we see the bags coupled together, ready to go on the saddle and in Cut No. 9 the same bags are shown laced tightly into the form of a compact knapsack. This change of form requires only about five minutes and permits convenient carriage of the rations and mess kit in case the trooper must undertake foot service for a few days or a longer period.

The ration bags are intended as containers for the rations

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prescribed in paragraph 207, F. S. R., 1910, to wit: "In campaign a command carries as a part of its normal equipment the following rations: • • By each man one emergency ration and one haversack ration; in addition, when combat is probable or the troops are liable to be separated from their field trains, each man starts with one additional haversack ration."

Because of the far extended and independent operations of cavalry no one can safely predict, in campaign, "when combat is probable," and, in view of the fact that cavalry is more





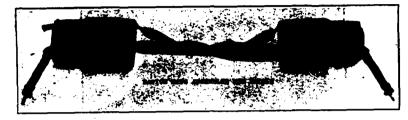


liable than any other arm to be "separated from their field trains," it will be observed that these ration bags will be much in use during campaign. They should be carried in the wagon much of the time, however, especially so in time of peace.

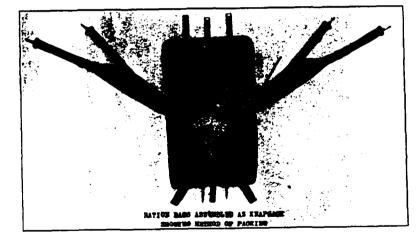
This method will be a distinct improvement upon the present practice of carrying rations in the saddle bags which are scarcely large enough for all the articles that they are supposed to contain during campaign and are far too large on all other occasions. Heavy No. 1 canvas is the material used. Each pair of bags contains a small bacon bag and also four leather thongs for making a dismounted pack and for other uses.

LUMINOUS DISC.

In conducting night attacks, one great difficulty is the inability of men in column to keep in touch with the leader. The luminous disc is intended to overcome this difficulty.



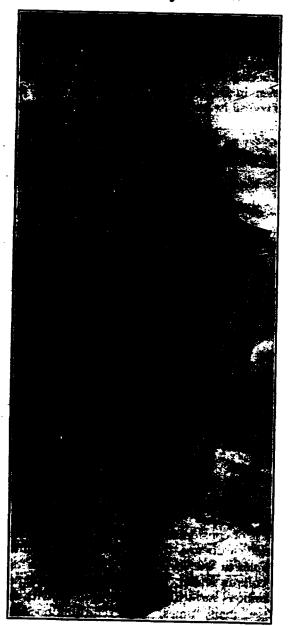
CUT No. 5.



CUT No. 9.

The disc is of considerable brilliancy. It consists of water proof Willesden cardboard, thickly coated with luminous paint, with eyelet holes at the corners for attaching the disc to the back of the column leader, by means of string or tape. When dirty, the luminous surface can be sponged off with luke warm water and used many times. To excite luminosity, the disc

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CUT. No. 10 .- LUMINOUS DISC.

must be exposed to bright light. A small amount of luminous paint is provided for refreshing the disc.

The cut shows the idea very clearly. A considerable number of officers can personally recall instances when such a device would have contributed largely to precision and expedition of night operations. The disc would of course, be a more essential part of infantry equipment than of cavalry. By way of a little pleasantry, it is difficult to repress the remark of a friend of mine who observed that if a hasty retreat should be necessary, the man with the luminous disc on his back would be in hard luck.

LUMINOUS COMPASS.

The use of such a compass is essential to accuracy in following a given direction across country on a dark night; in assisting in placing troops in position and in other similar operations at night. Other governments are giving serious attention to such devices. The needle of the compass recommended is made luminous by a radium treatment and needs no exposure to sun light, magnesium or other light. Its efficiency was determined after tests of considerable length. Owing to the factor of expenses, it is probable that these compasses would be limited in issue to one each per regimental and squadron commanders.

BLECTRIC FLASH LIGHT.

It was thought that it would be a good idea to issue to each troop of cavalry one coat-pocket electric flash-light of the most durable type. It will be very useful to troop commanders in conducting night operations, reading communications, examining crossings, banks of streams before fording, etc.

TROOP PACK OUTFIT.

It is a fact that a great many troops in our service have adopted some form of pack saddle, or some rigging for the service saddle, by means of which a spare horse is used to transport a field picket line, with pins and sledge hammer, as well as various other articles which are considered advantageous to have with the troop, regardless of the movements of the wagon train. Recognizing the very general adoption of these improvisations it was deemed a good idea to provide a standard

article which would meet the necessities of the case. An aparejo has been recommended, which is easily converted from the type now issued by the Ordnance Department. It is specially designed for a short chunkily built horse rather than for a mule. The following articles constitute the troop-pack and are carried on this aparejo: (a) one three-quarter inch, field picket line, 250 feet long; (b) five iron picket line pins and a sledge hammer, (these latter all securely carried, for convenience, as a side cargo, in a box called a "*pin and hammer chest*"; (c) a wooden pannier or box, containing tools for the horseshoer and saddler and about three days supplies for the farrier; (d) eight folding canvas water buckets. This outfit renders a troop quite independent of a wagon train for several days.

On this aparejo any cargo can be carried that the ordinary aparejo will accommodate. For example, instead of the picket line, pins and hammer, there may be substituted a compact field cooking kit arranged by the Board and consisting of certain selected boilers and utensils which will easily suffice for a command of 100 men. This is carried as a side cargo opposite the pannier containing the horseshoer's, farrier's and saddler's supplies.

This cooking kit weighs about 55 pounds, while the entire field range weighs about 228 pounds, exclusive of aparejo, which is too great a load.

WHITE STABLE CLOTHES.

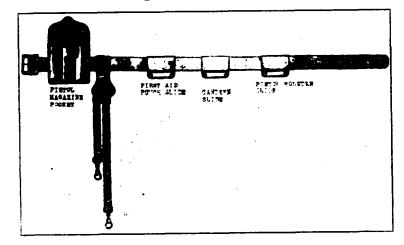
A troop of cavalry or battery of artillery clothed in multicolored brown fatigue clothes, with a blue jeans suit of overalls here and there, presents an appearance which is certainly not an agreeable spectacle, and is, in the opinion of many, unsoldierly and discouraging. The return to white stable clothes was therefore, recommended not merely upon the ground of military and neat appearance but for hygienic reasons. When white clothes are dirty it is very evident, while the cleanliness of brown clothes is frequently an optical illusion covering a multitude of sins.

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THE OFFICER'S BELT.

The leather belt has long given satisfaction in the cavalry service and the Board deemed it more economical in the long run than a web belt. It was decided therefore, to favor the retention of the present leather belt, with the addition of certain slides and attachments for the carriage of necessary articles of equipment, according to character of service or duty. Cut No. 11 shows the belt arranged for field service. For garrison duty



CUT NO. 11 .--- OFFICER'S BELT.

all of the attachments shown would be taken off the belt, with the exception of the saber slings. As the slides can conveniently be left attached to the articles to which they pertain, the likelihood of losing them is not so great as might seem at first glance.

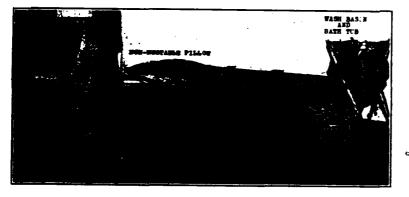
OFFICER'S FIELD KIT.

This field kit was recommended for favorable consideration on the ground that its adoption would attain uniformity of officer's baggage throughout the service, thus contributing to exact knowledge, as to bulk, etc., when loading wagons and other transportation, while at the same time this kit is more convenient than any other on the market.

All the various articles seen, fold up and are packed in the bag which is made of heavy canvas and is thirty-eight inches

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in length, thirteen inches heigh and seventeen inches wide. The bag is closed by straps and has a lock and key. It can be opened inside a tent and all articles taken out and set up, thus avoiding the present awkward method of unrolling the baggage roll. The articles are made of excellent material and appear to be very durable. They consist of a field cot, bucket, bath tub, wash basin, pillow, chair, ground sheet, and a hanger for attachment to the tent pole. The bath tub is an ingenious. though simple affair. The pillow is stuffed with a non-mustable substance. The ground sheet is a combination rubber and



CUT NO. 12.-OFFICER'S FIELD KIT.

khaki cloth and serves equally well as a sun shade or water shed. The particular outfit shown is called the British Officer's Field Kit and is the result of British experience in India and elsewhere. There appears to be no reason why all of these articles can not be made in the United States, unless it be that we cannot get an equivalent grade of canvas.

The total weight of this kit is between fifty-four and fiftyfive pounds, which leaves a margin of twenty pounds for blankets, extra clothing, etc., to the officer of the junior grades whose field train baggage allowance is seventy-five pounds.

BUGLE.

The bugle proposed differs from that now in use by the field artillery only in its finish, which is brass, sand blasted. The sanded brass finish gives a dull non-reflecting surface; it might be called an olive drab colored metal. In comparison with the present trumpet this bugle seems preferable because it is lighter, smaller, more convenient to carry, more powerful and penetrating in tone and sufficiently easy to blow.

Instead of the present cord and tassels, the bugle sling proposed is made of leather, and a separate strap secures the mouth piece to the bugle itself.

CONCLUSION.

Under this head it is desired to refer to photographs of the saddle which appeared on pages 278 and 288, in the September. 1912, number of the CAVALRY JOURNAL. In these photographs the buckles of the girth are shown below the lower edge of the skirt and possibly some may have inferred that this is the normal position of these buckles. As a matter of fact they happen to appear so because in taking those particular photographs it was necessary to make a long exposure in order to bring out all the details, thus necessitating the use of a display horse instead of a live horse. As the display horse was unusually large the buckles were thus brought into this unfavogable position as the girth happened to be of the shortest length. In actually using the equipment the girth buckles will move up into place well under the skirt.

Some of the articles recommended by the Board and not mentioned in the present series of notes on equipment are the pistol holster which has been issued to the service to a considerable extent; the bacon box and condiment box, each used as a container for the articles which their names respectively indicate; the breast strap, if troop commanders so desire for certain horses; and the folding lantern, four of which are recommended for each troop. Altogether about 120 complete articles were acted upon.

It is understood that the new equipment will be given its service test by certain troops of the Eleventh Cavalry. Not in many years has so great a responsibility as this been thrown upon troops of our cavalry service in time of peace. The officers and men concerned will have much to do with the ultimate decision as to acceptance or rejection of an equipment which is the outgrowth of the recommendations of several hundred officers of the mounted services, coordinated and de-

veloped by the special study of a Board during a period of two years² intense application, and representing the expenditure of a very condiserable sum of money.

The photographs and descriptions in these two articles on equipment have been submitted solely for the purpose of presenting information to all who are interested along these lines and not with the idea of starting a discussion which would have as its aim the alteration of any of the models presented. The time has passed for discussion which seeks that end. It will be recalled that all officers of the mounted services were urged, and especially encouraged, to express themselves frankly with regard to equipment, at the time the Board began its labors. Hundreds did so. It may safely be assumed that the equipment as produced is a normal reflection of the average progressive idea among the officers of our mounted services, though, of course, not in minute accord with the particular wishes of many.

We ought, therefore, it seems to me, await the verdict of the jury as to the facts, without beginning the argument all over again. The jury in this case appears to consist of the War Department and the officers and men of the troops who are now using the equipment. The facts are represented by the results which the equipment itself, given careful and reasonable treatment, will or will not produce. After all, the equipment will have to speak for itself, but, like any other infant, it will need a little time, and maybe a little encouragement before it will begin to talk. + Reprints and Cranslations.

THE NEW RUSSIAN CAVALRY DRILL REGULA-TIONS.*

PART III-BATTLE.

GENERAL INSTRUCTIONS.

THE cavalry must be prepared to strike the enemy heavy and decisive blows, and, in order to accomplish this end, it should not allow itself to be deterred from accepting heavy losses. The result of a cavalry fight may depend, more than upon anything else, upon the moral effect which it produces upon the enemy and for that reason every cavalryman from the commander down to the last trooper in the ranks should enter the charge with the determination to engage the enemy hand to hand. Surprise, decision, team-play, zeal and fearlessness are the chief conditions which lead to success in a cavalry charge.

"Mounted action is the most important function of cavalry." Dismounted action supplements mounted tactics when the nature of the ground or the requirements of the mission makes it inadvisable to risk mounted action.

Cavalry may be assisted in action by artillery, machine guns and occasionally by infantry.

The committal of the entire force to dismounted action, or its use by small bodies should not be permitted. A combination of mounted and dismounted action may frequently be resorted to with excellent results. Cavalry must not forget

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^{*}Translated from the Kavalleristische Monatshefte for September, 1912, by Captain G. W. Moses, Fifteenth U. S. Cavalry.

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that any advantage which it may obtain from dismounted action is secured at the expense of the offensive.

A plan of action having been decided upon, a cavalry leader should make his orders clear, decided and irrevocable.

In the cavalry, the personal example and individuality of the commander is of superlative importance. The regulations lay stress upon the fact that of all the qualities of leadership, decision of character is the most important. Of all mistakes the only ones which are inexcusable are those of indecision and failure to go to the support of other troops.

Cavalry conducts its march in one or more columns. Each column should provide for its own security Upon nearing the enemy, the forces must be concentrated and a battle formation, suitable to the terrain and the general plan of attack must be secured by maneuvering. Last of all comes the attack itself and the pursuit.

Marching on good roads is much pleasanter and faster than marching across country, therefore, so long as the remoteness of the enemy permits, cavalry should remain on the road, bearing in mind, however, that there is great risk in remaining too long, since it may be struck while in the act of deploying. Just as soon as the enemy approaches, the column of march must be shortened and, if the road formation is still resorted to, the extended column should be preceded by a broad advance guard formation. In any event the artillery should remain on the road as long as possible under protection of cavalry scouts. In case that battle is imminent, the leader will in this way, keep his forces so well in hand that the participation of all of them in the battle will be guaranteed. While the vanguard is marching out to cover an impending attack, other detachments with artillery and machine guns may be sent out. These detachments may be successfully employed on foot.

Cne of the important duties of the advance guard is to develop the situation. When the advance guard has succeeded in driving back the more advanced forces of the enemy it should hold what it has gained at all hazards whether its function has been merely to cover the deployment of the troops in rear or to seize the exit of a defile in order to gain room for the deployment of other troops.

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Whatever may have been the results of previous reconnaissance, cavalry must continue it with great energy as soon as it begins to deploy for battle, this for the purpose of keeping in touch with every change in the situation on the battlefield. It must also remember to so place detachments as to protect the flanks and rear.

For nearby reconnaissance, combat patrols of selected men will be sent out under officers. Their mission must be clearly defined. They remain constantly in touch with the enemy and observe his movements.

"The commander of the patrol must deliver the most important information to his commander in person."

Before reaching his decision, the commander-in-chief of the cavalry should verify and supplement all reports by a personal reconnaissance. For this purpose, he should hasten forward and place himself in such a position that he will be able to follow every change in the dispositions and retain control over the situation. He should also keep his subordinates oriented concerning the progress of the fight and his own dispositions in order that they may intelligently work together in furtherance of the general plan. In like manner must the subordinates mutually inform one another as well as their commander of any intelligence which they may secure concerning the enemy and the terrain.

Since the outcome of every mounted charge depends very materially upon the condition of the horses, all movement should be planned with forethought, so that the emeny may not be struck with winded horses. This anxiety about the horses must not, however, go so far as to tempt one to inactivity.

MOUNTED ACTION AGAINST CAVALRY.

"It is one of the absolute rules of warfare, that the activity of our own cavalry varies inversely with that of the enemy. Therefore, the first duty of our cavalry is to defeat that of the enemy whenever the nature of its mission permits." It is a peculiarity of mounted action, that, owing to its impetuosity, after a charge is once begun it is broken off with great difficulty.

Here is an old rule which we are going to quote once more: "A true cavalry leader never loses the initiative." For this reason the result of a mounted action depends upon the following: (a) Make the first attack and make it quickly and energetically not only against the enemy's flank but even against his rear; (b) While pushing the charge with the greatest impetuosity, keep out at least one reserve which has not been committed to the charge for use at the decisive moment at the most effective point.

When a battle is expected, the forces must be concentrated. Large bodies of cavalry are usually organized into brigades or divided into groups of different strengths with varying distances between them according to the conditions which influence their ability to support one another, and the amount of room available for maneuvering these groups on suitable terrain. When it is necessary to adopt this scattered formation, the various groups must not fail to keep in touch with one another. A cavalry corps may be considered as concentrated when its divisions are not separated by more than two or three kilometers. Concentration must be accomplished under cover.

In a position in readiness, the forces are also kept concentrated.

The decision of the commander is reached only after personal reconnaissance. For this reason he must hasten forward to a commanding position from which he can observe the dispositions of the enemy and get a good view of the battlefield. From this reconnaissance, together with the reports which he has received from patrols, he will make his decision for the preliminary dispositions and, finally, for the attack itself. By this means, he will be able to make proper dispositions for striking the enemy in the most vulnerable spot. It is not desired that he waste time in an investigation of all details, but that after a *coup d'ocil* he should make up his mind where to attack and then show a determination to push it with impetuosity.

The advance guard must be arranged in echelon and advance from position in order that the flanks may be properly protected and patrols have the necessary time to collect information and get it back to the main body.

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When passing through a defile in the presence of the enemy the advance must be covered by special detachments supported by artillery fire or position fire from dismounted troops. So long as the enemy's position is not accurately determined the advance should be made at a moderate pace with patrols feeling in all directions and the troops formed in echelon or in line of columns with reduced distances and intervals between elements. In this way the detachments are certain to remain under the control of the commander, their strength is husbanded for the moment of concentration and time will be gained for the deployment.

As soon as the conditions have cleared up and the commander has decided upon his plan of attack, the advance should be hastened. The heavy detachments are thrown out and assigned their various tasks. Once the attack has been decided upon, rapidity of advance and impetuosity in the charge is of more importance than concealment. Individual bodies of troops are so maneuvered that some are thrown upon the front, others upon the rear and others upon the flanks of the enemy. If practicable the troops should be so maneuvered as to bring these bodies into their designated preparatory positions under cover.

As a rule strong forces can only be shifted toward a flank by making a wide detour and taking every advantage of the terrain. Undoubtedly the enemy may occasionally be approached by celerity and dexterity alone and even flank movements may sometines be made in this manner.

The change from the preparatory disposition to the attack itself must be made promptly with the greatest rapidity. Orders for it should either be given by the commander in person or they should be delivered through an "orderly officer." These orders should contain: (a) The Commander's intentions; (b) The present distribution of all forces, friendly or hostile; (c) The position to be occupied by each of the organizations and the mission of each. After receiving these orders the organization commanders orient their subordinates and then proceed to accomplish their mission.

"Under all circumstances the highest commander must keep a reserve under his immediate control." This is of the greatest importance because, in the majority of cases, this is the

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only way in which he can hope to have that absolute necessity, a fresh body of troops, at his disposal at the decisive moment. For this reason he must exercise great foresight in the employment of the reserve, being careful to hold it until that decisive moment shall have arrived.

The flanks are the most vulnerable parts of the fighting line. They can be protected by the terrain, by neighboring troops or by means of detachments thrown out for the purpose. Every detachment should consider itself in duty bound to protect the flanks whenever it finds it is needed and free to do so.

During the earlier stages of the deployment, the attack must be prepared by artillery and machine gun fire. This is also the time when the formation of the Lava by mounted or dismounted detachments should usually begin.

A successful result can only be assured when each separate detachment endeavors to carry out, by the means best suited to the conditions under which it finds itself, the general plan as outlined in the commander's orders.

It is by means of the mounted charge that we should seek to penetrate the enemy's line and to deliver the decisive blow.

The concentration of the detachments indicates that the commander has decided to strike the decisive blow and by means of their united action to appear so formidable as to gain an important moral advantage over the enemy. It is proper to remark here that the sooner the horses are put on the full run the more difficult will it be to secure cohesion at the moment of contact.

The best distance at which to begin the rapid gait is from 300 to 100 paces from the enemy.

After the charge has once been launched there is no time for thoughts or plans other than overthrowing the enemy with the horses and then sticking and cutting him with the saber. The commander must lead in order to set a good example. The mêlée which follows the charge is of short duration and its result depends upon the boldness and dexterity of the individual horsemen and upon the mutual support which is rendered by the detachments.

The appearance of fresh troops in the fight exercises an

important moral effect. It produces an effect of superiority which encourages our own troops and demoralizes those of the enemy. By this means the result of the fight will often be decided.

It is important that the leader keep his troops so well in hand, that immediately after completing a charge against one body of the enemy they may be immediately lead against the enemy in a different location or victorious detachments may be quickly sent in pursuit.

Detachments which are not required in the main fight should operate on the flanks, a long persistent pursuit of the defeated enemy must be provided for. This mission usually falls upon the reserve. The pursuit must be so organized that the commander will at all times have some formed troops ready to meet any fresh troops which the enemy may be able to send against him. Therefore, if all the troops have taken part in the fight, the commander must recall a part and hold them under his personal orders.

Cavalry may be compelled to remain on the defensive when its mission is to act as a covering detachment for infantry or after the enemy's cavalry has established its superiority. In this case proper utilization should be made of the terrain and fire action should be employed with a view to gaining time by causing the enemy to deploy. Some of the forces even then should be kept mounted and seek an opportunity to attack the enemy especially by movements against his flanks.

By a combination of every kind of fighting of which the cavalry is capable, the offensive must at all times be retained and there should be an ever-present, unshakable determination to keep continually active.

MOUNTED COMBAT AGAINST INFANTRY.

Cavalry can fight infantry mounted when the following conditions are to be found:

1. When the hostile infantry is under a well distributed and furious fire from friendly infantry.

2. When difficult local conditions in the terrain will delay and exhaust the infantry before the fight.

3. When the infantry has an open and widely extended battle formation. When none of these three conditions exist, mounted action against infantry is very difficult. In other words, a mounted attack against infantry is not likely to succeed unless the infantry is surprised, or shaken by fire or has its attention concentrated on other detachments. Accordingly the cavalry must never fail to attack infantry in the battle.

On account of the impracticability of engaging the enemy along his entire front, the cavalry should, as a rule, only attempt to strike a part of the line. If the hostile infantry is not already shaken, the attack must be prepared by artillery fire. The direction of the attack must be so chosen that the terrain offers the least possible delay and the infantry detachment against which the attack is made will screen the fire of its supporting troops. It is better to occupy the enemy in front by means of the Lava while enveloping one of the flanks.

There are two conditions which govern the formation which cavalry should adopt for the infantry attack:

1. To so form for the attack that all detachments which could bring fire to bear upon it are attacked simultaneously.

2. A formation which will permit of repeated blows quickly and vehemently delivered by detachments which are led with great energy and determination.

In most cases from one to two squadrons will be led against each company of infantry. They should be in several lines formed in echelon.

The reserve is so placed as to permit of its employment either as a support to the attacking line or to ward off hostile cavalry which has been hurried forward to the support of its infantry.

When the cavalry decides to attack, this resolve must be communicated to the commander of the infantry and artillery to enable them to take advantage of any conditions which may result from the attack.

When practicable the attacking line should be formed under cover.

In order to diminish the effect of the hostile fire the troops must be kept well separated and be ridden with great rapidity, over open, level ground the last four kilometers should be crossed

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at a gallop. If a favorable opportunity presents itself a short distance should be ridden at a slow pace to breath the horses.

The attack on shaken infantry promises a successful result. It is very important to promptly make use of every propitious moment for such a moment seldom returns. The proper selection of the direction of the attack on shaken infantry is important, for unexpected delays give the enemy time to recover. What formation is adopted is almost of no consequence and the repetition of the attack is usually superfluous. A reserve is necessary to guard against surprise or to support other friendly detachments. Cavalry, when attacking infantry, should not mask the fire of its own infantry or artillery when they would contribute to its success.

THE MOUNTED COMBAT WITH ARTILLERY.

When artillery is formed for action, it is very strong toward the front but quite weak toward a flank. It is, therefore, advantageous to occupy artillery in front with skirmishers while attacking it in flank or rear with the main body. It is also well to attack artillery with an irregular front, since it interferes with the aim on a moving target.

Cavalry can sometimes drive artillery from a covered position with little loss even from in front, by taking advantage of dead spaces.

If artillery is charged from in front without cover, the extended gallop should be taken when three to four kilometers distant from the artillery, and the columns should be formed in echelon with three hundred yards between lines, this so that no two detachments will be hit by the same shrapnel. The first line may be thin and weak; the succeeding line should be thicker and stronger. At first the reserve follows in line of columns, changing as it nears the enemy to line and then to open order. The mission of the reserve is to strengthen the attacking line and to be ready to quickly ward off hostile detachments.

The employment of the Lava against artillery promises success.

A single hostile battery should be attacked by one or two squadrons. Special detachments should be sent against the

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escort. The attention of neighboring hostile troops must be diverted by means of fire or dismounted action in order to prevent them from coming to the support of the artillery.

Artillery on the march or going into action is easy prey for the cavalry.

In order to render artillery of no further use to the enemy it must either be destroyed or carried off. The limbers, caisson and harness ought also to be carried away.

Sometimes an attack must be threatened in order to draw the hostile artillery fire and thus render necessary aid to other troops.

The fight is conducted against machine guns in the same manner as against infantry. Artillery will be very effective against machine guns if they are visible and within the effective range of the artillery.

DISMOUNTED ACTION.

On account of the great effect of modern fire arms, dismounted cavalry may be employed either offensively or defensively against either dismounted cavalry or infantry and when so employed, the machine guns acquire particular importance.

Offensively, dismounted cavalry is employed:

To seize an important position or a defile.

To surprise the enemy while in column of march.

To unexpectedly attack the enemy while in camp, bivouac, etc.

On the defensive it is used:

To delay the advance of the enemy's cavalry when its superiority is known.

To force the deployment of an advance guard of all arms. To act as a support or screen for the remainder of the cavalry while it is forming for mounted action.

To hold off the enemy if he attempts to disturb the camp of our own troops.

The fire fight of dismounted cavalry is quite different from that of infantiy. In the first place, the allowance of ammunition (40 rounds) is too restricted to allow an extended fight. For this reason, dismounted cavalry on the offensive, must at-

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tack quickly at short range. Cavalry on the defensive should attempt to bring a large number of rifles to bear while the enemy is still a long ways off. The cavalry will, therefore, occupy a much wider front than infantry and the groups will be so distributed as not to give too great depth.

The mobility of the cavalry enables it to undertake wide turning movements and to quickly break off an engagement in one place and reappear in another.

The personal reconnaissance of the commander must precede every dismounted action and it must be continued so that he will be able to supervise the entire action.

While these regulations recognize the characteristic attributes of cavalry which render it easy to surprise the enemy, they require that the preparations for dismounted fire action be made without undue haste while still beyond the range of the enemy's guns and that rapid riding be resorted to as the exception, except when it is necessary to beat the enemy to some important position. It is desirable to make the approach under cover. The horse holders should also take cover, when practicable.

Good fire discipline requires rapid and effective individual fire at the short ranges, especially against moving targets. Ammunition must be judiciously expended.

"The attack must be entered upon with the fixed determination to bring the bayonet to the test."

If the attack progresses favorably, the enemy should be followed by fire as well as pursued mounted. The horse holders should follow closely behind the attacking line.

For the defensive fight, the first line should be so placed as to have a good field of fire to the front and flanks and good cover. If time permits, the foreground should be cleared and distances marked. The position should not permit the enemy to secure an enfilading fire.

The greater the distance from the enemy or the better the cover, the easier it will be to withdraw from action. It is very difficult to withdraw under fire in an open country, if the enemy is nearer than one thousand yards.

Dismounted cavalry should, if its mission permits, avoid actual contact with the enemy. Thanks to its mobility, it

can occupy a position, unexpectedly open fire on a stronger hostile force and, as soon as the enemy has deployed, mount up and ride to another position. If the fire fight is conducted according to these principles, the enemy will suffer severe loss, his ranks will be thrown into confusion and he will be turned from his proper direction and his advance will be delayed.

EMPLOYMENT OF THE HORSE ARTILLERY.

Artillery fire is noted for its effectiveness at long ranges, its accuracy and rapidity of fire and its great moral effect The cavalry must employ these characteristics of its horse artillery so as to secure the best results.

The horse artillery must be so placed in the column of march and so handled when going into action that it can be effectively used with the least practicable delay should it be suddenly needed.

Artillery is useful for the development of a position.

Horse artillery makes it practicable for cavalry to operate under all sorts of conditions.

Even in the exceptional case where it is possible to employ but one gun, the fire effect of that one gun may be of great value.

The artillery commander usually rides with the cavalry commander during the preliminary arrangements for the fight; after that he goes where he considers he is most needed but, wherever he goes, he must be careful to retain close connection with the cavalry commander.

"When firing on mounted troops the horse artillery should use *rafales* of direct fire." Covered positions should not be taken unless it can be done without loss of time or compromising the mission.

Sometimes it is advantageous to place the artillery in positions which are inaccessible to the enemy's cavalry, but this is not advisable when its own mobility is seriously affected. Flanking positions are also sometimes convenient if too much delay is not caused in occupying them; but far more important than anything else, the artillery must get somewhere in time to support the cavalry.

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"In all great cavalry engagements, the artillery preparation must always precede the attack!"

Just as the advance guard begins the developing attack, the artillery may have an opportunity to open on undeployed columns.

The artillery should make it a rule to select as a target, that force of the enemy which is the most immediately threatening. This at first will probably be the hostile artillery. As soon as the hostile cavalry comes within effective range our artillery should open on it. Should it take cover, the fire will be again directed against the hostile artillery. This last also becomes the only possible target if its fire becomes too effective against our own cavalry. If there is but little prospect of causing serious loss to the hostile artillery it will be foolish to indulge in a long artillery duel which will accomplish nothing except a waste of ammunition.

A cavalry fight develops so quickly that an artillery commander must keep awake or he will find himself attacked in flank or rear or shot into while unlimbering.

An artillery commander cannot wait for orders at the beginning of an engagement. Fire direction, fire control and the selection of a position are all peculiarly his affair and he will be held responsible that he is always prepared to deliver the fire at the time and place required by his own cavalry.

If the enemy is defeated, he must be pursued with fire. For that reason, whenever necessary, the artillery should be advanced in echelon from position to position.

If the attack fails, the artillery must fire into the pursuing detachments of the enemy. Here also the artillery commander must decide whether to remain where he is or to change to a position further to the rear.

In supporting an engagement with dismounted cavalry the artillery should always select a position for indirect fire. The commander must remember that too much haste in opening fire will betray his own disposition.

At the beginning, the target must be the hostile artillery. After a time a part of the fire may be diverted against the main point of attack but it will be necessary to keep at least a part of the guns continually playing on the hostile artillery. When

our own troops get too close to the enemy to permit of firing over their heads, all of the fire will be directed against the hostile artillery, neighboring troops or the supports.

The horse artillery should always be furnished a special escort from its own cavalry but, should this not be done, it becomes the duty of all troops to furnish it an escort. Even when it is well known that the artillery is provided with an escort, all troops within striking distance must go to its support in case of danger.

OPERATION OF MACHINE GUNS.

From their nature, machine guns can be best employed at the closer ranges. Nevertheless, there will be opportunities in cavalry fights for the correct employment of machine guns at ranges of more than two kilometers. For example—to shoot into the more advanced forces of the enemy during an attack, or to compel him to deploy prematurely, or to catch him unexpectedly and to punish him severely before he recovers from the surprise.

It is customary to employ machine guns in pairs and it is unadvisable to draw the hostile artillery fire by placing more than four guns in any one position.

Each pair of machine guns represents the same fire effect as a squadron of cavalry of one hundred and sixty men. The employment of machine guns is especially profitable in the advance guard. (This remark applies to larger operations. With small forces, they may prove a positive detriment by interfering with their mobility.) It is usually advantageous to assign machine guns so that each battery will have a sector wherein it will be expected to operate and within which it will be required to cover the movements of its own cavalry. Machine guns can be of great assistance to cavalry when fighting on foot. This is especially true on the defensive when there is a point, as a defile, on which it is desired to obtain a heavy concentrated fire.

The successful employment of machine guns in dismounted action requires the machine guns to remain concealed until the decisive moment and when they do reveal their position, they should make their presence count. Machine gun fire on con-

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cealed and entrenched hostile forces, or a duel with hostile machine guns is foolish.

Machine guns should not only be masked, but their positions should be frequently shifted and in large bodies, most of them should be held in reserve until the time comes for their employment.

It is impossible to lay down any hard and fast rules for their employment but it may be said that in general the same rules govern the use of machine guns as those applied to the horse artillery.

Alertness and quickness of decision and dexterity in their use early in the action are necessary to produce successful results during a mounted fight, for the progress of the fight is so rapid that there is no time for hesitation.

NIGHT ATTACKS.

Cavalry cannot avoid night engagements. It must be prepared to fight mounted in the dark as well as dismounted. The difficulty of orientation as well as the difficulty of troop leading, usually confines night fighting to small bodies of cavalry.

Night fighting is the most liable to occur under the conditions arising in the service of security and information, small wars, and during the pursuit.

The ineffectiveness of the hostile fire, the effect of darkness on the morale of the enemy, his fear of surprise, and the impossibility of concentrating his forces, all combine to make a carefully prepared night attack successful. The plan of attack and the troop leading problems involved must be very simple.

The success of the undertaking requires—concealed and secret approach, the greatest caution, sufficient information concerning the emeny and the terrain, surprise in the attack, careful explanation of the plan and orientation of every one. Firing must be resorted to as a protection against surprise by the enemy but it must only be done by command and then by volley, in order to keep every one under control. Artillery is too noisy and should not accompany troops on night expedi-

tions. In order to provide against all contingencies, a rallying point to the rear should always be designated.

In preparation for night engagements, night marches will be frequent in modern wars. The conditions of our times and the development of aerial navigation will make such operations a necessity, if we would surprise and unexpectedly attack the enemy.

CAVALRY WITH ALL THREE ARMS.

When acting with the other two arms the employment of cavalry presents the following problems:

1. To station itself either on the enemy's flank or well out on the flanks of its own troops in order to occupy a position from which it may operate against the flanks or rear of the enemy's position. This requires that it first defeat the enemy's cavalry.

2. Protecting one or both flanks of its own troops.

3. Gaining important positions to the front or on a flank at some distance from the main position.

4. Reconnaissance to the flanks and rear of the enemy.

5. Filling up gaps in the fighting line.

6. As reserve to attack the enemy at the decisive moment either for the purpose of breaking his final resistance or of covering the defeat of its own troops.

7. Pursuit of the defeated enemy.

"Since cavalry can only expect success when operating in large bodies, the dispersion of its forces must be avoided. The divisional (or corps) cavalry must keep close to its infantry and watch the progress of the battle in order that it may reap the full benefits of victory or ward off the destruction which might follow defeat."

It will often happen that, in cooperation with the other arms, the cavalry will be too far out for it to receive orders as to what it is expected to do. For that reason the cavalry commander must not await orders but when an opportunity presents itself, he must act as he believes will best subserve the interests of the whole.

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PURSUIT AFTER VICTORY AND PROTECTION AFTER DEFEAT.

Of course every victory must be followed by a pursuit; in that way only can the full fruits of the victory be reaped. Therefore, an effective pursuit is of the greatest importance and it is the special duty of the cavalry to follow the enemy to the last breath of man or horse. Neither day nor night should constitute a boundary line against the pursuit.

"When the battle is nearing its close, the various bodies of cavalry should be drawn in closer for it is necessary to begin the pursuit on the battlefield itself in order that the enemy may have no time in which to reform any portion of his troops for the purpose of covering the retreat."

The cavalry should never mask the fire of its own infantry or artillery. The parellel pursuit is the most successful and most productive of results. It allows the enemy no peace or rest.

The covering of the retreat of its own forces calls upon the cavalry for the greatest self-sacrifice, daring and courage. It is necessary that the enemy be checked if only for a few minutes, in order that the defeated infantry may be given a short breathing space and time to reform. Frequent charges, supported by artillery and machine guns, then the dismounted delaying action, are of the greatest importance at this time.

At a distance from the battlefield, it becomes the duty of the cavalry to protect the flanks of the main body, a duty which carries great responsibilities at this time, when even a hostile demonstration may convert the retreat into a rout.

NEEDS AND SCARCITY OF HORSES.

From the Breeder and Sportsman of November 9, 1912.

FEARS are expressed throughout Europe that the greatest war that has ever taken place for many years has been started in the Balkans and the leading countries of Europe may eventually be involved, and, as thousands of horses will be needed for cavalry and artillery purposes, this fact presents itself most forcibly that there has never been a time when such horses are so much needed as they are at present. Every great military nation is increasing its armament both on land and at sea, till the great material nations of the world are nothing more nor less than armed camps.

Foreign governments are well aware that horses cannot now be had by the mere purchase of them in numbers anything like sufficient to supply their demands, indeed the scarcity of army material in the shape of horse flesh is not to be had in anything like approaching the numbers required.

The United States has spent an average of \$30,000 a year on cavalry horses. France has voted \$1,500,000 and Germany \$950,000 to horse breeding. In England they spend something over \$20,000 a year for breeding horses, many of which are at once marked down by foreign buyers, while in Turkey and all adjacent countires there is a great scarcity and not enough horses to supply the demand.

An additional 30,000 horses are needed to reach the minimum of riding horses immediately required for the English army, to say nothing of artillery and transport animals.

The scarcity of horses in the British army is appalling, the breeding of suitable horses in England sinks progressively and official condemnation of the exisitng methods of a new organization have disturbed the horse societies and the industry in general. Farmers, who must be the natural agents in breeding horses, are out of touch with the War Office, and the giving up what might be a sound and fairly lucrative part of their business.

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Such facts as these ought to open the eyes of alert America whose facilities for stock raising are unlimited. All the peace congresses in the world will never prevent war, nor will wars ever cease until man has assumed a far higher civilization than he enjoys today. The struggle for existence and survival of the fittest will be in evidence for many thousands of years to come, and it will only be after the refining influence of progressive evolution has been slowly operating toward improvement for ages, that man will be able to live peacefully with his neighbor, and without wanting to rob him of that which is his, or measure swords with him to see who shall claim some coveted territory as his own.

Yes, wars will go on, and horses will be required more than ever although peace rests upon the greater part of the world today. Since racing laws have come into effect in various parts of the country and almost all of the choicest stock has been sold, there never was a more opportune time for the far-sighted American to gather in the best stamp of stallions left and the best class of brood mares for the purpose of breeding a good standard of army horse to supply the enormous armies of the great military nations of the world, to say nothing of the United States Army itself.

Artillery, cavalry and mounted infantry are the arms of the service upon which the outcome of a campaign depends, and this force to be effective must be horsed in such a way as to leave no possible doubt as to its standard. It must be as fast as it is possible to make it, always in condition, trained to the hour, and "fit to go," at a moment's notice.

Such horses as these would always be on hand for the great armies of the earth, if the large ranch owners would start in and breed them; and in the case of a great war—and it is certain—they would become rich so quickly, that they would make the rapid fire Pittsburgh steel men look like paupers.

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AMERICAN HORSES FOR CAVALRY USE.

From The Breeders Gazette of October 2, 1912.

TO the Gazette.—My opinion is that not every thoroughbred is fit to sire cavalry horses; some are good enough, others are very good. It depends on the conformation and pedigree of the horse. In Germany, Austria and France they use some thoroughbred sires to produce horses for the army. Those are able to produce light cavalry horses, but such sires must be heavy, short-legged thoroughbreds, with the shoulder and arm long and slanting, the chest deep, the back short, the croup long, the thigh long. They must have been winners in races and steeple-chases and have a good pedigree showing their relation to first-class Thoroughbred stock.

The thoroughbred himself is not a cavalry horse, but his off-spring may sometimes make very good army horses. In every Concours Hippique, in France, one can see among the prize winners some good demi-sangs, descended from thoroughbred sires. Those horses are able to walk, trot, gallop and jump with ease.

In Europe a great many horses are raised from half-bred sires, and this name will include all horses that are not thoroughbred nor draft-bred. The best ones among them are the French demi-sang, and experience has proved that those are the only good ones, being far superior to the Russian, the Hannoverian and others. At the last Concours Hippique, of Paris, last April, the class open to army horses had eighty-five entries of which thirty were horses sired by thoroughbreds and fiftyfive sired by half-breds. Ten prizes had to be awarded and nine of them went to the sons of the half-breds and only one went to a son of a thoroughbred, which was Flageolet, an Anglo-Arabian sire.

I cannot believe that the descendants of Hambletonian-10 are able to produce army horses, but the Mambrinos, the Champions and the Morgans may sometimes get army horses. The conformation of the Hambletonians is far away from that

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of the saddle horse. Taking the average measurements and articular angles of the ten following horses: Uhlan, Lou Dillon, The Harvester, Hamburg Belle, Penisa Maid. John McKerron. Allen Winter, Jack McKerron, Redlac and Fleming Boy, all horses with a better record than 2:10, we will find that they have an average short shoulder, rather straight (66 degrees). that the arm is longer than that of the thoroughbred but stands straighter also, so that the scapulo-humeral angle is 106 degrees. while with the thoroughbred it is only 98 degrees. The backs of the same standard-breds are longer from the dorsal angle of the scapula to the point of the hip than are those with the thoroughbreds. The croup of the standard-bred is fifteen per cent, shorter than that of the thoroughbred and stands more slanting also, the inclination being 20 degrees above the horizontal while the thoroughbred's croup is only 14 degrees. All the angles made by the bones of the hind legs of the standardbred are more open than those of the thoroughbred and the hocks are lower down. The standard-bred trots and does not gallop easily and has great difficulty in jumping ditches or fences.

In that long raid between Brussels and Ostend in 1902, when twenty-nine horses died out of fifty-one on the 134 kilometers, the first prize was won by a thoroughbred horse; the six next belonged to half-breds. The French and the Irish horses made the best average. This raid proved also that the quality of the riders has something to do with the lasting power of the steeds. Men with a high education were able to manage their horses better. Cool-blooded men like the Dutch were also able to take better advantage of their horses than hotblooded southeners.

The best saddle horse in the world and also the most beautiful is your American saddle horse. He is built for the saddle, and I do not see why Americans are looking for other stock from which to breed army horses. With a saddle-bred horse for a sire and any kind of sound mare they must be able to produce horses for their army, horses for the cavalry and horses for the artillery. There is no use trying to find elsewhere the thing they already have. They could not find anything better. The saddle-bred stallions should be used on

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thoroughbred and selected standard-bred mares to raise cavalry horses, and the same sires on grade draft mares to raise artillery horses. Those sires will give the conformation, and the conformation is the main thing with army horses.

LEON VAN MELDERT.

Harris Co, Texas.

OBJECTS TO SADDLE-BRED ARMY HORSES.

From The Breeders Gazette of November 20, 1912.

TO the Gazette.—In your issue of October 2d, was a letter by Leon Van Meldert on "American Horses for Cavalry Use," which interested me. The remount problem that confronts the War Department is of serious moment to the mounted service, and it is one to which the horse-raising farmer can afford to give attention, to his own advantage and that of the country. It is of importance that the needed type should be recognized and the breeder informed as to the best kind of parents to produce this type.

Until the War Department settles on the manner of breeding that it will sustain and advance, the horse producer cannot be expected to invest heavily in any one type of mares. However, there are now certain requirements which do limit the type and offer suggestions as to the animal that would pass the inspector. It is needless to remark on the qualities every horseman demands in whatever breed he favors, which of necessity must be present in the cavalry horse. His services must meet certain demands that exclude the variations in size and gaits, for instance, that an individual purchaser might fancy.

It is the question of gait that first causes me to differ with Mr. Van Meldert. The walk, trot and gallop are the only recognized gaits in the service and the more perfectly each individual of an organization performs at the desired gait, so much more efficiently can that organization carry, out its

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movements. If by the American saddle horse, as spoken of in the article referred to, is meant the five-gaited horse principally raised in Kentucky, then I disagree with the opinion that such a sire would be desirable, because of the tendency of the off-spring to mixed gaits. There is nothing more aggravating than this to the troop commander or wearing to the rider who is ever in difficulty in getting his mount to conform to the ordered speed. What if the whole command were mounted in the same fashion? For the walk and gallop the difficulty would not be the same, though at the walk this type of horse has a tendency to shuffle and thereby lose the cadence that is helpful to the trooper in keeping his proper distance and judging his rate of march. In many cases the trot of the saddler is excellent, but inclined to display too much action in presentday types. There would also be a tendency of the trooper to permit or to encourage his mouut to rack for the rider's comfort especially if he were a young soldier and an inexperienced horseman. Of course it is very difficult to get two horses to rack at an even speed and the whole troop would be opening up and closing in until the rear horses would be sadly worn.

This type of horse is not very useful for jumping, and is therefore a poor cross-country horse. With the high head carriage assumed in certain gaits there is an unnecessary strain. But to my mind the most serious doubt about the value of this type for siring cavalry horses lies in the fact that every generation is an increasing distance from the thoroughbred origin and that stretch is unmarked by any test year after year that has eliminated the unfit or discarded the weakling for breeding purposes. The show-ring has failed in that particular by accepting a pleasing conformation and a few minutes' exhibition that need not produce a sweat, to say nothing of a lungdistending heart-pumping hoof-ringing endeavor.

G. L. STRYKER.

Erie Co., N. Y.

JUMPERS OF HIGH DEGREE.

(From Bit and Spur for December, 1912.)

J UMPING classes are regarded as catering to the freak horse, rather than to strict utility, and this to a certain extent, is correct, as the victorious horse in the jumping class is infrequently a winner in hunting classes, and when hunted is a rather negligible quantity in the field. It has been trained and schooled to jump, to get over the fences without being asked to "go on," to maintain a pace or to look for good footing, satisfactory take-off and safe landing after the successful leap, as is the case with the hunter worthy the time-honored name but is not with the jumper per se.

The popularity of the jumping classes is best illustrated by the fact that the first class called brought seventy-eight into the ring, and so close was the range of quality that although the class was called for ten minutes to ten it was midnight before the award was reached. Captain W. T. Rodden's veteran Lord Minto, put up a superlative performance to win from Spes, ridden by Lieutenant C. H. Labouchere of the Royal Holland Hussars, his Dreadnaught, ridden by Mr. Henry Bell being third, and Crow and Murray's Ladylike fourth. Class 130 was a national jumping event and with the exception of Captain Guy V. Henry, Lieutenant B. T. Merchant, Lieutenant J. G. Quekemeyer, Captain V. L. Rockwell and Captain Ben Lear, Jr., the less said about the American horsemanship the better. After an exceedingly close contest Spes won, ridden by Lieutenant C. H. Labouchere of Holland; · Captain Ben Lear, Jr., was second with Poppy; Lieutenant R. H. Stewart Richardson, of the Eleventh Hussars, England, third; and Major James Kilgour, of Canada, was fourth with Jap. As usual the high jump, class 139, was the feature of Friday evening; its varying chances holding the public as firmly as in other years. There were, however, only five entries, as against fourteen in 1911, and fourteen in 1910. The quality was very high, as regards performance, although the altitude

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attained was not comparable to that of other years. Miss Mona Dunn's Biskra came from England with the reputation of being the best high jumper ever seen in Great Britain, but, as Great Britain has not been famous for producing high jumping freaks, this reputation was probably over estimated. Biskra won at six feet six inches, and his method of clearing the bar appeared to demonstrate it was about as high as the bay gelding coud go, and it was a very close thing, as Mr. J. E. Aldred's Lady Jane also cleared the bar at that height, but was scarcely able to get over. Captain Baron de Blommaert was third with Clonmore, and Lieutenant R. M. Stewart Richardson fourth with Dan Leno. This height of six feet six inches is not comparable with the seven feet four inches made by the Honorable Clifford Sifton's Confidence who won last year and also in 1910, nor with the peerless Hetherbloom, who first made seven feet nine inches at Philadelphia, and later jumped eight feet two inches on a wager, before a number of reputable witnesses, the official record of this wonderful gelding being seven feet ten inches, made at Norfolk, Va. It is interesting to recall that this wonderful jumper. Hetherbloom, met his death at jumping out of an exercise yard over a fence of only five feet high, wishing to get out into the pasture. Unfortunately there was a lot of loose lumber lying around outside the fence, and, landing on this treacherous footing, Heatherbloom went down and broke his neck, illustrating the irony of fate which, with a five foot fence killed a horse that had cleared eight feet two inches with a man on its back.

INTERNATIONAL CONTESTS.

(From Bit and Spur for December, 1912.)

T HERE is something stirring about an international contest, no matter what the division of sport in which it occurs. A certain latent local patriotism moves the public at the start and, so far as the American public at the Garden is concerned, it was ready to heartily cheer the winner, no matter what the nationality—with a special "tiger" for the victories of its own representatives. Again and again the victorious foreign visitors were cheered to the echo, both during the scintillant performance and after the issue had been decided and there was no half measures in the cheering either.

As in preceding years, the magnificent horsemen of Holland were in the van and this was due not only to personal and individual ability, but also to the splendid training and schooling of the horses they rode. We have heard a lot of talk about "better horses" for the American candidates, but it is not to be denied that the prize-winning mounts of Holland cost far less per capita than the leading horses of the American soldiers, and that what is needed is not more money to obtain horses for the Americans, but a more educated eye and more practical discernment from the men responsible for buying the stock. Unfortunately, with a few bright exceptions, the average U.S. Army man does not "know a horse," which statement is endorsed each time an army man judges at a horse show and meets a civilian judge. One of the best horses England has sent over here of late years was bought from the shafts of a delivery wagon and the same is true of one of the best horses from Holland.

The American soldiers did splendidly when all is understood and considered. Two years ago the American army man thought he "knew it all." Official instructors, spending years at the European equestrian schools, could not teach the individual anything. Each man imagined he knew better and rode better than the European versed instructor and not until

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the visit to Olympia of 1911 rubbed their noses in the dirt of defeat, did they awake from their superb egotism. A month later they were literally grovelling around the mounted service schools, praying to be taught. Bit & Spur last year predicted that within three years there would be little fault to be found with them—unless megalocephalia set in again—and, up to date, the U. S. Army representatives have nobly acquitted themselves in open competition against other nations who have been "in the game" for years.

Class 109, for officers' middleweight and lightweight chargers, was a sweeping victory for the United States, the winners being Nestor, ridden by Lieutenant C. L. Scott, the second to Bazan, ridden by Captain Guy V. Henry, and the third to Justice, ridden by Lieutenant O. W. Booreum, all Americans with Dreadnaught, ridden by Lieutenant C. H. Labouchere, of Holland, fourth. Class 132, for the Canadian Challenge Cup, officers jumping, was won by Captain Mervyn Crawshay, of England, on his good mare, Princess Charlotte, defeating Lieutenant Delvoie of Belgium, on Murat. he also riding Citine to get third. The American horse, Poppey, ridden by Captain Ben Lear, Jr., of the Fifteenth Cavalry, being fourth. The most attractive feature of Wednesday evening was the broad water jump and while a great many of the competitors utterly failed to clear the water, some of them doing most amusing stunts to avoid it, there were half a dozen really fine performers hailing from Holland, Belgium, Canada, England and the United States. It was won very easily last year by the Holland representative, but this year competition was so great that four contestants were ordered to "jump off" and the United States Army covered itself with glory. The expanse of water was widened after each trial, eventually reaching eighteen feet, and three times Spes, ridden by Lieutenant C. H. Labouchere of Holland, splashed his hind heels in the water. Then Lieutenant H. R. Adair, U. S. Cavalry, on Fico, failed by a narrow margin at the first two trials and on the third cleared the water with a foot to spare amid terrific cheering. Fico was placed first, Spes second, Deceive, ridden by Lieutenant John G. Quekemeyer, U. S. Cavalry, was third, and

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Lieutenant E. Van Dooren of the First Lancers, Belgium, was fourth on Sapho.

The immense class of sixty-three jumpers, ridden by army officers in pairs of two officers of the same nationality, riding abreast, proved the sensation of the evening. It was won by Holland, Lieutenant C. H. Labouchere on Dreadnaught and Lieutenant Mathon on Held, defeating the Holland horses, Spes and Powerful, and the United States horses, Marshall Ney, ridden by Lieutenant Shepherd, and Range Finder, ridden by Major Frank B. Barrett, the fourth ribbon going to Captain Mervyn Crawshay, on Sue and Colonel P. A. Kenna, on Prince Charlotte.

The great event of Friday was the International Contest in Class 133, for the American Cup, donated by the Hotel Martingue, open to teams of three officers of the same nationality riding in uniform over obstacles. This contest was won last year by the representative of Holland and as they won again this year, they take the trophy home, England being second, Canada third, and Belgium fourth. The issue was extraordinarily close and some fine horsemanship was exhibited, the scoring showing three fairly equal up to the last time round. The first decision of the judges was in favor of the English team, but the Hollanders made a protest upon a technicality, and like the splendid sportsmen they are, the English officers immediately offered to "ride off" for the trophy. The offer was accepted and this time the Dutchmen won hands down. The placing was Lieutenant C. H. Labouchere on Dreadnought, Lieutenant A. N. Colbyn on Paddy, and Captain Von Gellicam on Powerful, representing Holland; Lieutenant R. M. Stewart Richardson on Dan Leno, Colonel P. A. Kenna on Harmony. and Captain Mervyn Crawshay being the second for England, Captain Bell on Dreadnought, Lieutenant Bate on an unnamed horse and Major Strombenize on an unnamed horse for Canada, the fourth award going to Belgium, represented by Captain Baron de Blommaert on Clonmore. Lieutenant Delvoie on Murat and Lieutenant E. Van Dooren on Majesty. This contest was the more interesting because it called for three riders and three horses, giving a wide variation to chance and luck, as against skill and agility. In several of

the jumping events it was seen luck had a great deal to do with the final award (as when that clever horse, Paddy, blundered into the "pigpen"), but in the American Cup such a chance was largely offset by the wide scope of the contesting units. It was rather unfortunate that the final award should have been blurred by a protest from the Holland contingent on a trival technicality, but, such a protest being made, it could only be met, and the warmest congratulations should be tendered the British team for their sportsmanlike cutting of the unfortunate knot.

Class 110 was for heavyweight chargers competing for the Plaza Cup and several horses made a wonderful showing, especially Clonmore, ridden by Captain Baron de Blommaert, changing lead at every stride, but lacking in conformation and general type. The winner was Chiswell, exceedingly well shown by Captain Guy V. Henry of the U. S. M. S. S. of the Thirteenth Cavalry; Colonel P. A Kenna of England, was second with his good horse Harmony; Captain J. R. Lindsey of the U. S. Cavalry was third with Experiment, and Captain V. L. Rockwell of the U. S. Cavalry was fourth with Mariposa; thus defeating Belgium, Holland and the National Guard.

The Beresford Challenge Cup, for officers of the United States Army, had thirty-seven entries and demonstrated beyond question the enormous improvement the U.S. Army officers have made since they grasped "what they did not know" about horse riding at the Olympia show in 1911. This improvement was predicted in Bit & Spur last year and the warmest congratulations are due those capable and experienced officers who worked so hard to bring about this eminently desirable result for so many years before the raw material could be brought to understanding the immense value of "what they did not know." Marshall Ney, ridden by Lieutenant W. M. Shepherd of the Third Field Artillery, won after a really splendid performance, defeating Lieutenant Frances Ruggles on Pink-Un, Captain Guy V. Henry of the Thirteenth Cavalry (one of the most efficent riders in the United States Army) on Connie and Lieutenant R. G. Alexander, Corps of Engineers. After these exhibitions one has little hesitation in predicting that, in another year or two, the United States Army riders will hold their own

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in any company, if the present rate of level-headed improvement is adequately sustained.

As usual, there was much criticism based on snap judgment and also, as usual, the men of the United States Army have been held up to public contumely. What is the actual record in the jumping classes? Holland is first with three wins, four seconds and one third; Great Britain is second with two wins, one second, two thirds and four fourths, almost a tie with Canada's two wins. one second, one third and one fourth. Against these older nations of the Old World, who have been "at the game" for years, what did the United States man achieve? Just one win, one second, three thirds and one fourth, outranking Belgium, which scored not a single win, but one second, two thirds and two fourths. Did the hasty critics of the United States Army competitors have these figures, or was it just snap judgment deliberately utilized to obtain personal publicity? It is well to state again that, in Class 109, international, for officers' chargers, the United States was first and second and that in Class 110, for heavyweight chargers, international, the United States was first, third and fourth in each class, against Great Britain, Holland, Belgium and Canada.

This is by no means a bad showing and it would seem that a little rational encouragement to the army men would be more to the purpose than making it appear their showing was superlatively bad, merely to hang on that very obvious hook another nonsensical budget as to the remount question. The value of good, handsome, high-class horses for parade is recognized, but with the horse in the field not expected to last more than four months in active service, what is the European value today, and should [the United States value be greater or less?

ARMY REMOUNTS.

(From the Breeder and Sportsman of November 80, 1912.)

ONE of the big lessons that will be taught by the live stock department at San Francisco in 1915 is that there is a great demand for horses suitable for cavalry uses. An effort is now being made to enlist the cooperation of the United States Army. The Morgan horse interests and breeders of the United States are much alive to the opportunity that will be offered for showing the usefulness of that breed for producing horses suitable for cavalry purposes. The question of army remounts is not only agitating army officials of the United States, but of all other countries as well, and the foreign governments will be keenly active in studying the cavalry horse problem as it will be demonstrated at the Panama-Pacific International Exposition at San Francisco in 1915.

Government horse breeding stations have been established in Vermont, Virginia and Colorado; others will be established in Kentucky and Tennessee, and perhaps other States, the aim being to locate them in the sections best adapted to horsebreeding. Morgans will be bred in Vermont, thoroughbreds in Virginia and standard-breds and saddle horses in Kentucky and Tennessee. One or more of these breeding stations should be established in California. The conditions in this State are ideal for producing horses of the highest type and speed and the best bottom. The California horse has no superior in the world for speed and endurance and beauty of form. The breeding system the government has inaugurated primarily for the benefit of the army should be extended all over the country. It will be a help to b eeders and improve the standard of road, draught and plow animals. California should have a share in these benefits.

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SWISS REMOUNTS AND CAVALRY DEPOT.*

BY AN OFFICER ABROAD.

A MONG the many difficulties to be found in the organization of a Militia Cavalry, those which affect the remount are the most serious. In the Swiss Army they are ncreased by the fact that that country is entirely dependent on foreign countries for horses. Hence the necessity of watching the sources where their remounts are obtained, lest they should be exhausted at the very moment when most desired, that is at the time of mobilization. This condition cannot be changed, unless a large reserve is always kept on hand. The large losses of horses shown in the last wars, as well as the natural losses resulting from ordinary peace maneuvers, will not permit one to lose sight of this fact. It is well to compare the manner in which the Swiss Army obtains its horses, with that of other armies, who all, with the possible exception of Italy, are able to secure their remounts in their own country.

As a first difficulty, the Swiss find their militia system requires something different from other countries. They must, in their purchases of remounts, hold to a well defined class and type which is often difficult to find They require a weight carrier with a certain amount of blood; because light, blooded horses will not do for their cavalry. They are, therefore, obliged to exclude at once in their purchases, all of an excellent class of horses easy to find and at a fair price.

The difficulty of buying heavy horses, which at the same time are good cavalry horses, is not alone with the Swiss, but is the same with all other armies. But their d fficulty lies in the fact that they must place in the hands of the soldier a horse which can be "used by him at home," and here is a danger as well as a difficulty, for one is apt to forget that the cavalry horse is intended for war and not for work. All of the legislators do not view it in that way, but the Gove nment cannot flood

"From the "Revue Militaire Swisse" by Major Paudret.

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the country with work horses under the title of cavalry horses. Here certain mutual concessions can be made. The Confederation furnishes a horse which the trooper can use at home for work which does not injure its qualities as a saddle horse. This has been part of the Swiss regulations for the last twenty years. At that time if a trooper had a horse which was able to do the ordinary work in the field, he was, as today, very happy; but if that was not the case, if the mount would not drive singly or haul only a ligh wagon, he made the best o' it and was content, for in those days a service horse was a substitute and not a bread winner. But those days are no more, and the present demands are much increased, as now the man can return to the depot an excellent horse, if it will not work at heavy hau ing, either at the plow or harrow. Thus in the fear, which is absolutely without foundation, of wanting cavalry recruits, they risk changing, little by little, their good cavalry horses into beasts of burden without any gait, aptitude or appearance of a saddle horse. Some of their troops already consider these working chargers as not bad, and such is the force of habit that this will soon be considered quite na ural and not the least alarming. It is not alone the trouble of furnishing to their cavalry the required remounts, but that they should remain good after becoming service horses. This depends on the work the man puts the horse to, as well as the care he gives the horse. From the last reports, thanks to constant inspections which are made thorough by the chiefs of units, great progress has been made, and very few horses are badly cared for. Some cap ains have accomplished a great deal by these inspections.

But it is necessary to go to the bottom; that is the recruiting if it is expected to obtain any serious and durable results. Hence it has been the inspection of the applicants made before enlistment by the cavalry officers which have lessened in a large way the situation, as at the very beginning it has been possible to eliminate the doubtful from the point of view of care as well as that of employment the horse may be subjected to. The requests for entry in the cavalry are numerous, for the State, on simple security gives the recruit an excellent horse, acclimated and broken, nd hence the requirements for admission

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can be made much more severe than into other branches. The State could, without fear of reducing the enlistment, do away with the annual ten per cent. repayment, or at least le sen it. This would result in a saving of 500,000 francs a year, and with even a part of this sum, the annual number of remounts could be increased. At the same time there could be eliminated from the cavalry branch a good number who only enter with the idea of getting as much work as possible out of their horses.

But the best cavalry recruiting is not alone a question of a good supply of oats, for the locality plays an important part, and it would be advisable to exclude entirely the recruits who live in a mountainous region, for it is there the cavalry horse is used up the quickest, and this is not surprising. It should be repeated, however, that bad care of the horse is not usual, and then more often through ignorance. It is for their interest to take proper care of their mount, and generally it is done.

It is "horse knowledge" which should be developed in the courses of instruction, and the soldier should be taught a better understanding of the horse and the care which should be given it. In the other armies the horses are cared for under the personal direction of officers and non-commissioned officers, while in Switzerland they are for eleven months in the year at the home of the soldier who must do everything himself and alone, besides being under the paternal influence. Here the good sense, the great willingness and the sentiment of duty, which are found in the large majority of the Swiss soldiers, triumph over a situation, which, to others, would seem to be inextricable.

One thing which should always be insisted on, is to make recruits understand that they have had placed in their care a horse which is not completely schooled, and that it will be necessary to take care of and train him for a long time to come. Their horses would last much longer if they need not be issued until they were completely formed, and this can be shown in the reserve horses or depot horses, which can render good service up to quite an old age. They do not become broken winded or unserviceable and can undergo the greatest fatigue, and this is solely because they are well taken care of and rationally employed.

Switzerland has but one Remount Depot. that at Berne with a branch at Sand. In the other armies the young horse passes a period of acclimatization at the depots. for a more or less time, and from there he is sent to the regiment where he receives his training. In Germany there are twenty-five of these depots-eighteen of which are in Prussia, two in Saxony. four in Bavaria and one in Wurtemberg. In France, there are sixteen Remount Depots or Buying Depots and a large number of "transmission establishments" where remounts of less than five years are acclimated. The Swiss find themselves in a peculiar situation, and at first sight the gathering together of such a large number of young horses in the same depot might be criticized as a danger of epidemic. But it is not a fact, because the young horse just imported passes its acclimatizat on period at the branch of Sand, and is not brought to the principal depot until a proper time has elapsed. Besides their stable system, well ventilated and roomy, their large paddocks, the most particular care has so far prevented any epidemics.

The principal depot, as well as the branch at Sand, have been much enlarged during the past years. Up to 1890 they were of the most simple construction, with capacity for 500 or 600 horses, while now double that number can be stabled in very well constructed buildings. In addition large paddocks have been added, which give the young horses plenty of opportunity for exe cise.

The appropriation authorizes the purchase each year of 1,050 horses, and they all come from Germany and Ireland, where the contractors present at fixed periods, and several times each year, a large number of horses from which a choice is made. Only one member of this Board is permanent. Contrary to the custom in France and Germany, the same average price is paid for each horse and as they have several contractors there is a very good result. As far as Ireland is concerned, neither England nor the Boards of Belgium, Italy or Denmark buy the same model of horse as Switzerland. And it is during the winter months, when they are generally the only buyers, that it is easier to find the kind which is wanted. Horses intended

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for officer's mounts are not bought separately, but are selected at a later date after finishing the remount course.

For two years the Swiss Army has imported horses called "carriers" intended for the rapid fire gun companies, and which are after their training at the depot, put in the care of ex-cavalry soldiers as third horses (chevaux de tiers). They are much heavier than the remounts and are not less than five years at the time of purchase and are also bought in Ireland.

As the Swiss remounts always come from two different countries they are not of uniform type, and even these different types show different classes as they come from different breeding centers. The question as to which is the best, is a matter of taste. The Irish horse with strong bone, deep chest, large and strong hind quarters, short and solid cannons are always desirable. The Swiss officers prefer these, especially those who wish to have a horse to be used in sports. All the winners in the steeple chases have been and are Irish horses, but of a light model, because the large, nearly full blooded, cannot be considered in the class of remounts on account of their cost.

Those who look for height can find them more easily among the German horses and these in general are very handsome, with high action, are easily handled, and nearly full blocded, they are more easily trained than the Irish, especially the large Irish. The fault which can be found with the German remount is, that very often they grow in the legs while the body remains the same, so it is not rare to see a horse which when bought was 157 or 158 cm. increase 10 cm. during its growing period. There is a mark difference in the German Holsteiner, a Kehdingen horse, the former having a rounder body and shorter legs and an attractive gait, but it is often more, a carriage-horse-type; the Hehdinger is larger, well built and with good lines. The Hannoverian makes a good cavalry horse, having much strength of muscle and a good appearance; while the Mecklemberger always develops into the harness type, but making a good, stout service horse, of fair size.

The journey of five days, both for the Irish as well as the German horses, and the two channel crossings of the former, affects the health of the animals in a slight degree, and this is added to by the change of climate.

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A test of inoculation at the time of purchase or after arrival in Switzerland, has given good results, in that those affected have suffered in a milder form, but it has not prevented the sickness. At present the actual loss from these changes is from two to three per cent.; ten years ago it was ten to twelve per cent.

When the remounts are received, and for the first few days, they are fed hay and bran, and according to the season, carrots or grass. Later a ration of four and one-half kg. of oats is fed.

The period of acclimatization varies a great deal according to the individual strength of each horse. In Switzerland they put a great deal of stress on individualization and each horse is studied apart, and they consider that this system is the only one available to do away with great loss.

Some remounts are ready to be put to work in two months, while others may be held for a year. The selection of the young horses which are ready for work is done at Sand, and it is there that they are ridden and driven for the first time. When they are sufficiently trained and ready for service, they are sent to the depot at Berne, where a second period of training is commenced, equally variable in time as the first. This period lasts until the Berne depot is ready to turn over the horses for the real training course, called "remount course."

The task of the depot is, therefore, to train and prepare the remounts, having them in good physical condition to stand the work of a final training. And here again they individualize, and the horses are divided into different classes according to their preparation and powers of endurance. All those which are "doubtful" are kept in one class and are fed and cared for accordingly. The care of the pastern joints is considered as being very important, especially with rapidly growing horses.

Each remount at work is allowed a ration of five kg. oats, four and one-half kg. of hay and two kg. of straw, while the thin animals and those of large size are beside given additional forage; also when the funds permit an extra mash is fed once a week.

Once a week each horse is inspected and the results are recorded in a special register, which forms a very useful record with which to follow each animal during his stay at the depot.

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Before being put in service at the "remount course," the horses are inspected by the chief of cavalry, but it is not until the end of this course that they are appraised, and this appraisement is the base on which they are assigned to the school of recruits. According to the regulations the remounts should not be put in real training before they are four years old, and it sometimes happens that horses not yet four years old must be put in training. This difficulty will go on increasing, as the purchase of Irish horses by so many countries who supply themselves there, will result in much difficulty in securing four years old horses and it will be necessary to take younger horses resulting in increased expense for their care and acclimatization. The situation is not better in Germany and has resulted in an increase of price.

The Swiss "remount course" lasts four months, and while it is shorter than in other armies, the results are considered as very satisfactory. They have a very good permanent corps of trainers, and while their training system may not be perfect, it is being constantly improved. Instructors in riding are not designated unless they have the taste, aptitude and knowledge of their work. To train young horses in a short time is always a difficult task, requiring ability and talent.

THE MOUNTED MESSENGER.*

BY MAJOR V. CHERNEL, AUSTRIAN HUSSARS.

I N all discussions held after maneuvers and exercises we continually hear the complaint that reconnaissances carried on by the cavalry in no case showed the results which the commander confidently expected and required as a basis for his dispositions and orders. This complaint we hear after maneuvers of larger bodies of cavalry as well as in maneuvers carried on by the three arms combined. According to my

"Translated from the Austrian Casalry Journal by Harry Bell, M. S. E. Army Service Schools. views the blame should not be attached to the cavalry proper but to the method of sending back information acquired; the fact that so many excellent and important reports are received too late to be of any use seems to uphold my contention. The main fault lies in the slip-shod manner a mounted messenger receives his instructions and is sent back and partly also in the incomplete training of the troopers. The "eyes of the reconnaissance" i. e. the patrol commanders, as a rule are excellent and know their business; many of the non-commissioned officers can compose correct and proper reports, messages and sketches, but the manner of sending these back and the execution of the ride back to headquarters leave much to be desired. Of what use is the very best of reports if it arrives too late? As a rule the message is intrusted to the trooper who happens to be nearest at hand, possibly he may be the best one in the patrol, and possibly not. If he is the best, then there is no other "best" to carry the duplicate message, probably not even a "good" one, still the message has to be and is sent and the conscience of the patrol commander is at ease, for he has done his whole duty; the man can go--if and when he delivers his message is merely a matter of luck. It also frequently happens that the patrol commander does not know the men of his patrol, thus not being able to select the proper man for messenger and having to depend on chance to hit the right ones. Considering now the dangers attending a man carrying back a message in a future war and that then, differing from conditions in maneuvers, he will have to guard his life as well as his route, difficulties in sending back messages are increased. During a strategic reconnaissance a dense screen, which in future wars will play an important rôle, will materially hamper the service of information. Though a patrol may encounter little difficulty in piercing the screen in some instances, the returning mounted messenger can not pierce it so easily. He will have to be an adept in evading observation and pursuit. Taken in the abstract, a mounted messenger should be a man well versed in finding his way, should have good eyes, a clear head, and a large bump of locality. He should be well mounted-the horse of a mounted messenger must be expected to perform greater and better service than the general run of troop horses; it

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should be specially trained for that duty. The rider should be thoroughly familiar with his horse, should know exactly what it can perform in the matter of endurance and covering distances. This shows that it is absolutely necessary that horses must be specially and thoroughly trained for just this service.

Autumn is believed to be the best season for this training. for selection of men and animals will be much easier after the fall maneuvers. A regimental officer, who is known to be an excellent horseman, a lover of sport and of the chase, and who is thoroughly at home in riding across country and over obstacles, should be selected and charged with supervising the training of horses and men; only such an officer will accomplish good results. As nearly every cavalry garrison has annual hunts immediately after the maneuvers, horses and men most suited for messenger service can be easily selected then.

The selected animals need not receive an addition to their forage on account of having to undergo a harder training than the rest, the quality of the horse must replace additional forage. It would be no great misfortune if a horse should go lame during training; in any case this will but seldom happen if the training is carried on in rational manner. The main point to observe is that we can never transform a troop horse into a hunter in the riding hall; overcoming obstacles in the terrain must be practiced as of necessity, for very frequently a messenger can elude the pursuing patrol only by seeking some obstacle easy for him but hard for his pursuers to overcome. During the course of training ambushes should be often prepared for the messenger to test the man's self-reliance and ability of thinking and acting quickly. Prizes awarded to the one making the best showing during a course of training will stimulate ambition to excel. Pursuit by patrols, however should never be practiced, as such pursuits can hardly be carried out in time of peace as they will happen in actual war.

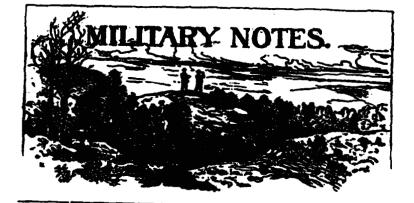
The mounted messenger should be easily recognized by every one and should, therefore, have either a distinctive uniform or an easily distinguishable chevron or piping.

Concerning armament, we would suggest that the saber be omitted, being only in the way and making unnecessary noise during the gallop. In place of the carbine a repeating pistol or revolver should be carried: this would also mean that revolver practice, mounted, should be practiced more thoroughly than is the case now.

Concerning theoretical instruction, we will merely mention that the messenger ought to know clearly and distinctly to what place and to what person he is to take the message. which route is the shortest and what he ought to do if the addressee can not be found at the designated place. He should also be able to repeat the message word for word.

A well mounted, well trained messenger can be utilized in addition to reconnaissance service for other duties, for instance, at headquarters of larger cavalry commands, where frequently a shortage of orderly officers exists, with advance guards, with pickets, with battle and connecting patrols, in short everywhere well mounted and efficient troopers are needed to carry verbal and written orders quickly and with certainty.





A CARBINE FOR THE CAVALRY.

THOSE officers who desire a carbine for the cavalry and those who happen to be gun cranks will probably be interested in the description of an U. S. Springfield rifle which Captain Samuel B. Pearson, Ninth Cavalry, had converted into a hunting rifle.

Captain Pearson and I each started to make a "Sporting Springfield" about the same time, but as mine is made with full length barrel while his is cut down to twenty inches, I am describing his rifle as an arm that would make an excellent cavalry carbine.

As shown in the photograph, (Cut No. 1) the result is a beautifully proportioned arm which is a delight to the eye and a joy to the hand of the most case hardened gun crank.

The following changes were made in the rifle: The barrel was cut off to a length of twenty inches and the front sight stud replaced, the upper and lower bands, hand guard, and rear sight complete were removed. The stock was cut off at the position of the lower band and the space between the barrel and the stock was filled in with a piece of walnut; the fore end was neatly shaped and made considerably thinner than its original dimensions; the butt stock was lengthened about one inch and a rubber shotgun butt plate added; the comb built up, the stock made thinner and the grip smaller. The dimensions of the stock are as follows: Length thirteen and three-fourths inches, drop at comb one and seven-eighths inches, at heel three inches, size of butt plate five and onequarter by one and one-half inches. The rear sight is a Lyman specially made for the Springfield rifle. These changes have reduced the weight to seven and one-half pounds.

Shortening the barrel four inches has probably reduced the muzzle velocity about 100 feet per second and of course has slightly increased the height of the trajectory. No loss of accuracy has been observed. By the use of the receiver sight



CUT NO. 1.-CARBINE WITH LYMAN SIGHT.

the sight base has been increased about two inches over that of the rifle as issued and this with the excellent peep sight more than makes up for any loss of accuracy actually due to the shortening of the barrel. This rifle was tested on the range last summer and the results showed that it could hold its place with the service rifle at all ranges up to include 1,000 yards.

The changes in the stock were not made solely to add to the beauty of the arm but to increase its ease of handling and its effectiveness. While our rifle as issued is one of the most accurate in the world, it is ugly in appearance, badly stocked and handles like a piece of cord wood. The stock is too short, the comb too low and the butt plate does not fit the shoulder. The length of the butt stock is only twelve and three-fourths inches which is much shorter than the stocks of rifles generally used for hunting or for target shooting. It is about the same as

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the stocks of small .22 caliber rifles intended for the use of boys. This extremely short stock increases the apparent severity of the recoil and compels the firer to take a strained position, particularly in firing from the prone position. The butt plate is badly shaped. It should be slightly convex from side to side and concave from heel to toe.

The Lyman sight on this rifle (Cut No. 2) is the best general purpose sight that was ever put on a gun. Of course some one will say that this is not a "military" sight. It may not be a military sight in that it is not stuck on the barrel in front of the receiver and does not attempt to combine an open



CUT NO. 2.- THE LYMAN SIGHT.

sight which is too near the eye with a peep sight which is too small and too far from the eye, but it is a suitable sight for a rifle intended for military purposes. If it could be placed nearer the eye it would be still better, but on account of the long bolt that is impracticable.

There is no good reason why we should have an open sight on our rifle. The open sight has been thrust upon us by the manufacturers of rifles, and it has been used generally for hunting because many of the peep sights in use were not strong euough to make them suitable for this purpose. A peep sight with a large aperture placed near the eye is the easiest of all sights to use. It is only necessary to look through it and place the front sight at the proper place on the target. Everything stands out clear and distinct. There is no bother about "full sight," "half sight," on "fine sight," no focussing the eye on the rear sight as well as on the front sight and the target. The eye looks through the peep, not at it and unconsciously sees the front sight in the center of the aperture.

The objection will be made that some men cannot use a peep sight. That is nonsense. This peep sight can be used by men whose eyes are not good enough to use open sights. The use of a sight of this kind would do away with that abomination the "battle sight."

This sight is much stronger than the service sight and the elevation and windage changes are made by two strong screws which are so constructed as to make them micrometers, which makes it very easy to set the sight correctly.

> C. E. STODTER, Captain Ninth Cavalry.

THE MANCHUS.

THE Manchus have fled and are now in hiding in the Ming tombs. The revolution with us has been as complete as that effected by the reformers in the Flowery Kingdom. What is a Manchu in our service? He may be described as an officer with a penchant for revolving chair work and an aversion for troop duty, and who in pursuance of that policy rarely does any actual troop duty. The first orders for the eviction of the Manchus from Washington was synchronous with the revolution expelling the then reigning family from the throne of what is now the newest republic. Hence, the designation "Manchu."

The service has not yet fully made up its mind as to what estimate to place on the Manchu law, whether to regard it favorably or otherwise. Much can be said on both sides and, in the course of human events, the rain will fall on the just as

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well as on the unjust. Within recent years, the detail system, the General Staff, college duty, militia instruction, and so on, have increased the opportunities and have demanded the services of a greater number of moderately young officers for detached service than formerly. Prior to 1898 the War Department was strong enough, except against aides-de-camp, to enforce the four-year rule of detached service. But gradually matters have changed and finally extreme cases have occurred, wherein officers were practically permanently absent from duty with troops. Congress then took notice.

Much feeling has been exhibited in places because the law includes regimental and squadron staff duty in the category of detached service from troops. The argument is advanced. and not without some truth, that regimental and squadron commanders will now have some difficulty in finding suitable available officers who can and will accept regimental and squadron staff positions. On the other hand, if we look over the list of Manchus we find it includes many names which are first found on regimental or squadron staff duty, then on a fouryear detail of detached service, and then go back to their staff positions in the regiments, and so on indefinitely. These men must possess some characteristics of suitability for the various positions that cause them to be selected. But, unfortunately, some are not independent of the characteristic of sychophancy in securing and maintaining their position and this the service resents more than any other one thing.

Altogether the law will result in all captains and lieutenants performing a certain amount of troop duty and that, after all, is an officers' first duty. It will result in an increased distributed amount of knowledge of troops, more sympathy for them, and undoubtedly the general tone of the service will improve. While there are practical objections to the law, the Gordian Knot has been cut and no doubt exists as to what was intended. After the service has become accustomed to its workings, the benefits of the law will become more apparent. It is also to be hoped that some of the objectionable features will be eliminated. H. R. H.

NOTES ON HORSE COLORS.

HE following observations of horses are in line with the principles explained in the articles in the JOURNAL of September, 1911 and May, 1912. It will be remembered that white is necessary in the two extremes of temperature, for it reflects heat from a hot source, but conserves body heat in cold surroundings. I learn from Dr. G. A. Turner, of Johannesburg, South Africa, that in the German and Portuguese territories, observers report, that more than half the horses are pure white. I have been informed by Professor E. F. Bobbins of Chicago Veterinary College, that very few white horses die of thermic fever during the hot spells of summer, while dark colored horses die by the hundred daily. One veterinary surgeon who had large experience reported that he did not remember ever having seen a white horse die of thermic fever. This fully accounts for the increasing percentage of white horses in every part of the United States where there are extremes of temperature. In a recent trip through the United States I often found that in the fields, white and light yellow colors outnumbered the dark. In the South, the phenomenon is still more marked as far as I have seen. In Maryland and Virginia the grays and dun colors have long been noted for endurance and long life. They are now being preferred for this reason in spite of the difficulty of keeping them clean.

On the other hand where there are no extremes of temperature, white is a disadvantage, as it interferes with heat radiation. Horsemen on our Northwest coast inform me that white horses are not so strong and healthy as dark, although on practice marches, in hot sunny weather, blacks do badly. In the long run blacks are the best adjusted. I have never seen such a high percentage of black horses and mules as in the vicinity of Portland, Oregon. This is the same phenomenon I found in Northern Japan. In Japan and our Pacific coast the percentage of light colors gradually increases towards the South. In

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Southern California the dark horses are in the minority, excepting of course, carriage horses and recent importations.

Horsemen are also learning that the big bulky horses of Central and Northern Europe cannot stand hot weather or a hot climate. Their difficulty in keeping cool is doubtless the main reason why horses decrease in size as we approach the tropics. Nevertheless coat color is a great aid in this respect. On our northwest coast the favorite Percheron stallions are jet black, but farther east the grays prove best, although horsemen do not seem to know the reason.

> CHARLES E. WOODRUFF, Lieutenant Colonel Medical Corps.

CAVALRY POSTS VERSUS MIXED POSTS.

HE policy of concentration that has been going on for several years is resulting in improvement in many ways. The policy recently expressed by the War Department and the action of Congress indicate that the matter is up for further serious consideration. The concentration so far effected has resulted in several regimental posts and in other posts where even as much as a regiment of each of the mobile arms and a few special troops are stationed. Looking about over the country, we find the cavalry more frequently than the infantry, distributed around in detachments smaller than a regiment. The most frequent distribution is a squadron placed in a post with a regiment of infantry. It usually falls out that the cavalry commander is junior to the post commander belonging to another arm. Frequently the post commanders are broad minded men of large experience with a good perspective of service needs, in which event the cavalry is accorded its fair treatment, though the contrary condition usually obtains.

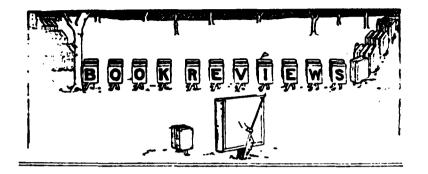
The problems of daily routine, instruction and training of the mounted services are so complex as compared to the dismounted that only officers who have been trained in the mounted services fully appreciate and can prescribe for them. There are some arguments in favor of mixed posts. In mixed posts officers of different arms are in daily association and each in this way absorbs the atmosphere, life and traditions of the other. This is an opportunity—not always sufficiently taken advantage of—for the troops to participate in combined maneuvers. Other reasons might be advanced, such as that the cavalry is available to instruct in equitation, etc. Opposed to this, among other things, may be mentioned: calls are habit-

turned aside from their proper use and used by dismounted troops to the detriment of mounted instruction; little or no consideration is shown the cavalry in such assignments, cavalry being required to take what is left in the way of hours, these hours frequently being such as to be really dangerous from the standpoint of stable management; incidentally the effect on discipline is bad for the cavalry soldier realizes at once that he is being discriminated against. At best, for cavalry the greatest tactical benefit to be derived from mixed garrisons is in instruction in the work of divisional cavalry. This is only a small part of the cavalry training and can be undertaken at the summer camps. The

ually based on duties of the dismounted troops; riding halls are

work of independent cavalry is of much greater importance and can be taken up only where larger bodies of cavalry are brought together. In pure cavalry garrisons cavalry requirements are the first consideration and govern all duties, and assignments, hours, etc. It would seem, therefore, that mounted troops should be located only in garrisons of their own kind, or else in garrisons commanded by an officer of the mounted service. H. R. H. 1

BOOK REVIEWS.



German Tactics.* Captain C. F. Martin, Third U. S. Cavalry instructor at the Army Service Schools, has translated a book from the French by Major Pardieu, French Army, which it is believed will be of value to the students of tactics in our army.

In this work there is a constant comparison between the German and French tactics from a new and fresh viewpoint, that of the spirit of the Regulations and the spirit of the Tactics. Major Pardieu constantly seeks the motive behind the technical details. He concludes with a synopsis of the great principles of the present day German strategy.

The author has brought to his subject a keen analytical mind stored with the fruits of a thorough study of all great masters of military art. He presents in a condensed form, the German and French views of the vital questions that confront every student of tactics and presents his subject in such a pleasant style that the book is extremely interesting reading.

The work has been translated into German and Russian, which is an indication of its unusual value, since it would not have received such attention from these great military powers had it not possessed great merit.

Below are extracts from the au hor's preface and from some opinions of instructors in Military Art at the Army Service Schools:

• "A CRITICAL STUDY OF GERMAN TACTICS AND OF THE NEW GERMAN REGULATIONS." By Major Pardieu, French Army. Translated by Captain Chas, F. Martin, U.S. Cavalry. U.S. Cavalry Association, 1912. Price \$1.25.

Sid a.

BXTRACTS FROM PREFACE.

The Germans followed with keenest interest the war in Manchuria in which were engaged their pupils in tactics, the Japanese. * * * This war in Manchuria had a considerable influence upon German military opinions. * * * For many years thinking men had been discussing the regulation principles in force; von Scherf, Balck and Bogulavoski on the one side and von der Goltz, Loringhoven and Schlichting on the other, had been arguing over questions of forms of combat, the initiative to be left to subordinates, methods of instructions, etc.

After the experiences of the battles of the Far East, it appeared necessary to revise the existing regulations. * * * The work has just been finished. The study of these regulations is most instructive; we glean from them the general and special principles of German tactics.

It seems to be opportune to make a resumé of them as a whole; . . . the great strategical principles of war are the same for all armies; but the details of execution, the methods must vary according to the morale, the temperament and mentality of the men to whom they are applied. A Russian is different from a Japanese; a Turk from an Italian.

As will be ascertained in the present study, the new tactics imposed by present-day armaments favor the French soldier and appear to be prejudicial to our neighbors on the other side of the Rhine. German authors admit it themselves.

In the pages that follow appears a study of the principal points of German tactics. . . .

An effort has been made to find the spirit . . . in the letter of the regulations, and to make an estimation of its value considering the German character and temperament.

OPINIONS OF INSTRUCTORS.

From Captain Stuart Heintzelman, 6th Cavalry:

"In my opinion Major Pardieu's book comparing German and French Tactics as indicated by their regulations and the writings of recognized authorities is most valuable.

"It is not so much a technical detailed comparison of matters of form as it is a comparison of matters of spirit and points of view. It is for that very reason more valuable; for nowhere else have I seen such a comparison.

"The essential differences between French and German tactical views are brought out.

BOOK REVIEWS.

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"There can be no question that the book would be of great value and interest to any graduate of this or similar schools."

From Captain Laurence Halstead, 6th Infantry:

"It is evidently written by an able officer and one who is a great student, and whose ideas should receive consideration.

"It seems to me that to graduates of these schools, where the German system is followed, the work should be particularly interesting as one which gives an opposing view.

"To those of the service in general it would be valuable in giving a general outline of German tactics and French objections thereto.

"I think it is a book that should be read by all officers who are studying tactics.

From Lieutenant R. E. Bebee, 14th Infantry:

"This book applies a concentrated criticism of the Regulations of the two leading armies, and in so doing gives to our offic rs a chance to profitably study and criticize our own regulations, advancing to a high plane of criticism at a bound.

"To infantry officers the remarks concerning the 'inviolability of fronts' and the discussion of artillery should be intensely interesting. The book should assist officers who wish to take active part in the discussions now arising from the Infantry Regulations and the Provisional Regiment."

From Major Farrand Sayre, Cavalry, Director, Department of Military Art, Army Service Schools:

"I have read the foregoing reports on Captain Martin's translation of Major Pard eu's book and fully concur in the same."

From Lieutenant Walter Krueger, 3d Infantry:

"It is excellent. * * * Print it by all means. It is extremely valuable."

Manual for Army Cooks.*

This is a small book $(4\frac{1}{2}'' \text{ by } 6\frac{1}{2}'')$ of 110 pages which is issued as Supplement No. 1, of the "Manual for Army Cooks" and prepared for the use of the students of the school for Bakers and Cooks at Fort Riley.

Its several chapters cover the following subjects: I. Meat; II. Beef; III. Pork; IV. Fish; V. Legumes; VI. Vegetables; VII. Stews. Broths. Meats. Sausage; VIII. Salads and Dressings; IX. Miscellaneous; X. Suggestions to Mess Sergeants and Cooks.

The several classes of meats are described and the specifications for the same are set forth, while the different carcasses of the several kinds of beef, pork and mutton are illustrated by half tone cuts. Also directions for curing and preserving meats are fully described.

The many recipes for cooking legumes and other vegetatables as well as for making stews, broths, salads, dressings, etc., etc., are new and said to be the result of experimentation by the Instructors of the School.

The instructions given in Chapters IX and X are part cularly interesting and important.

This is an elementary book intended, as is Gunnery.‡ stated in the preface, primarily for the use of officers of Artillery of the National Guard, especially for those who have not had a technical education. Part I is devoted entirely to an elementary course of mathematics and, at first glance, it would appear that every school boy should know all that is contained in the about sixty pages covered by this subject. However, there is much in this part that is easily forgotten

"SUPPLEMENT NO. 1.-MANUAL FOR ARMY COOKS." By Captain C. A. Bach, Quartermaster Corps, U. S. Army. Mounted Service School, Fort Riley, Kansas, 1912.

t"GUNNERY. An Elementary Treatise, Including a Graphical Exposition of Field Artillery Fire." By Jennings C. Wise, B. S., Captain and Adjutant First Battalion Field Artillery, Virginia Volunteers. (Formerly Second Lieutenant U. S. Army.) B. F. Johnson Publishing Company, Richmond. Va. Price, \$3.00 postpaid.

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when not frequently used, and the matter is at hand when needed in studying the following parts.

Part II treats of the subjects of gunpowder and high explosives and is taken as a whole from "Artillery Circular B of 1902."

Ballistic, exterior and interior is discussed in Part III in a simple and non-mathematical way.

Part IV is a short chapter devoted entirely to shrapnel and the remainder of the book discusses the subject of Practical Gunnery under the several heads of: Fire and Fire Data, Indirect Fire and Deflection, Range and Ranging, Angle of Site, Corrector, Observation of Fire, and Position and the Mask. This last part of the book is also free from mathematics, except of the most elementary kind. There are, however, many diagrams illustrating the points discussed.

To the general reader, the introduction will prove interesting reading. It discusses the question of "Study and the Value of Theory" and is full of trite sayings and quotations. In concluding this introduction, the author gives a list of about eighty books which he recommends to the military student, all being of a historical nature. It is a well selected list.

Interesting Manila.* A book of over 240 pages—6" by 8" which is profusely illustrated with half tone cuts showing the more striking scenes of life in Manila, and particularly of the more noted old time public buildings, churches, etc.

In the preface, the author states that epoch-making changes have taken place in the "Pearl of the Orient" during the five years since the previous edition was issued and whole blocks have been torn down and replaced by modern structures, so that, while Manila is being gradually transformed into an upto-date business city, there still remains "romance and poetry in [abundance; in] its many ancient churches, the medieval

*"INTERESTING MANILA." Third, revised edition. E. C. McCullough & Co., Inc., Manila, P. I. Price, \$1.50.

battlements, the century-old Spanish houses,' and the scenic beauty of the surrounding country."

The several chapters of the book are headed as follows: Interesting Manila, Intramuros, A Dream City, The Walls of Intramurous, Fort Santiago, Manila's Churches, Ruins and Romance, Old Organs and Choir, Convent Curios, River Life, Filipino Industries, Street Life, Filipino Home Life, Side Trips About Manila, and the New Philippines.

Soldier's Foot and Military Shoe.*

An extremely well timed book on a subject, which, though of great importance to all branches of the army, has received very little attention in the past.

The author handles his subject thoroughly, and brings out the points to be considered in regular sequence.

The chapter on the anatomy of the foot is complete and made very clear, so that the average line officer can comprehend the points brought out, without the necessity of a medical education. This latter advantage is very noticeable throughout the volume, when compared with a great many so-called practical books on technical subjects. In speaking of the ideal shoe for military purposes, which subject is very exhaustively covered, he brings up a point which in my opinion, has been neglected in our army, and that is the fact that the average soldier enters the service with a foot already deformed by previous ill-fitting shoes, necessitating extreme care in such cases to provide a proper fit with even a perfectly designed shoe.

The section treating of the fitting of shoes is eminently practical, and should be read carefully by all organization commanders.

In regard to the care of the feet, the author goes very much into detail, much more, it may be thought, than the case warrants, but where the foot is such an important member in military service, the necessity for the knowledge is self-evident.

""THE SOLDIER'S FOOT AND THE MILITARY SHOE. A Handbook for Officers and Non-commissioned Officers of the Line." By Major Edward L. Munson, A. M., M. D., Major Medical Corps, U. S. Army. U. S. Cavalry Association. 1912. Price, \$1.35, postpaid.

The concluding chapters on socks and the care of shoes takes up points which are often overlooked and if thought of at all, their importance is not considered.

Taking the book as a whole, its practical value cannot be overrated, and in my opinion, should be as prominent a part of the orderly room library, as any manual now issued to us by the War Department.



Editor's Cable.

WAR STRENGTH.

The following extract from the excellent article by Captain Fitch, appearing in the last number of the CAVALRY JOURNAL, touches the keynote as to the main cause for the unpreparedness and inefficiency of our regular troops for any war that we have had in the past and this will undoubtedly be the case in any future war in which this country may be a participant.

"Experience shows that the necessary increase in numbers per troop at the outbreak of war has invariable resulted in increased inefficiency at the very time that the highest efficiency was needed. A small number of men per troop results in heavy 'overhead cost.' We should have 100 men and horses per troop for war. And our peace strength should be at least as great as our war strength, and preferably slightly greater. Sudden expansion at the outbreak of war may answer in some branches, but it is absolutely ruinous to the efficiency of cavalry."

While not agreeing with Captain Fitch as far as regards the statement that "sudden expansion at the outbreak of war may answer in some branches," yet the remainder of the above extract is undoubtedly correct. It has been ruinous to any branch of the service to receive a large percentage of untrained men into the ranks at a time when every part of the mobile army should be prepared to move to the front at a monemt's notice. At the same time it is also true that such a sudden influx of recruits is more demoralizing to the cavalry than is the case with the other branches.

Our regular army, small as it is or that it may be in the future, and it will always continue to be small in comparison to

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what this great country should have, it should be a model of excellence as regards preparedness for war, which it never has been and never will be as long as our military policy remains as it has been in the past.

It should be remembered that while this country has been the victor in all wars in which it has taken part in the past, it has had but a feeble enemy with which to contend, except in the case of the War of 1812 and the Civil War. In the case of the War of 1812, our opponent had other troubles than this war with the United States and even then our disasters during that war far exceeded our victories and we gained little glory on land, outside of the valor of the troops on some occasions. The Civil War was unique in that both sides were unprepared for war and neither party to this great conflict have any reason to be proud of the results of the campaigns during the first two years of the war, or until the volunteers and regulars became seasoned soldiers.

Our experience has been that, upon the outbreak of war, the ranks of our regular troops have been filled with an influx of raw recruits, an increase generally of from forty to sixty per cent. of untrained and undisciplined men. This fact combined with the additional one that a large percentage of the officers, particularly of those of the higher grades, are withdrawn from their organizations for service in higher grades in the volunteers, or as general or staff officers, and their services are thereby lost to their organizations at a time when most needed, so that the regular service is at once demoralized and becomes but little more than an army of untrained and undisciplined volunteers. During the entire Civil War, many regiments were commanded by captains and companies by sergeants, and sometimes for long periods.

While it may be true that this forty to sixty per cent. of untrained men that are thus injected into the ranks can be more quickly whipped into shape than would be the case with volunteers, yet it would take time, and much time to do it, particularly in the cavalry service, and time is a valuable asset on the outbreak of war. Our enemy, whoever it may be, is not going to sit down and wait for us to get our first line into shape for their reception.

While it is possible that the scheme for building up a reserve for the regular service as outlined in Sec. 2 of the Act of August 24, 1912, may work out in time so as to provide a means for filling these gaps in the organizations of the army in case of expansion for war, still it is the opinion of many that, in its present form, it will prove impracticable and not a time saver in getting our regular forces into the field in time of war. First, after the outbreak of war, or when threatened, it requires legislative action in order to bring these furloughed men back into the ranks and then a proclamation must issue calling them into service, after which they must be found-no method is prescribed or can be enforced for keeping track of themand the orders issued and served on them to rejoin the colors, all of which will take valuable time. Again, when these men do rejoin their respective oragnization, it will be found that many companies, troops or batteries will have a surplus of men while others will be short a large number and it will take still more time to straighten out this tangle, as well as to provide these reservists with arms, clothing and equipments. It is possible and probable that the bounty offered these furloughed men for rejoining in time of war will bring a large percentage of them back into ranks, yet, as shown above, the scheme has many drawbacks that must be overcome. The German reservist is under surveillance at all times and it is known in which field he is plowing every day, and in the armory of his company his arms and equipments are hanging on his peg ready for him when called out.

While the National Guard of the several states are now counted as a part of the first line and are being assigned to brigades and divisions, yet it is still uncertain whether or not they can be used in time of war, especially outside of the continental limits of the United States, and, even if the proposed legislation in the Militia Pay Bill will so authorize their use in time of war, they are not in that state of efficiency and preparedness that will permit of their being so employed. But few, if any of the states have prescribed physical requirements for their National Guard and in consequence, when called into the service of the United States, a large percentage will be found physically disqualified and unfit for service. In 1898, it was

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found that from twenty-five to forty per cent. of the volunteers were not up to the physical requirements.

This, combined with the fact that the strength of the companies of the National Guard is small, as a rule, even smaller than the peace strength of the regular organizations, it will be found that when ordered out for actual war service, these organizations will be found mere skeletons and they will have to be recruited up to war strength, that is filled with untrained men so that they also will be little better than volunteers. It is true that they will have the advantage over volunteers of having officers that are more or less trained in their duties and that they now have on hand arms and equipments for a certain proportion of their enlisted strength.

All this goes to show that however large or small our regular force may be, as determined by those in authority, it should be always kept at full war strength, or, in case the reserves are to be counted as available, of such strength that with the addition of those reservists known to be available, each and every troop, company and battery will be at full war strength on the outbreak of war and available for field service *at once*, and not after having been concentrated at some camp and there organized, recruited up, brigaded, etc., etc., as was the lamentable condition of affairs in 1898.

THE GENERAL STAFF REORGANIZATION PLAN.

Probably all officers of the army have either received or have seen a copy of the proposed plan for the reorganization of the mobile army which was prepared by a committee of the General Staff, composed of one officer from each branch of the service, and they have considered the same with the care that it deserves. If they have not, they should do so at once or forever after hold their peace.

This plan has been considered by the heads of all the bureaus in Washington and their criticisms on the same have been carefully considered by the Committee; it has also been considered, item by item, at conferences held by the Secretary of War at which there were present the Committee who prepared the report and the several bureau chiefs of the War Department. Finally the report, as modified by the result of these conferences, has been incorporated by the Secretary of War in his annual report.

Now, it is understood that all of the general officers of the line of the army are to be assembled in Washington for the purpose of taking up this question, item by item, and to submit their opinions upon this vital question.

In so far as the proposed plan can be carried into effect by executive action, there will arise no difficulty, but as the vital and more important parts will require legislative action, there is no knowing what the final result will be. This much is certain, however, that if the army can unite in accepting this, or any reasonable plan for that matter, Congress will begin to believe that the army knows what it wants and will be inclined to act accordingly, *provided*, of course, that it does not materially add to the expenditures for maintaining the army or is in the line of retrenchment. Retrenchment, not economy, for Congress does not, as a rule, when legislating for the army consider what will be ultimate economy but what will appear upon the records of the present as being in the line of retrenchment.

The most important, or it might be said the all-important part of this report is that relating to the question of promotion for no scheme will receive the united support of the mobile army, and therefore have any hope of becoming a law, which does not equitably settle this question which heretofore has been the drawback to any progressive legislation for the line of the army.

The following from one of our more progressive cavalry officers is pertinent to this question:

"To even the outsider the inequalities of promotion in the various arms create contrasts that at once excite their attention. In equity, no reason exists for such inequalities and differences. The differences creating as they do for equal length of service unequal pay and emoluments, are the foundation of much of the petty jealousies and rancor that prevent harmony and a united service.

"For several years various officers of different arms, recognizing these difficulties, have been offering suggestions and remedies, the adoption of

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Now, it is understood that all of the general officers of the line of the army are to be assembled in Washington for the purpose of taking up this question, item by item, and to submit their opinions upon this vital question.

In so far as the proposed plan can be carried into effect by executive action, there will arise no difficulty, but as the vital and more important parts will require legislative action, there is no knowing what the final result will be. This much is certain, however, that if the army can unite in accepting this, or any reasonable plan for that matter, Congress will begin to believe that the army knows what it wants and will be inclined to act accordingly, *provided*, of course, that it does not materially add to the expenditures for maintaining the army or is in the line of retrenchment. Retrenchment, not economy, for Congress does not, as a rule, when legislating for the army consider what will be ultimate economy but what will appear upon the records of the present as being in the line of retrenchment.

The most important, or it might be said the all-important part of this report is that relating to the question of promotion for no scheme will receive the united support of the mobile army, and therefore have any hope of becoming a law, which does not equitably settle this question which heretofore has been the drawback to any progressive legislation for the line of the army.

The following from one of our more progressive cavalry officers is pertinent to this question:

"To even the outsider the inequalities of promotion in the various arms create contrasts that at once excite their attention. In equity, no reason exists for such inequalities and differences. The differences creating as they do for equal length of service unequal pay and emoluments, are the foundation of much of the petty jealousies and rancor that prevent harmony and a united service.

"For several years various officers of different arms, recognizing these difficulties, have been offering suggestions and remedies, the adoption of

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U. S. CAVALRY JOURNAL.

which would, or should, eliminate these objectionable features. Their voice and that of the aervice has been heard and the General Staff in studying the organization of the land forces of the United States has taken up the subject. Two propositions touching this matter have been brought forward, one that rank for all srms in any grade below that of brigadier general shall, with certain obvious restrictions, be determined by length of continuous commissioned service and the other that the benefits of any increases, or the absorbtion of any files due to decreases, in any branch of the mobile army be distributed proportionately among them all.

"These features were ably discussed by Captain Moseley in pages 239, et seq., of the September number of the JOURNAL. They are particularly worthy of consideration now that the ogre of reduction has again come up. It may be said that the incorporation of these principles into the reduction measure introduced at the last sension of Congress was as potent as any of the reasons leading to the defeat of the reduction proposition.

"From the standpoint of equity the proposal that any increase or decrease in any one of the mobile arms be apportioned among the others will appeal to every fair minded man. There may be some men who will oppose this principle, but upon investigation that opposition will almost invariably be found to be prompted by self interest—a fact which of itself negatives the force of the opposition.

"Undoubledly both of the propositions will appeal to Congress; for that body in all legislation is usually mindful of the acquired and equitable rights of these affected."

Of course it is understood that this proposed plan makes no attempt to cure the evils that have resulted from past inequalities of promotion but only provides for preventing them in the future as regards the line of the army. This is a step in the right direction but, in the opinion of the writer, it does not go far enough and will not remove the sore spots in the army that result from the inequalities in promotion between the line and the staff.

There will never be complete and proper harmony throughout the entire army until these inequalities are adjusted and this can be so easily accomplished, or at least the sting may be removed, without affecting or changing the present rank of any staff officer, that it is hoped that an effort will be made to finally incorporate it into the reorganization plan. This is to provide that whenever line and staff officers come together that they shall take rank and precedence, either social or official, according to length of service as a commissioned officer.

INCREASED COST OF LIVING.

The subject of the high cost of living, or the cost of high living, which has been agitating the public mind for some time past has at last struck the Cavalry Association and, like our friends in the army and in civil life as well, retrenchment must be the order of the day.

A certain old veteran of the Civil War has printed the CAVALRY JOURNAL for over a quarter of a century. It so happens that your *Editor* served in the same volunteer regiment with him in 1865, he having been the last Sergeant Major of the noted Eighth Illinois Cavalry while the writer was the last recruit that ever joined that regiment. It also may be a matter of interest to the members of the Cavalry Association to know that at one time, after the Spanish War, when the Cavalry Association was in financial straits, this printer continued to print the JOURNAL and waited for his pay for a year or more, it being paid in driblets, until, under the able management of the then *Editor*, Major Steele, the Association finally got on its feet again. However, this has nothing to do with the question under discussion.

Several times during the last few years, the said printer has hinted that it would be necessary for him to raise the price paid for printing the JOURNAL of the Association and this because the cost of paper, material and labor had advanced to a point far beyond that which prevailed at the time the present contract was made, which was in the years before the present Rditor came into office.

As hints did not count, not much attention was paid to the question but now the blow has fallen and from this time forth it will cost from twenty to twenty-five per cent. more to publish this JOURNAL, provided it is issued on the same basis as heretofore, that is with as many pages, with as many illustrations or as frequently.

When the subject of making the CAVALRY JOURNAL a bi-monthly publication instead of a quarterly was under discussion, and it was considered by the Executive Council for

several months, the present President of the Cavalry Association, and a former Editor of the CAVALRY JOURNAL, then on duty in the Philippines, wrote that he believed it would be a grave mistake to make the proposed change; that it would be found difficult to obtain suitable, live, up-to-date original articles to keep the JOURNAL up to a proper standard and that it would be found necessary to pad with reprints, translations, etc. However, when this letter setting forth these objections, was received, the change, by direction of the Executive Council had gone into effect.

Frequently since that time, your Editor has found this prediction come true and it has been found difficult to procure original articles for publication that were acceptable to the Publication Committee.

As to the question of the cost of high living, so to speak, we have been using, in the recent past, many half-tone cuts to illustrate certain articles, it being believed that these cuts not only added to the attractiveness of the JOURNAL, but also served to make the subjects under discussion more clear. These, however, have been expensive and probably will have to be eliminated in the future.

Now, it must not be inferred from the above that the Cavalry Association is again in financial difficulties for such is not the case as the forthcoming annual report will show. Heretofore, for several years past, our income has exceeded our expenditures and we now have plenty of cash on hand for all ordinary needs and it is well to keep a snug balance on hand for emergencies. At the same time, with the increased cost of publishing the JOURNAL, it is feared that our expenditures will exceed our income unless radical steps are taken to make a corresponding change in the JOURNAL, either by decreasing its size—it has been much larger than any other military, bimonthly publication—by reducing the frequency of publication or by cheapening the style of the JOURNAL, that is by cutting out'illustrations, etc.

What are the views of our members on this subject? Let us hear from as many as possible before the Annual Meeting which will be held on the third Monday in January next— January 20, 1913.

TAIL PIECES.

The small cuts that have been used heretofore in the CAV-ALRY JOURNAL for many years in order to fill out pages at the end of articles—called "*tail* pieces"—are getting badly worn and soon will have to be discarded. Some of these—like the one on page 693 of this number of the JOURNAL, are typically cavalry in character.

This particular cut was made from a sketch by Remington and is exceedingly clear and well adopted for the purpose. We would like to obtain fresh, suitable designs from which such cuts can be made and will pay for those that may be accepted for this purpose. The sketches may be made two or more times as large as they will be in the finished cut as they are reproduced photographically and can be reduced to the proper size.



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STATEMENT.*

Statement of the ownership, management, circulation, etc., of the JOURNAL OF THE U. S. CAVALRY ASSOCIATION, published bi-monthly at Fort Leavenworth, Kansas, required by the Act of August 24, 1912.

- Editor: EZRA B. FULLER, Lieutenant Colonel, U. S. A., Fort Leavenworth, Kansas.
- Managing Editor: Same as above, there being only one Editor.
- Business Managers: Executive Council of the U. S. Cavalry Association. (Names hereto attached) Fort Leavenworth, Kansas.
- **Publisher:** U. S. Cavalry Association which is composed of Cavalry Officers of the U. S. Army, associated for the advancement of the cavalry service.
- Owners: The U. S. Cavalry Association, as stated above. It is not a corporation. The members of the Executive Council are as follows: Lieutenant Colonel EZRA B. FULLER, U. S. A., Retired; Major FARRAND SAYRE, Ninth Cavalry; Captain WILLIAM T. JOHNSTON, Fifteenth Cavalry; Captain CHARLES E. STODTER, Ninth Cavalry; Captain WILLIAM KELLY, Jr., Ninth Cavalry.

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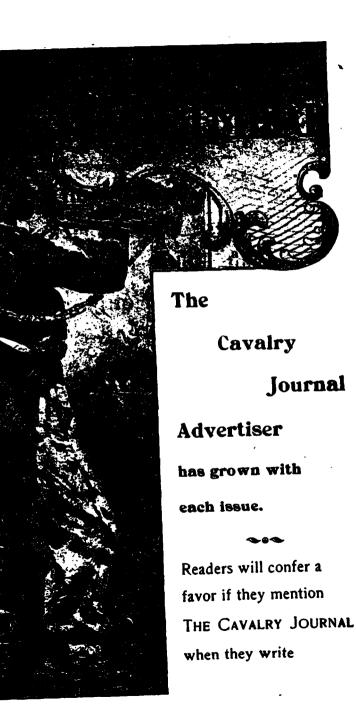
> (Signed) EZRA B. FULLER, Lieutenant Colonel U. S. Army, Retired.

Sworn to and subscribed before me this 23d day of October, 1912.

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(Signed) HENRY SHINDLER, Notary Public.

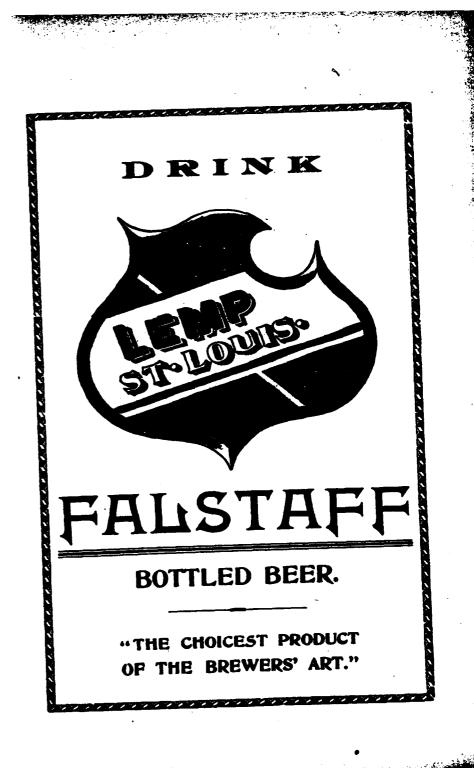
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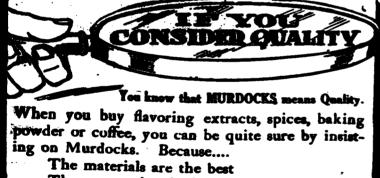
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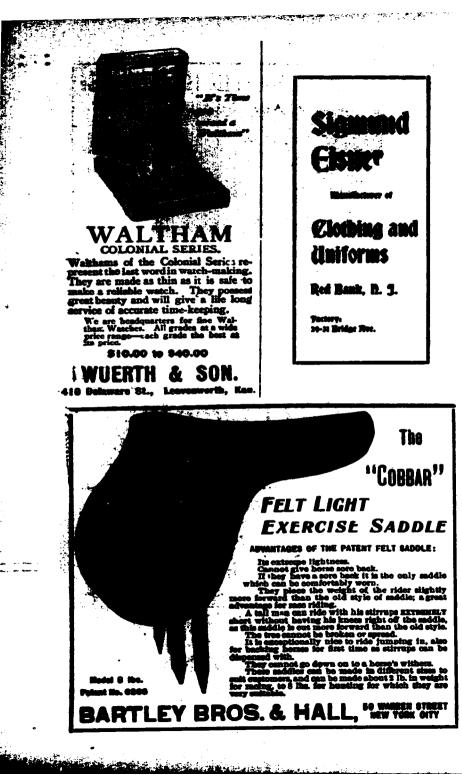
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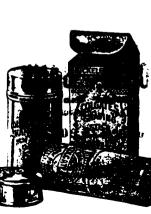
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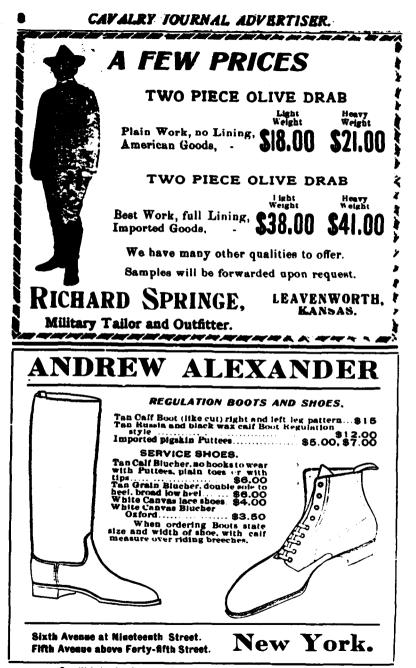
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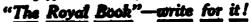
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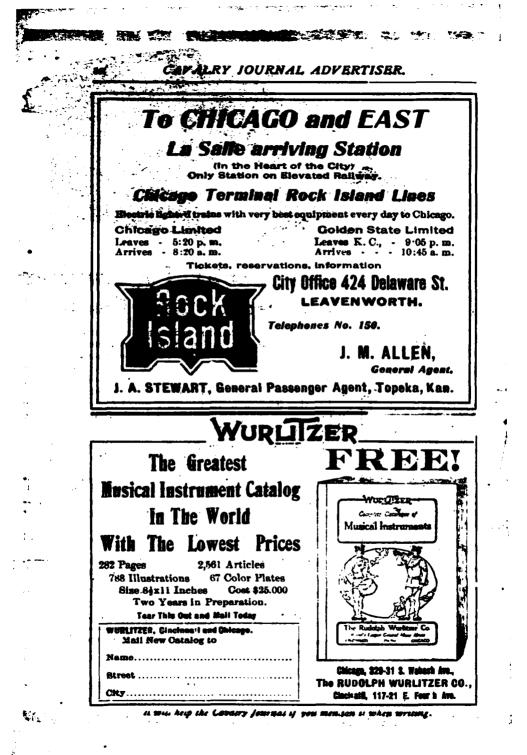
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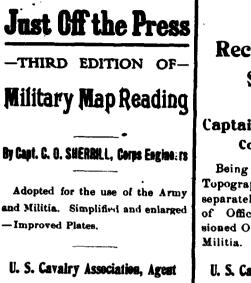
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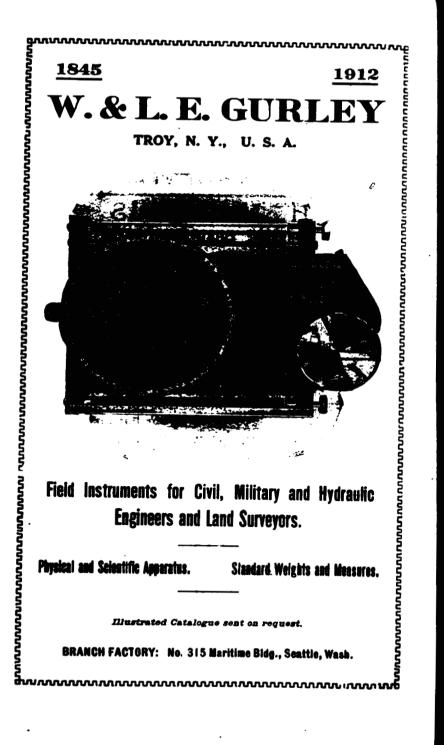
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JOURNAL

OF THE

United States Cavalry Association.

VOL.	XXIII.	MARCH, 1913.	No.	95

THE NECESSITY FOR WELL ORGANIZED CAVALRY.*

BY LIEUTENANT COLONBL F. S. FOLTZ, U. S. CAVALRY.

THE project of law submitted for your deliberation, has for its object the better utilization of our calvary force by distributing it more logically and organizing it more compactly.

For the last twenty years scarcely anything has been done for our mounted force. The attention of Parliament has been specially directed to the artillery and infantry. A series of useful measures have increased their importance; but as during this time the calvary has remained stationary, its power is no longer to-day proportionate to that of the other arms. This is a grave defect. All the elements entering into the composition of an army should be in just proportion, to reinforce one of the essential parts of a force is rather to weaken the whole than to strengthen it.

•The following notes are made up of extracts from the report to the French Chamber of Deputies, 1912, in the name of the Army Military Committee of the Chamber of Deputies. It is interesting to note the attitude of this report when our own Military Committee of the House of Representatives has been considering the reduction of our cavalry.

U. S. CAVALRY JOURNAL.

We have no intention of criticising the increase given to the artillery; but what is the use of multiplying batteries and stretching out the trains, if to protect them, the commander has at his disposition only a few horsemen worn out by fatigue and condemned on account of their small number to an incessant labor? Insufficiently protected, our improved guns with their precious supplies, run the risk of falling into the hands of the enemy. All military writers, all generals, who from the most ancient times have written upon this subject have been unanimous in proclaiming the necessity of increasing the cavalry correspondingly with an increase of the forces and of the trains.

Is there any need of reminding you that the German theorists have made this axiom the base of their military organization? Not for an instant have they thought of disputing it and we will see farther on with what a persistent resolution they have pursued it in application. Among our neighbors each one of the arms has always been increased in a parallel measure. 'Those who think that one can be successful with the minimum of cavalry,' said General Von Kleist, 'have never truly studied the mechanism of the movements of an army.' To weaken the cavalry by reason of the economy thus obtained or increase beyond measure the infantry and the artillery amounts to clipping the wings of an eagle in the hope of making his talons grow.''

The events of the Russo-Japanese War, as well as those of the Transvaal, have justified this opinion.

When the German Minister of War, General Von Einem, presented to the Reichstag the project of the law of 1905, for the increase of cavalry, the extreme Orient was bleeding from the Russo-Japanese War. The Minister strongly insisted that the operations of this war emphasized the extreme importance of cavalry. "If the Japanese," said he, "had had a sufficient cavalry the war would be already over. We, as Germans, have every reason to value the cavalry. Without cavalry, Sedan would not have been possible, even for Moltke. Without cavalry, the investure of Paris would have been impossible. And yet, in 1870, the German cavalry was not up to the mark."

General Kouzmine-Karawaef, assistant to the Russian Chief of Artillery, lately remarked to our military attaché in Russia: "Though I am an artilleryman, I am disturbed about the relative inferiority of your cavalry. To diminish it would be an economy which I would not dare to propose under any circumstances." People seem to think that our cavalry has not rendered us great service in the last war. These are the ideas of professors who find nothing new to add to their theses on strategic reconnaissance or upon the use of masses of cavalry on the battlefield. But nevertheless in many cases and notably at Liao-Yan and Mukden, it was our cavalry which saved the army from complete destruction. Without that great superiority of our cavalry, in the state of exhaustion of our troops after such prolonged fighting, we should have met a disaster if the Japannese cavalry had charged our infantry in retreat. And do you know at Sandepu, some Japanese infantry still unshaken, but caught as it sallied in front o Mitschenko's cavalry, was thrown into a panic? I do not affirm that our cavalry was well handled during this war-far from it-we did not even have a true cavalry general on the spot; but nevertheless it rendered us notable service." Opinions like these should not be lost.

To preserve an army from destruction, to give it the opportunity to reform for further resistance, to obtain, in spite of defeat an honorable peace, what more do we need to emphasize the preponderating rôle of cavalry. It is asserted that if at the commencement of hostilities, the Japanese General Oku had had under his orders a few regiments of cavalry, the concentration and feeding of the Russian army would have become pratically impossible.

This would have meant an end to the struggle and the economy of billions, the saving of numberless human lives.

General von Kleist emphasizes these observations in striking language: "Armies thus composed of infantry and artillery may perhaps for a long time offer a passive resistance; never will they gain a decisive victory."

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THE MISSION OF THE CAVALRY.

The War Academy of Berlin has like our own French School of War long ago laid down the important rôle which cavalry must play from the beginning of mobilization. The most diverse and the most delicate tasks are laid upon it.

Reconnaissance in the first place to inform the army commander, to determine the enemy's lines of march by brushing aside, if necessary, the opposing cavalry; the service of security to assure to the other forces the necessary safety. sparing them physical fatigue and moral disturbance; the mission of combat offensive or defensive, depending upon whether the cavalry hangs onto the enemy's columns, harassing them and forcing them to deploy, compelling them to check their march and to arrive on the battlefield half exhausted by incessant struggle, or whether they cooperate in the action of other arms by lending them the incalculable element of power found in rapidity and surprise. Surprise by the mounted attack against batteries badly supported or shaken battalions, surprise also by sudden and unexpected fire of carbine, horse artillery and machine guns on a weak point of the line of battle; finally the mission of pursuit when the impetus of the squadrons changes the retreat of the enemy into a rout, transforms an indecisive battle into a victory and thus gives the supreme reason for the struggle that has been going on.

It is especially as a means of reconnaissance in spite of dirigibles, aeroplanes, telegraphs and telephones that cavalry appears to the Germans to have an incontestable utility. They count upon it to obtain, by force, information which they have not been able to gather otherwise.

For them, reconnaissance should present the character of the bitter offensive which characterizes all their methods of war. They believe that it is not only a question of obtaining information but of affirming their superiority by acts of audacity and violence which will make an immediate impression upon the adversary and will spread disorder and terror among the population.

"In principle," says General Bernhardi, "the cavalry should seek combat with the opposing cavalry with a view to dominate at the start ground between the two armies. The opposing cavalry must not dare to keep the field against it and effective and moral superiority in the whole zone of movement between the two armies must be acquired beforehand."

And the regulations of the 22d of March 1898 on the field service of the German army crystallizes this opinion when it says: "It is of the greatest importance to sweep away as quickly as possible the opposing cavalry and to thus assure us the *incontestable moral superiority*."

These few words show with what certainty our neighbors across the Rhine calculate upon the triumph of their reconnoitering divisions. To acquire in the first place moral superiority, that is the essential object which they assign to their squadrons. Do they not know that in war it is not alone the man but the soul of the man that seizes the victory—a demoralized force, numerous though it be, is a beaten force. By its rapid blasting action, the cavalry exercises a strange influence on the morale of the troops against which it is thrown. This influence, overwhelming in its effect, is the real secret of its power.

To command this subtle advantage, the Germans insist upon a numerous cavalry.

THE SITUATION OF FRANCE AND GERMANY COMPARED.

For these reasons in 1905, the Reichstag determined at a single stroke to create 11 regiments, and Germany thus has to-day 103 regiments of cavalry.

This is not all; as we write, the Empire is making another great effort. Two army corps are to be formed. The artillery receives a greater development; as to the cavalry, it is announced that it will be increased by several more regiments.

And we, what are we doing?

For the last twenty years we have remained inert.

* * • We have but eighty-nine regiments, ten of them in Algeria. Admitting that two regiments can be brought from Africa, we would have but eighty-one regiments to oppose to the one hundred and three of the Germans.

But is our inferiority only one of numbers? While the Germans in adopting a two-years' service for the infantry have continued to demand three for the cavalry and horse

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artillery, we have not hesitated to reduce the service of mounted troops to two years.

Without suppleness, without agility, without audacity (all these are French qualities) you cannot have a horseman. But if time is lacking to complete the training of the trooper, it is plain that it is difficult to obtain a substantial troop.

• • •

General Maitrot says:

"Last January the mean effective of each of the squadrons of a certain regiment of dragoons was one hundred and forty-one, in spite of the attractions of a very fine garrison.

"If war had broken out at that moment, each squadron would have been able to mount but eighty-four men instead of one hundred and thirty-five, leaving a deficiency of fiftyone men which we would have had to fill with reservists who had lost the habit of the saddle. Let us compare this squadron with the German squadron of one hundred and thirty sabers without its reservists, and composed of old soldiers and men in their second and third year. The situation of all French squadrons is analagous.

"The two-years' law has also ruined our horses and hurt their training. Formerly it was held and properly, that a relaxation and rest of from one month to six weeks was absolutely necessary for the troop horse which had just been used for nine months of continual instruction, followed by thirty days of evolution and maneuver. At present, with the discharge of one class about the 24th of September and the arrival of the recruits on the 1st of October, this indispensable rest is reduced to eight days. As to the remounts it is impossible to confide their training to the corporals who are all occupied with the instruction of recruits and with getting the reservists in hand; this instruction is therefore confided to the few old soldiers available, capable of the work, and these men ride three or four horses daily.

"The recruits learn everything at once, riding, gymnastics shooting, handling of arms, field service, and at the end of four months of this regime they are declared ready for mounted mobilization. And there are people who claim that these troops of four months are fit for a campaign—in the rear rank, but as soon as we take the gallop these men who cannot hold their horses, tangled up in their reins, hampered by their arms, will throw the front rank into disorder. And what will they do as foragers and deployed by squad under the fire of artillery?

"This high-speed instruction is a folly. Cavalry of all arms is one whose training should be made with the greatest method and deliberation, three years' service was a minimum. With two years' service we can get no good results."

"The French cavalry ought to be the first cavalry in the world: the French officers are remarkable horsemen; the men are intelligent, bold, full of dash and audacity; we have breeds of horses of the first order, particularly our admirable animals of the south of France; all these trump cards have been indisputably nullified by the two-year service and our cavalry composed of half drilled men and badly trained horses, will find itself inferior to the German cavalry composed in great part of old troopers. It has been said: "The charge is made with the heart.' Granted, but even then you must know how to keep your seat and use your arms!"

This conclusion, pessimistic though it be, contains much truth. The two years' service has been fatal to our cavalry. We should harbor some doubt on the quality of our mounted troops and therefore do everything that lies within our power to increase their value.

Does our present organization gives us at least the means to compensate to a certain extent for the deterioration which we suspect? Do the few regiments which we have correspond to a sufficient precise military idea? We will go briefly into this matter.

OUR PRESENT ORGANIZATION.

Our cavalry is now composed of eighty-nine regiments in two distinct groups: First, the independent cavalry divisions;, second, the cavalry brigades attached to the army corps. The eight cavalry divisions of two or three brigades of two regiments include thirty-six regiments.

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The brigades of the army corps of two or three regiments absorb a total of fifty-three regiments.

The greater part of our cavalry then (fifty-three regiments out of eighty-nine) is alloted to the brigades of the army corps.

In Germany the proportion is inverted; out of the one hundred and two existing regiments, sixty-six at least are destined to the cavalry divisions and thirty-six only to the army corps.

This difference in the distribution gives rise to an interesting observation.

In Germany the idea of an energetic offensive, the conception of the rôle of the reconnoitering divisions as we have just examined it has led to giving these divisions the maximum of power. The service of security inspired by the anxiety of the defensive is relegated to the background. It is given only the force strictly indispensable.

In France the case is quite different. A sentiment of prudence—of exaggerated prudence—has governed the distribution of our mounted troops. All preferences, all generosity, has been in favor of the corps cavalry, of the purely defensive brigades. The idea of the offensive, so preciously guarded in Germany, is strangely weak with us.

But how can we be surprised at this? The authors of the law of 1875 labored under the impression of the continual surprise that we had suffered during the war. To prevent recurrence of these disasters it seemed to them that we could never protect ourselves enough. They dreamed of covering the army with a sort of cuirass which it would carry around with it.

We are no longer in this state of mind.

We have studied and organized our service of security; we give it its due; we do not wish to sacrifice everything to it.

"The action of cavalry is based on audacity, opportuneness and swiftness. It is above all the weapon of the offensive." Thus speaks our new cavalry regulations. The conception of the legislature of 1875, was that of a beaten army. Our's is that of an army which aspires to victory.

THE NECESSITY FOR FORMING CAVALRY DIVISIONS.

The field service regulations of 1895 gave the commanding general the right of drawing from the army corps all the cavalry that was not indispensable to them with the single restriction of leaving one squadron for each of their divisions.

To-day no army maneuver, no problem on the map or on the ground but it begins by the uniting of the different brigades of the corps cavalry into a cavalry division called the "provisional division."

We cannot escape this! A commander cannot allow his adversary a crushing superiority in cavalry when he has at his disposition regiments which his army corps will never utilize during the marches preceding a battle. Can he renounce beforehand the advantage of giving his reconnaissance the power that is necessary if it is to bring him good information? Can he cheerfully allow the enemy "to dominate all the ground between the two armies;" to allow him to win at the very start a moral and material superiority which will weigh heavily upon all following operations? But if this immediate reunion of the brigades of the army corps is a solution when it is only a matter of a war game or of theoretical excercises of peace, how will it be in war?

These "provisional divisions"—which it would be more exact to call "improvised divisions"—have all the characteristics of accidental organization. They have no staffs, they have neither artillery nor means of communication (wireless apparatus, carrier pigeons, and etc.). They unite under the command of a general who may perhaps never have led a division of cavalry, a lot of units which have never maneuvered together.

In 1901, the technical cavalry committee emphasized the grave impropriety of such a conception.

"There is nothing more dangerous with cavalry than to improvise its formations at the outbreak of war. The rapidity of maneuver of this arm demands that its leader

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should be instantly understood: that can be obtained only in units of permanent formation trained and exercised in time of peace by the one who is to command them on the field of battle."

We are therefore forced to this conclusion.

"Since the formation of "provisional divisions" is the invariable rule, and is consequently necessary, logic compels us to organize in peace definite divisions leaving to the army corps only the cavalry which is indispensable to them."

ADVANTAGES FOR PROFESSIONAL INSTRUCTION.

The permanent constitution of cavalry divisions will have the best consequences in the matter of professional instruction. Who does not know how much the training of our corps cavalry has been below the mark during later years? They send to the maneuvers regiments of very unequal value. Hinted at in 1907. by General La Croix this regrettable lack of uniformity has become more marked in our later maneuvers. The inferiority of certain of the corps regiments compared to the divisional regiments has been sadly proved. As the explanation of this condition can be found neither in the recruiting of the men nor in the quality of the horses. we are forced to recognize it as the result of vicious organization and command.

How can the commander of an army corps properly direct the training of the cavalry regiments at his disposal? He never has time for it. As to his technical qualifications for the duty, this is often lacking, since the commanders or army corps come usually from the artillery or the infantry. Left to their own inspirations, the generals of the cavalry brigades and these generals of army corps who have come from the cavalry do the best they can; but the absence of a strong hand and of a will which imposes itself and gives unity of direction, entails as a necessary consequence, the inferiority of the brigades of corps cavalry compared with the independent cavalry divisions.

WELL ORGANIZED CAVALRY.

RE-ESTABLISHMENT OF THE OFFICE OF INSPECTOR OF CAVALRY.

Cavalry generals were formerly charged with the inspection of these brigades and with bringing their training up to the same degree. This inspection was unfortunately suppressed in 1901. We recommend a revision of this step. It is not a question of course of reestablising inspecting generals for the whole of the cavalry. In an independent division the commander, the one who will lead it against the enemy, is the best inspector of all.

The value of our divisions, their remarkable training, the emulation that reigns among them, the ardent spirit of offensive which animates them, are sufficient testimony of the excellence of an organization which places in the hands of the leader the preparation in time of peace of the instrument which he will have to handle in time of war.

It is clearly another matter for the regiments left with the army corps after the creation of cavalry divisions.

Tested and watched over by a chief of recognized competence, these units, although isolated, will quickly acquire a value comparable with that of the regiments in the cavalry divisions.

Confronted with the superiority of the German cavalry. it is of the greatest importance that our units should give the maximum return. It would be deeply to be regretted if, for want of uniform instruction, a great number of our regiments, already too few in number, should not reach a level of instruction and of preparation for war on which we should be able to count.

PROPOSED ORGANIZATION.

The organization which we propose here follows the above observations and criticisms.

Each one of the nineteen army corps stationed in France will be provided with a regiment of cavalry instead of a brigade. In mobilization this regiment will have six squadrons.

The other regiments at home will form ten divisions of cavalry, each with six regiments (three brigades).

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COMPOSITION OF THE CORPS CAVALRY.

It is not paradoxical to say that they (the corps commanders) will be infinitely better provided with cavalry than they are at present.

The cavalry assigned to the army corps will be in principle light cavalry suitable to the special service demanded of it. If the temperament and size of these men and horses does not permit them to fill the conditions of cohesion, of vigor in the shock and of moral ascendancy which make the power of the squadrons of the dragoons and cuirassiers, they are on the other hand without rival in the service of patrols, advanced posts, ambuscades, and, in general, in all the little operations of war in which the cavalry attached to infantry is called to play a part.

The mobilization of these regiments up to six squadrons will require eventually the presence of a few reservists mounted on requisitioned horses. Their number will, however, be so small as to cause no serious inconvenience. On account of the time necessary for the concentration of troops, the corps cavalry, which is not under the same obligations as the cavalry divisions, thrown at the very first moment onto the frontier, will have, in effect, a period of preparation which it can devote to training.

COMPOSITION OF THE CAVALRY DIVISIONS.

Our ten cavalry divisions will be uniformly of six regiments each.

This composition has given rise to controversies.

Some have wished to give these divisions a weaker composition so as to increase the number of them. To give them four or five regiments would allow in fact our having fifteen or twelve divisions instead of ten.

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This project was soon abandoned.

• • •

The eleven or twelve German divisions each have six regiments.

Now, of all the great units of the army, the cavalry divisions are the ones which will be most often called upon for isolated combat. The service of reconnaissance will often compel them to measure their strength with the opposing cavalry divisions. A cavalry combat develops so rapidly that one can never count on the assistance of troops operating in the zone of exploration.

What would become of our divisions of four regiments always one-third weaker than the divisions they would have to meet? What would be the morale of the troops who knew beforehand that they would have to fight two against three? It is dangerous to expose a young soldier to such a test. We must not risk shaking his confidence in his success.

The division of four regiments must therefore be condemned.

But, it may be said, if this is the case, why not turn this argument to our own advantage? Why not form divisions of seven or eight regiments? Would not their evident numerical superiority make them certain to get the better of the hostile divisions?

Gentlemen, a long experience has proved that beyond six regiments the division becomes too heavy an instrument, too difficult to handle, it lacks the maneuvering qualities which every body of cavalry should possess in the highest degree.

We can think of uniting several divisions, under certain conditions and on certain terrain, under the name of a "cavalry corps," but this does not contradict the principle we have just enunciated.

A corps of cavalry cannot be compared to a large divisions. The difficulty of supplying such a mass, the absence of large plains favoring a continuous grouping of its elements, oblige it to move and operate quite differently from a division which represents on the contrary a formed and permanent unit, thoroughly in the hand of its leader and always ready to throw in an instant all of its squadrons into a fight. The cavalry division of six regiments is and will remain, we are

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convinced, the typical division. We cannot with impunity exceed nor fall short of this strength.

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CONCLUSION.

To resume, the new organization will give us ten cavalry divisions, each of six regiments. • • • By attaching to each one of these a group of cyclists, as has been done with the infantry, that is to say three platoons of a hundred cyclists each, taking part in all the maneuvers and excercises of the division; by adopting as soon as possible a horse artillery gun having all the desirable mobility; then by perfecting the auxiliary service and particularly the transformation of our telegraph service, our wireless service, our bridge material, our automobile transportation, we will make of our division an organism at once self-supporting and powerful.

CAMPS OF INSTRUCTION.

The work, however, must be completed by sending the cavalry periodically into great training camps.

We must not forget that cavalry, in great masses, is under present conditions, unable to get the necessary training.

The conditions of modern war impose upon its dispersed formations, maneuvers of large radius and the necessity for great skill in utilization of the ground. How can we attain this end and this degree of training, which demands continual practice upon the maneuver grounds of our garrisons, simply "billiard tables' measuring a few hundreds of meters on the side. We can no longer plan to maneuver across country. The continual increase in the subdivision of properties, intensive agriculture which leaves no spot of ground uncultivated, prohibit during at east ten months of the year, any garrison no matter where stationed from taking a step off the beaten roads.

Where then will the trooper learn his duties on varied terrain, dispersion under fire and the rallies which will be his daily task in campaign? Where will the divisions, brigades and regiments receive that indispensable training which is to make them supple, well articulated and capable of maneuver, obeying instantly a gesture or indication of the leader, in a word, real fighting tools?

Gentlemen, as we have said, we have subjected cavalry to a severe test by imposing upon it the two years' service while Germany has thought it indispensable to retain for this arm three complete years of training. However, our officers have gone courageously to work, and have tried to surmount the difficulties which increase from day to day; they have obtained great results but it is impossible for them to train their men properly unless they are furnished the means.

It is our duty to aid them.

Camps of instruction are as indispensable to cavalry for its evolutions as schools of fire are to the artillery.

It is not a matter of a few days during which they are to review the parts of an infinitely detailed program, where they would execute at the same time field firing, campaign service, maneuvers, evolutions of the regiments, brigade and division (deplorable proceedings which bring only confusion and disorder), it is a question of a period of twenty-five to thirty days at least which will permit the different units to work methodically, to learn their trade thoroughly, to master it and acquire those qualities of order and flexibility, without which cavalry is nothing but a force without cohesion, doomed beforehand to defeat.

It will be thanks to this long work in the camps that our future organization will bear fruit and that we shall have a cavalry fit for its task.

THE ORGANIZATION OF THE REGIMENT.

Of all arms, cavalry is the one which lends itself least to improvisation. As we have formed it in time of peace, so we will find it in time of war.

The utilization of the reserve to complete active organizations at the moment of mobilization can be very slightly relied on. Though the companies of infantry will have twothirds of reservists, and the batteries of artillery will have a majority of requisitioned horses, these elments will be very

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much reduced in the formation of our squadrons. Without doubt, the mounted troops train excellent reservists, but the number of men who retain real qualities as horsemen is necessarily limited. And this is the true reason for the special situation of our cavalry, we have but an insignificant number of horses thoroughly fit for immediate camapign. Requisition of horses, largely utilized by the artillery for its draft service, furnishes very few saddle horses. These again are almost all insufficiently trained. So, excepting a few horses which might be utilized to complete, on mobilization, the regiments of the army corps raised to six squadrons, we must admit that requisitioned horses cannot enter the normal composition of our active cavalry units.

The experience of past wars, and in particular, that of 1866, when the Prussians included in their active squadrons too many reservists and requisitioned horses, has demonstrated that although these can be used for particular units, regiments and squadrons of the reserve, destined to a limited service, they cannot without danger form part of active units which must above all be homogeneous.

We must then count only upon our elements of peace time; so we must form our regiments very strongly not only as to officers and non-commissioned officers, but in effectives of men and horses.

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EFFECTIVES IN MEN.

Effective strength of the squadron.—The effective strength of the squadron in peace time is based upon that of war.

A mobilized squadron should include four platoons of sixteen files (thirty-two men) giving one hundred and twentyeight troopers, plus five file closers (non-commissioned officers) and ten dismounted men (artisans and wagoners), a total of one hundred and forty-five men. This effective fills strictly the conditions of war. The squadron should not have platoons of more than sixteen files as this would reduce its mobility; but it should not be weaker when it starts on a campaign, if we are to be prepared for the inevitable losses and the impossibility of replacing missing troopers. Taking then the war effective of 145 men as a base, our project is a peace effective of 147 troopers.

We should have wished to make this figure higher, for we should account for absences and ineffectives of all kinds which will develop on mobilization. It is to be regretted that we have not been able to allow to all the regiments a margin of effectives similar to that which we have given to those which are to be mobilized instantly. Without having to wait for a single reservists, these squadrons will have each twenty-five extra men, corresponding to the probable number of unavailables.

For the regiments of the cavalry divisions not belonging to this preceding class, and which may receive a few reservists picked from among those best trained, we have allowed ten extra men per squadron.

For the other regiments, we have been compelled to rely for the necessary complement from the reserve.

Effective of the regiment.—The total effective of a regiment in the interior of the country (omitting the officers) is therefore 680 men.

This is the minimum number. In the great majority of the regiments, happily, this number will be increased as we have said, so that we shall have:

23 regiments of 780 men, covering regiments.42 regiments of 720 men, in cavalry divisions.20 regiments of 680 men, attached to army corps.

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Our proposed law further specifies that in addition to the above effectives at least thirty men of the auxiliary service will be allowed to each regiment annually. These men remaining two years with the colors, each regiment will have in addition to its effectives sixty men of the auxiliaries.

Thanks to this indispensable provision, it will be possible for the cavalry to sensibly diminish the number of men taken from their particular work and from active training.

For we must constantly remember that the effectives thus obtained are the minimum, just sufficient to give the

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resources necessary for instruction in time of peace and for mobilization.

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EFFECTIVES IN HORSES.

Officers' Horses. We have cut out one of the two horses allowed to the major of the regiment when he has been more than three years on his special duty. It is evident that if he has not sought to return to active service after two years he has become specialized as an accounting officer and has no longer need of a second mount.

In giving three horses to the colonel we have attracted criticism, but this is not justified. Three horses are necessary for chiefs of regiments. In maneuvers and on campaign a colonel of cavalry cannot be left at the mercy of an accident to a horse. More than anyone else, he must have a fresh horse at any moment, and one perfectly fit for serious effort. In case of absolute necessity a captain or lieutenant might replace his mount by a trooper's horse. This will not do for the colonel, who must always have horses that he knows and rides constantly.

It would be inadmissible, for a reason of economy, to deprive him of the means of thoroughly exercising his command.

Troop Horses. Each regiment will have 670 troop horses; but an excess of 32 horses is provided for 65 regiments, which will therefore have an effective of 702 animals.

Eight extra horses are given to regiments having a machine gun section.

THE CREATION OF A SPECIAL STAFF.

This exists already in the artillery. Its object is to regularize and fix the position of a certain number of officers now carried as detached, giving rise to numerous difficulties in command and administration. The regimental commanders at present cannot dispose of the elements which legally belong to them and the unavailable officers may be very inequally distributed among the different regiments. It is therefore particularly advantageous to give them a clearly defined situation outside of a regiment, and the law has fixed the staff of the cavalry in accordance with the number of officers who are at this actual time detached from their regiments on duty of fixed duration.*

GENERAL CONCLUSION.

There is another matter, however, which appears to us no less urgent than those about which we have spoken; it is the organization itself of the superior command of the cavalry.

The cavalry is suffering from an indisposition. Everybody admits this, but this trouble comes not only from the difficulties arising from short term of service, it is attributable above all to the absence of a single impulse from a higher quarter, coordinating all efforts and pointing them towards a common object.

Has not each renaissance of cavalry been due to the development of some powerful will—no one but an admitted leader (a Galliffet) can reconcile all divergent ideas and all variations in methods of command, an uncertainty which leaves the regiments in the dark

To lead mounted men, mobile and ardent, the leader himself must be quick and full of ardor. A great captain of horse must in the nature of things be young. Victory is coy and does not let herself be easily won by old men. It is at the age of a Conde, a Hoche, a Marceau, a Lasalle, and a Murat that one can live all day in the saddle and still retain

Table here shows that this staff includes:
12 colonels or lieutenant colonels.
31 chiefs of squadrons (corresponding to our majors.)
128 captains.
100 lieutenants.

on duty as follows: remount service, special military school, cavalry school, school of war (instructors and pupils), the school at d'Autun, the school at Saint-Maixent, central administration, staff, etc.

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one's ability to plan at night in the tent the success for the next day.

It is well to pass good military laws; but until we have resolved to lower the age limit of our generals and to pick, from among the best, the most alert to command our cavalry, we shall have made nothing but a sketch of our work, a body properly proportioned and perhaps admirable, but a body without a head.

To express ourselves frankly, we hope that the project of law which we present to the Parliament will be but the preface for laws quite as important on the promotion of officers and the reduction of the age of those in high command.

Hoping for the realization of this wish—which is the wish of the whole army—it is with confidence that we ask urgently that the Chamber of Deputies adopt the following project of law:

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TABLE NO. 1.

Composition of a cavalry regiment of 4 active squadrons and a depot squadron.

•	Men.	Horses.	Notes.
I. OPFICERS. Staff.			
Colonel Lieutenant colonel Chiefs of squadrons Major Captain (adjutant) Captain treasurer	12	1 3 2 4 2 (1) 2	 1 horse after 3 years on duty as "Major."
Major Captain (adjutant) Captain treasurer Captain in charge of material Lieutenant (assistant to the treasurer). Surgeons (2) Vaterinagrians (2)	1 1 1	2	2. Numbe
		••••	fixed by Min isterial decision
Total of the staff	9	14	
Supplementary Officers. Captains (4)		6	4. Filling func tions on the stat
	· 		and in charge of mobilization.
An Active Squadron.	•		
Captain Lieutenants or sub-lieutenants	1 4	2	
Total for the active squadron	5	6	
A Depot Squadron.		=	-
Captain commanding Lieutenants or sub-lieutenants	1 2	2 2	
Total for the depot squadron	3	4	
II. men.		=`====== 	
Platoon out of Ranks.	;		
Chief adjutants (*) Adjutants Barrack adjutant (5)	. 4	2 2	•. Non-commis sioned officers. 5. To whom ma be allowed
Adjutant, master farrier in charge of the veterinary infirmary and of the horse shoeing	3		clerk from th auxiliary service

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<i>.</i>	Men.	Horses.	Notes.
hief armorer	1	1	
encing mester (adjutant or serveant)	i	• •••••	
encing master (adjutant or sergeant) rumpet major	i	1	
SergantsQuartermaster	i	1	,
	i	; 1	
Clerk of the treasurer		· • • • • • • • • • • • • • • • • • • •	
Storekeeper	1		
Assistant to the Secretary	•		
of the Mess Council	1		
In charge of the infirmary	1		
Telegrapher	ī	1	
Machine gunner	ī	1	•
orporals.—Driver.	ī	-	
Chief of barrack shop	ī	••••••	
Armorer	ī	· · · · · · · · · · · · · · · · · · ·	
Trutanotor	i		
Trumpeter		1	1
, Clerk for the "Major"	1	·····	
Clerk for the treasurer	1	•••••	
Clerk for the assistant treas-			
urer	1		
Clerk for the captain in		1	
charge of material	1		
Provost.	2	·····	
Tailor	1		
Seddler	1	!	
Saddler	2	·····	
Shoemaker	Ī		
Telegrapher	1	1	
Machine gun men	2	2	
Froopers.—Clerk for the colonel			
Clerk for the treasurer	ī		
Clerk for the assistant treas-	•	h	
		,	
Urer.	1	••••••	
Clerk for the captain in	_		
charge of material	1		
In veterinary infirmary	1		15. I neluding
Artisans.—Armorers	2		1 saddler, 1
Tailors	1		shoemaker, 1
Saddlers	ī		
Shoemakers	ī		tailor, 1 horse- shoer under in-
Drivers	6		
D111 C10	0	ŀ,	struction; each
Total of the platoon out of rank	44	7	squadron has one man of the
			Hospital Corps.
			16. Each squad- ron may have
An Active Squadron.		1	in addition to
•]	this effective
djutant	1	1 1	strength a num-
irst sergeant	i	i	
			ber of men of
rgeants	8	8	the auxiliary
rgeant, horseshoer	1	1	service (60 al-
orperals	12	12	lowed to each
rumpeters	4	4 !	regiment).
	2	2	
mistant horseshoers		130	17. Including re-
mistant horseshoers		130	17. Including re-
roopers (15)			 Including re- mounts in train- ing.

WELL ORGANIZED CAVALRY.

	Mon.	Horses.	Notes.
Depot Squadron. First sergeant. Sergeants. Corporals. Trumpeters. Assistant horseshoers.	2	1 4 2 2 14	18. Including 1 saddler, 1 shoe- maker, 1 tailor, 10 orderlies for officers of the regimental staff, 3 orderlies for the supplementary
Troopers (18)	51	27	officers, 3 or- derlies for the
Totai		l	officers of the depot.
		!	19. Not includ- ing the orderlies of the surgeons and veterinar- ians.
RESUME.			
Field officers	5		
Other officers (not including surgeons and veterinarians)	30		
Total officers	35		-
Non-commissioned officers Corporals Troopers	61 68 564	· · · · · · · · · · · · · · · · · · ·	•
Total (not including men of the auxiliary service, 50 per regiment)	683	i =	-
Officer's horses (not including those of surgeons and veterinarians) Troopers' horses		<u>48</u> 670	

NOTE.—All regiments of the cavalry divisions and certain others are given an increment of 100 or of 40 troopers and 32 horses. Besides this, 8 additional horses are allowed to regiments with machine guns.

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HORSESHOES OF THE RUSSIAN ARMY.

BY CAPTAIN N. K. AVERILL, U. S. CAVALRY.

Drawings and descriptions of the horseshoes, calks, nails, and keys for screwing in the calks, as prescribed for use in the Russian Army in 1912.

HORSESHOES.

The horseshoes are of iron, of six different sizes, made separately for the fore and hind feet of the horse and in the following way:

(a). They have a slight elevation (clip) in the middle of the toe, to secure a better fit and be more easily and firmly fastened to the hoof; and

(b). They either have permanent calks for the summer or such as may be screwed on.

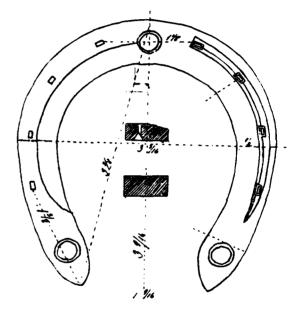
The shce for saddle horses must have two calks at the heels of the shoe; the shoe for draught horses; three, one at each heel and one in the toe. In summer the calks are blunt, in winter they are sharp, with the exception of the inner one which must always be blunt to avoid wounds if the horse is given to brushing; for horses which have the habit of overreaching the front calk of the hind shoe must be blunt.

--- The horseshoes are made as shown in the annexed drawings.

The upper surface of the shoe must be smooth and level. Part of this surface, along half the breath of the shoe, is bevelled from the nail holes toward the inner edge of the shoe, the horseshoe becoming one-sixteenth of a vershok (one vershok equals one and three-quarters inches), thinner toward the inner edge. This bevelling, which is done to make the horseshoe bear only on the lower side of the horny substance of the hoof, must not reach the heels of the shoe and thereby impede the proper expansion of the hoof.

HORSESHOES OF THE RUSSIAN ARMY. 747

The lower surface of the horseshoe must be quite smooth, with grooves cut in the quarters. These grooves are not cut in the toe of the shoe for a space of seven-eights to one and onequarter vershok, so as not to weaken the shoe in this place; on the quarters they are cut along the whole extent of the bevelling and stop beyond the last nail holes, not reaching the heels of the shoe by one and one-quarter to one and one-half vershoks.



FOR FORE FOOT-ONE HALF SIZE.

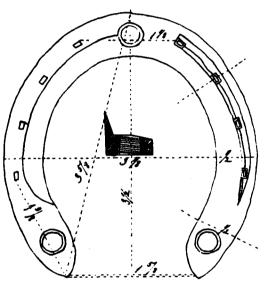
The shoes are made of six sizes and for both saddle and draught horses. In each style they are numbered 1, 2, 3, 4, 5, 6, and in each size there are different shapes for the fore and hind feet respectively; so in all there are twelve kinds of shoes for the saddle horses and twelve for the draught horses. The dimensions of each are laid down in a printed table.

The designs of the shoes are alike for the saddle and draught horses, the only difference lies in the number of holes for

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the calks. The thickness of the shoe in the toe and in the heels is one-quarter vershok, on the quarters it may be reduced to three-sixteenth vershok, the upper surface must however remain flat. The grooves in the lower surface of the shoe must have a width of one-eight to five-thirty-seconds vershok, gradually narrowing toward the heels.

The holes for the nails must have the form of a shortened square pyramid, corresponding to the heads of the nails. The direction of the holes must correspond to the direction



HIND FOOT-ONE HALF SIZE.

of the horny part of the hoof, namely: the first hole from the toe is cut slanting inward and farther from the exterior edge of the shoe, the middle holes are cut straight and perpendicular, the last hole is cut slanting toward the outer edge of the shoe.

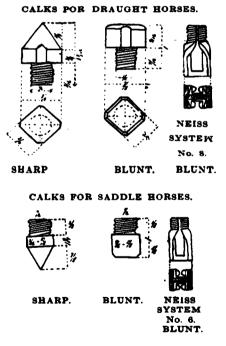
The clip in the middle of the shoe has a curved form. Its dimensions are: Height about one-quarter vershok; thickness near the base about one-eight vershok becoming gradually thinner toward the top; breadth at the base from one-half to

HORSESHOES OF THE RUSSIAN ARMY. 749

three-quarters vershok according to the size of the shoe. The ends of the two heels of the horseshoe have an elongated, oval form. In the heels, and in the horseshoes for draught horses in the center of the toe as well, round holes one-half inch in diameter are cut perpendicularly to the lower surface of the shoe with a screw thread, for screwing in the calks.

CALKS.

The calks are of two types: the sharp calk, of a pyramidal form, with sharp edges, a square base, and a cylindrical bolt which has a screw thread for screwing into the hole in the horseshoe; and a blunt calk which looks like a square prism with



cut angles, of the same breath as the base of the sharp calk. The calks must be tightly screwed in by means of a key.

The calks are made of square bar iron with four steel ribs or veins placed in the angles of the bar and covered by the iron. In the sharp calk these steel veins join each other

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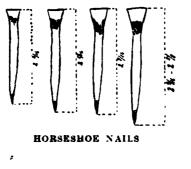
thus forming a strong, hardened steel point. Each horseshoe must be supplied with four sharp calks and three blunt ones for the draught horses, and two sharp calks and three blunt ones for the saddle horses.

Besides the calks above described, sharp and blunt calks, the system Neiss (double T form) may be used. These calks are of two sizes—No. 6 for saddle horses, and No. 8 for draught horses.

All these calks are shown in the attached drawings.

HORSESHOE NAILS.

The nails must be of the best soft iron, quite smooth and even. They must have a square pyramidal head, the upper surface of which must be flat, rectangular and perpendicular to the long axis of the nail. The sides of the nail narrow down in the form of a long wedge corresponding to the holes in the horseshoe, and end in a sharp point. Each shoe is supplied with twenty nails.

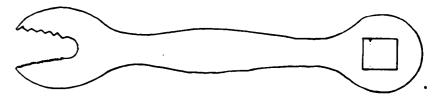


SCREW KEYS.

The keys for screwing in the calks are a steel bar, about three-sixteenths vershok thick and three-eights vershok wide, as per attached drawings. The key has an elliptical widening at the end, the small diameter of which is one vershok; this widening has a parabolic opening, one side of which has a bastard cutting of large teeth and the opposite a regular cutting of small teeth. In the other end, which has a circular outline, there is a square hole whose sides vary from three-

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eights vershok for saddle horses to one-half vershok for draught horses. The length of the key is about five vershok and it is about three-sixteenths vershok wide in the middle. One key is supplied with every 100 horseshoes.



SCREW KEY.



FORM AND USE OF THE SABER.

THE FORM AND USE OF THE SABER.

BY LIEUTENANT GEORGE S. PATTON, JR., FIFTEENTH CAVALBY.

T first sight it seems rather curious that, though the saber A has been a component part of our cavalry equipment ever since the beginning, its use and form has never been given much thoughtful consideration. When we consider, however, that for years the only target practice our troops indulged in was when the old guard fired the loads from their muskets, our negligence in acquiring other knowledge seems less strange. It was through the personal interest and excellence of individual officers and men that attention to target practice was first introduced, and I have been informed by some of these gentlemen that at first they were met by obstructionists and the cry of "let well enough alone." They persisted, however, and as people began to see the results they accomplished they ceased to hinder, and rapid and wonderful progress both in the rifle and in the manner of its use have followed.

It now seems that the turn of the bayonet and saber has arrived. But to gain any prominence it must be supported by some personal interest on the part of officers and men which, when applied to the rifle, has given us the greatest shooting arm in the world. Yet, however essential this interest may be it is difficult to excite it with our present saber and methods of instruction.

As to the form of the saber, there seems to have been an age long controversy between the advocates of the edge and those favoring the point. Beginning with the 11th Century, from which time accounts are fairly consecutive, we find as follows:

When scale and later chain armor became sufficiently perfected to completely cover the body, the point went out of use because it was quite impossible to thrust it through the meshes, while by giving a violent blow it was possible to break or cripple an opponent's arms or ribs without cutting the armor.

When the German Mercenaries in the Italian wars began to wear plate, the Italians found the edge of no avail and returned to the point which they thrust through the joints of the crude plate armor. Gradually armor became so well made that neither the point nor edge affected it, but about this time the bullet began to put the armor out of business.

While the armor was being eliminated, so-called light cavalry was evolved. These men wore no armor, and since the Cossacks, Poles and Turkish horsemen were the only examples of the unarmored horse which men had to copy, and since these inherited from the Arab a curved scimitar-like saber, the new light cavalry was mostly armed with a curved saber. The weapon adopted was, however, an unintelligent copy. The scimitar of the Oriental was a special tool adapted for cutting through defensive clothing made of wool wadding and to be used in combats when the opposing horsemen fought in open formations circling each other and not in ordered lines trusting to shock.

The sword given to most of the light cavalry troops was not of sufficient curvature to give the drawn saw-like cut of the scimitar and yet was curved sufficiently to reduce its efficiency for pointing. It may also be noted that the scimitar was not used for parrying and could not be, having neither guard nor balance. All the parrying was done with a light shield. But this lack of balance and the curved form of the weapon must not be considered as essential to a cutting weapon. for the long, straight, cross-handled sword of the Crusader has a most excellent balance, about two inches from the guard. Yet this weapon was probably the one of all time capable of striking the hardest blow.

The present saber of our cavalry is almost the last survival of the incorrect application of the mechanics of the scimitar. It is not a good cutting weapon, being difficult to move rapidly. It is not a good pointing weapon, being curved sufficiently to throw the point out of line. Yet it is clung to as fondly as was the inaccurate Civil War musket and the .45 Springfield with its mule-like kick.

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The tenacity evinced for the retention of an illogical weapon seems without basis in history, while from the same source we find numerous tributes to the value of the point. Verdi du Vernois says "Experience has shown that a sword cut seldom. but a point with the sword always, throws a manual his horse."

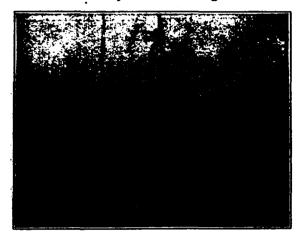
In the Peninsula War, the English nearly always used the sword for cutting. The French dragoons, on the contrary, used only the point which, with their long straight swords caused almost always a fatal wound. This made the English say that the French did not fight fair. Marshal Saxe wished to arm the French cavalry with a blade of a triangular cross section so as to make the use of the point obligatory.

At Wagram, when the cavalry of the guard passed in review before a charge, Napoloen called to them: "Don't cut! the point! the point!"

To refute this and much more historical approval of the point and the present practice of all great nations, except Russia, the advocates of the so-called cutting weapon say that we are practically a nation of axmen. It is doubtful, however. if many of our men have ever handled an ax or are descendants from those who have. The tendency of the untrained man to flourish his sword and make movements with it simulating cuts is to be found in other nations. In France, noted for its use of the point, I have witnessed within the last year several hundred recruits, when first handed sabers, thrashing about with them as if they were clubs, but no sooner were they taught the value of the point than they adopted it and never thereafter returned to the edge.

The child starts locomotion by crawling, but on this account do we discourage walking? The recruit flinches and blinks on first firing a gun, but he is certainly not encouraged to continue this practice. Why, then, should the ignorant swinging about of a sword be indicative of its proper use? It is in the charge that the sword is particularly needful, and, in fact, finds almost its whole application, and it is here that the point is of particular advantage in stimulating to the highest degree the desire of closing with the enemy and running him through.

In executing the charge with the point, according to the French method, the trooper leans well down on the horse's neck with the saber and arm fully extended and the back of the hand turned slightly to the left so as to get the utmost reach. This also turns the guard up and thus protects the hand, arm and head from thrusts and the hand from cuts. The blade is about the heighth of horse's ears, the trooper leaning well down and in the ideal position slightly to the left of the horse's neck. In this position he can turn hostile points to the right by revolving his hand in that direction, the point of his weapon still remaining in line and he himself covered by the guard of his saber. The pommel of the saddle and the pommel pack, such as is on our new saddle, protects the thighs and stomach from



NEW POSITION.

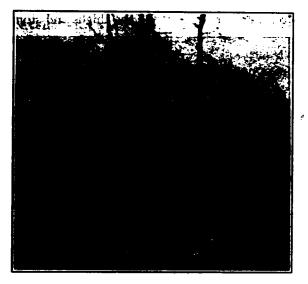
points deflected downward. Cuts would fall on the shoulder or across the back where they would be hindered by clothing and do little harm. The head can be protected by ducking it below the horse's crest. Moreover, since the point will reach its mark several feet before a cut could be started, there is little danger of its being dealt. Should it be necessary to attack an opponent on the left, the arm is brought over the horse's neck and the hand rotated further to the left, keeping the guard before the face. In this position the parry for the point is either up or to the left.

Another advantage of this position is that while pushing forward to close, only half the human target visible in our

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present position of charge is exposed, and that in urging the horse to speed the best results are attained with the weight carried forward as described. To use the edge it is necessary to sit erect and in the act of dealing a cut the trooper is completely open either to cuts or thrusts. Moreover, his reach is shortened at least three feet, for the cut to be effective must be dealt with the "fort" of the blade which starts about eight inches from the point and in a position to cut the trooper also loses the entire reach of his extended body and arms.



OLD POSITION.

The point is vastly more deadly than the edge, for while it might be possible to inflict a crippling blow with the edge were the swing unrestricted by the pressing ranks of the charge or by the guard or attack of an adversary, 'yet with both of these factors added to the necessity of so starting the cuts as to reach its mark after making due allowance for the relative speed of approach of the two contestants; the size and power of the blow becomes so reduced that there is grave doubt if it would have sufficient power to do any damage to an opponent's body, protected as it is by clothing and equipment. And even should it reach the face, its power to unhorse is dubious. The use of the point on the other hand is not restricted by the press of the ranks and its insinuating effect is not hindered by clothing or equipment. The exaggerated idea of the effect of a cut which is prevalent in our service is due possibly to the fact that when a man wants to demonstrate it he rides or walks up to a post and, with plenty of time to estimate distance and with his swing unimpeded by companions on either hand, he can expend all his power and attention to chopping at his mark. Also, in our so-called fencing, mounted or dismounted between enlisted men, the touch with the point which, were it



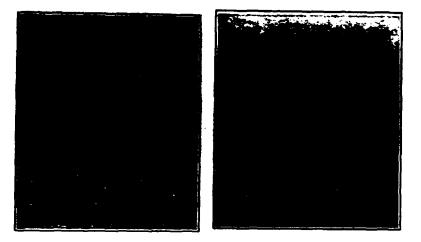
NEW POSITION.

OLD POSITION.

sharp, would introduce several inches of steel into its target, is hardly felt, while blows with the edge often cause considerable bruises, though were these edges sharp it is doubtful if they would do more. It is also well to remember that were one of our lines, charging as at present, to run up against a line charging with the point, our opponents' weapons would reach us and have ample opportunity to pass through us before we could be even able to start a cut in return. Were we on the other hand, while using the point, to encounter men using the edge, we in turn would have them at our mercy. In the mélée which follows a charge, there is less objection to using the edge,

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for the horses will be going at less speed and things will probably open up. At least, there will be no rank formation and a man can chop away as ineffectually as he likes, though here, too, the point would be more deadly. In the pursuit there is little choice between the edge and point, though it might be a little easier on the horses to stick a man when he is several feet ahead than to be forced to ride almost abreast of him to deal a cut. Moreover, a man can parry a cut from behind while continuing his flight, but in order to parry a thrust he must stop and turn. Still, with the straight sword under consideration by the War Department, cuts can be more



NEW POSITION.

NEW POSITION.

effectually made than they could with our present saber, as the new sword is better balanced for rapid cutting and is very sharp on both edges. Of course, this weapon is distinctly a cavalry arm, and it would not effect the equipment of the infantry or artillery.

In instructing the trooper in the use of the saber, he is never allowed to fence with beginners but is assigned to a non-commissioned officer or instructed private who teaches him the mechanism of the thrust and the idea of parrying with the blade while keeping the point in line and always

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replying to an attack with a thrust. Later, he is allowed to use occasional cuts, but ever he is impressed with the idea of thrusting. This instruction will give him facility in the use of his weapon and impress him with an aggressive spirit. He is then placed on a wooden horse and first taught the position of charge, mounted, and how to parry with his blade while in the charging position without getting his point out of line for his opponent's body. He is then placed on horseback and taught to take the proper position and later to run at dummies of considerable weight. In running at dummies, there is no jabbing with the arm. The blade is kept still and the horse does the work. All the man has to do is to direct his point, which operation is facilitated by the fact of his having his blade along the line of sight. Later he is taught to use his weapon against adversaries on his right and left as in a mélée. In teaching this he is first allowed to go slowly, but having learned the mechanism he is thereafter required to go fast and is never permitted to slow up or circle. He rides at a man to kill him, and if he misses goes on to another, moving in straight lines with the intent of running his opponent through.

As to the question of recovering his sword thrust into an opponent, it is not difficult with a dummy when the latter is given any flexibility at all, and when a man has been run through he is going to be pretty limp and will probably fall from his horse, clearing the weapon for you. It would seem, then, that the straight sword possesses all the advantages of the curved for cutting, besides admitting of the proper use of the point, which the other does not, and that in using the point in the charge not a single advantage of the edge is lost, while many disadvantages are overcome, and, in addition, the highest possible incentive to close with the enemy is given.

Finally, that many of our possible opponents are using the long straight sword and the point in the charge, and to come against this with our present sabers and position of charge would be suicidal.

INSTRUCTION AND TRAINING IN CAVALRY TACTICS.

Carden and the second of the second of the

BY CAPTAIN HOWARD R. HICKOK, FIFTEBATH CAVALBY.

NE o' the rarest of leaders is the good cavalry general. The statement is frequently heard that such men are born not made. Granting this as true, the fact with them, as with lesser lights, remains that training and instruction greatly improves their performance. Given a man with normal capabilities, the more he is trained on tactical lines the greater will appear to him the varieties that tactical training and development may take and the greater the necessities therefor. Rare are those seniors who are able successfully to devise tactical exercises on the drill ground and to apply the various drill principles to them. Few are there who, when given a command of large forces, improve the opportunity to work out various cavalry tactical problems; and it may be said that no arm presents such a wide range of tactical problems for commanders of all grades as does the cavalry. Quickness to estimate a situation, arrive at a decision, and issue the necessary orders must be a characteristic of the cavalry officer in order to be a successful leader and this quickness can be arrived at only by frequent practice.

The unused coportunities that frequently occur when 'arge bodies of troops are brought together and the frequently observed disclination of superior commanders to assume tactical commands and responsibilities create the opinion in the minds of some officers that such avoidance of command or action is often due to a lack of tactical knowledge and ability. Inactivity, mental as well as physical, observed in various places, is one of the causes, if not the principal one, of the activities of the War Depatrment to rid the service of dead timber. It is, therefore, the officer's duty, both to

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himself and to the government, to keep his faculties alert, active, and trained in his various duties.

To illustrate the range of tactical knowledge which the cavalry leader should have, the following may be mentioned. A troop may be sent on a mission with a regiment of infantry. In order for the cavalry properly to perform its duty, its commander must have a comprehensive appreciation of the situation, of the possibilities of the terrain, and of the probable action of the regimental commander. With a brigade of infantry a squadron of cavalry, and sometimes more, may be sent out and its commander must, or should, have a similar comprehensive view of the situation and dispositions of the brigade commander. When a division is sent out, a regiment or more of cavalry usually accompanies it and the colonel should similarly have the view point of the division commander. In all these cases the commander should have the knowledge of tactics possessed by a higher commander, either of another arm or of the combined arms. In addition to this he should have a thorough knowledge of cavalry tactics proper. In other words the cavalry officer, to a greater extent than any other, needs a thorough grounding in tactics both of his own and of the combined arms.

Cavalry Drill Regulations indicate the responsibilities of the captain and major for the practical and theoretical instruction of their subordinates. But the matter seems to end there. The drill book prescribes the mechanical part of cavalry movements. Each commander must discern and be able to apply the various movements to the different tactical situations. But, there is the difficulty; it is the application of theory to practice that always has been the hardest part of mental training.

Until about nine years ago, when the service schools were established on their present basis of tactical instruction, little attention was given to tactical instruction in our service. Since then more or less instruction has been imparted but this has usually been to junior officers, frequently lieutenants and rarely higher than captains, who have only a limited opportunity or authority to disseminate the knowledge acquired. But, the tactics discussed at the various service

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tactical schools is usually either that of infantry or else of the three arms combined. There has been little instruction, almost none, at these schools in cavalry tactics proper. Of the various service schools, it would seem that the School of the Line and the Staff College, being properly speaking more nearly schools for tactics than any others, this instruction should be taken up there. Very little is done however. At the Army War College, which should really be devoted to higher training, it has been found necessary, due to the deficiencies of instruction elsewhere, to take up some study of cavalry tactics. This at once emphasizes the importance of this instruction, the fact that such instruction is generally deficient, and the necessity to the general commanding of correct cavalry tactical performance.

Tactical instruction, both practical and theoretical to troops and to regimental officers should be progressive. The training for each unit should be in accord with its duties, though the methods for all would have elements of similarity. The troop commander will instruct his non-commissioned officers and select privates in map reading, scouting, minor tactics, in constructing messages, in map problems involving a troop or less, in exercises in troop leading (oneside war games), in two-side war games, in tactical rides in which the same or similar problems are worked out, and finally on the ground similar problems will be worked out with the troop. There are some troop commanders who are now giving such instruction.

Such a course as outlined above for the troop, while within the purview of the major's prerogative to be prescribed for the squadron and squadron officers under Paragraph 592 of the Drill Regulations, would ordinarily not be applied in its entirety to them. But, there is a wide field for instruction in the way of tactical rides, exercises against an outlined or imaginary enemy under given conditions, or by operating one part of the squadron against the other. Exercises of this kind can readily be devised to illustrate particular tactical principles and uses of cavalry and can, with interest and profit, be included in every squadron drill. These practical exercises should also be worked out with the

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regiment whenever the regiment is assembled for instruction, and, while such instruction is necessary for efficiency of a command, it is more of a rarity that such regimental exercises are worked out and especially so of one regiment against another.

A great many cavalry problems, particularly those involving independent cavalry operations and long distance reconnaissance, involve such great distances that they can ordinarily be worked out only on the map as map problems or war games. All strategical problems—and operations of the larger bodies involve strategical situations before arriving at the tactical stage—must be worked out as map problems. Some of this work is sometimes taken up desultorily in the post graduate course, but this course has not yet been organized on a progressive and systematic basis.

While there is some, and in places even a considerable, practical tactical training being given, such is sporadic and is neither uniform nor systematized for the entire cavalry service. There is at present no model established on which to base the instruction. Such regimental officers as have any foundation in these matters have picked it up from various sources, incidentally at the Service Schools but more largely by other work and study. There should be a foundation on which to build and a perpetual reservoir which is continually supplying officers instructed along the lines of best tactical thought and who in turn will keep up the work with the regiments. A uniform course for the entire service could then be prescribed with more certainty of its being carried into execution. The necessity for such instruction is further emphasized by the views on cavalry training as expressed by the Chief of Staff in his last annual report and by the War Department in a recent Bulletin.

The question then arises, how may such instruction best be initiated? Shall a special school for cavalry be created for this purpose, similar to the School of Fire for Field Artillery? A course in cavalry tactics for cavalry officers should do much toward improving the present state of such instruction. On the other hand there is now a widely disseminated feeling that we have too many schools and are

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being schooled too much. The suggestion of an additional school, will, therefore, not be received with much favor. Various methods suggest themselves, such as that the course at the Fort Leavenworth Service Schools be extended so as to include cavalry tactics for the cavalry officers of the regular and field officer's classes, as a part either of the regular course or as additional and subsequent to it in the summer; or, that a similar course be added to the Mounted Service School at Fort Riley. Of course, objections may be advanced against either of these suggestions.

The adoption of these two suggestions—that instruction of cavalry officers in cavalry tactics be taken up at the Service Schools and that a progressive scheme of tactical instruction for all cavalry units be prescribed—is desirable, would be opportune, and such adoption will result in much benefit both to the cavalry and to the service at large.



ORGANIZATION OF THE FRENCH CAVALRY.

BY AN OFFICER ABROAD.

THERE is now before the French parliament a bill which will probably pass in some form and which will affect to a certain extent the organization and term of service of the cavalry.

Prompted by this fact, General Aubier, who commands the brigade of cavalry at Luneville, has addressed a letter of considerable interest to La France Militare, a translation of which is given below. In his letter, General Aubier urges, with arguments which seem very convincing from the French point of view, that all the regiments of cavalry should be organized into divisions, in order, as he says, quoting General Gallifet, to ensure for the entire cavalry an unity of doctrine and equality of value which should enable it to better respond to the exigencies of war and which would permit, as was Napoleon's habit, variations in the grouping of cavalry forces following the requirements of events.

He objects to creating a certain number of permanent divisions only, while the regiments assigned to each corps as corps cavalry remain outside of any divisional organization. This, he says, is a rigid and schematic formula. It would frequently follow that these isolated regiments would risk being left unemployed or of being insufficient for the work to be done.

Without doubt, he says, these regiments of corps cavalry would in time of peace be attached to brigades and divisions and thereby perhaps duality of doctrine and inequality of value may be avoided; but this is only an expedient of peace time. For maneuvers and for war, for everything in fact that is interesting and useful, the inconvenience and the doubt would remain.

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Why, he asks, not push things to their complete and logical conclusion and place the whole cavalry in divisions? This would render it all ready for any grouping and for any mission; it would permit, in time of campaign, the assignment' of army corps, according to their situation and their mission, of the amount of cavalry of which they really had need.

The only permanent assignment which General Aubier believes should be made of the cavalry to corps or divisions consists in the permanent designation of one squadron to each infantry division.

This of course is the system now in effect; each division has a divisional squadron assigned it and each corps a brigade; all the rest of the regiments are combined into divisions.

General Aubier then goes on with an appeal for the maintenance of all cavalry troops at all times at war strength. He urges the absolute impossibility of filling up cavalry squadrons with reservists as is done for the infantry, on starting out for a campaign. The moment war is declared the cavalry must move, and if it cannot move immediately, its chief value is lost or greatly lessened. Even if instructed reservists can on short notice be brought in to fill up the ranks, suitable mounts for them will not and cannot be on hand. Whatever strength it is decided the cavalry should have in battle, that strength and *no less* must be maintained at all times in peace.

He then touches upon the length of service and urges its increase for the cavalry arm from two to three years, or if that be impossible, from twenty-four to thirty months. When the two year's law was passed, it was predicted that the cavalry would greatly suffer and could not be made efficient. Nevertheless, cavalry officers of all grades worked loyally and energetically to meet the situation and endeavored to make a horseman in six months. General Aubier is not the first or only one to testify that these efforts have not been crowned with complete success.

The entire article, of which the above is a condensation, merits reading by those of our officers now studying cavalry organization. The problem is more complicated with us than with the French, but the same causes give rise to about

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the same results in the two countries. The French cavalry is considered by most observers as being efficient. The weaknesses it has and their cause are more evident to Frenchmen and more often proclaimed by them than by others. General Aubier's article is a case in point.

From La France Militaire

In the law about to be discussed, are two essential questions; the one about forming the divisions and the other about effectiveness.

The principal of organizing into divisions is not a matter for debate. It imposes itself with the double authority of dogic and experience.

It remains to be decided how it will be carried out; is it to be partial or total? Is it not concerning the preferences and opportunities of peace; it relates to preparation for war and its needs?

The proposed law has adopted the principle of partial divisional formation, which is likewise the one advocated, since 1907, by General Bonnal.

Gallifet wanted a complete organization into divisions because it would give to the cavalry entire unity of doctrine and equality of worth and would respond better to the exigencies of war, permitting it to form, as Napoleon did, variable groupings, according to the requirements of events.

The organization of cavalry divisions in part, as offered by the plan, with permanent assignment of a regiment to each army corps, no matter what their position or mission may be, is a rigid and schematic formula. It would permit these isolated regiments to remain frequently unemployed or of finding them insufficient for the work.

No doubt, they will be attached, in time of peace, to cavalry brigades and divisions; and by that, the duality of doctrine and the inequality of worth will, perhaps, be avoided; and in part, the inconvenience that would result from the whole application of the text of the project, will be corrected.

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But this is an expedient of peace time. For maneuvers and for war, and that is, in short, the most interesting and thə most useful, the inconvenience and the doubt would remain.

Why not come to the most sensible conclusion, and that is to a complete organization into divisions, which, by rendering the cavalry entirely fit for all groupings and all missions, will permit the assignment, in the field, to an army corps, according to their location and their duties, the amount of cavalry they would require.

A portion of these elements, however, must be permamently assigned to them, that is *the divisional squadrons*. It would be a mistake to constitute them, as the idea seems to be, with two supplementary squadrons of reserve. The men, without doubt, would be, for the greater part, in the height of their training. But requisitioned horses would not offer either the degree of training, endurance nor the necessary speed to answer to the multiple and hard requirements of their employment and service. These squadrons must be assigned in time of peace, and greatly reinforced, in maneuvers and in war, by the addition of reserve elements carefully chosen.

After all, the total formation completed by specialization of divisional squadrons seems to fill more exactly the needs of peace and war. The question of effectiveness is more precise and less ready to varied interpretations.

Outside of some privileged regiments—like those, for instance, in the vicinity of Paris, that are receiving voluntary enlistments, not entirely attracted by bounties—I do not believe there is a single commander who could consent, willingly, to lose a single man of his regiment.

Since the adoption of the two years' law, it has not been possible to maintain the strength required by the law of 1875; the cavalry is struggling, from the point of service and instruction, in a state the gravity of which cannot escape any one. There is no need of continuing these methods. The new law must determine a regulation minimum below which we should not go; the strength of the fifth squadrons is to be kept up to guarantee, by way of exchanges, the permanency and value of available elements of squadrons. In this strength of the fifth squadron there should be included, besides, the men of the auxiliary service that it is proposed to be given us in greater number than heretofore. But this is an uncertain resource, an expedient of chance, which could not be seriously relied on.

Indeed, when this question has been completely gone over, when it has been considered in all its phases, one will arrive at the conclusion that but one solution will be really decisive and effective and that is to let the cavalry return to the three years' service; or let it be at least the adoption of a thirty months' service, lightened by some compensatory measure such as furloughs during harvest time, the reduction of the reserve period and equitable bounties calculated for the six complementary months.

The remedy is there. And if it is to be regretted that a discussion might however so little retard the necessary measures for formations into divisions, one has at least the right to hope that there will come out for the army, not only a final and well balanced organization, but, above all, the end of the precarious regime into which it has been plunged since it has experienced the full application of the two years' service law.

May our legislators well reflect that the cavalry is not, like the infantry, an arm of reinforcement; that it has nothing or nearly nothing to expect of its reserves; that it must be always ready to move, at the first hour, with instructed, trained amd solidly constituted squadrons.

The influence that the superiority or inferiority of the cavalry can have on the opening of a campaign, on the end and length of battles, are incalculable.

One must be blind not to see that only a numerous and well organized cavalry permits us to carry out the enveloping movements which constitute one of the most powerful means of modern strategy and tactics; likewise, only a numerous and well organized cavalry allows following up success and of making of a battle that has been won, a decisive and finished victory.

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When comparing Jena with Lutzen or Bautzen, it can be seen what the intervention of cavalry brings about, or what its absence costs. And also quite recently, on contemplating the prodigious efforts of armies, however victorious—like the Japanese and Bulgarians—who, lacking cavalry, cannot complete their success, one is forced to conclude that a commander-in-chief, deprived of this powerful means, resembles much the harvest-man who, after reaping the finest crops, would be compelled to abandon them.

Our nation has grown poor in men, but it is still rich in gold; if it wishes to contract a real assurance on its life, it must not hesitate to go to the expense. May it hasten only not to risk coming too late.

GENERAL AUBIER.



THE 1912 MANEUVERS IN LUZON.

BY CAPTAIN A. E. SAXTON, EIGHTH CAVALRY.

(Extracts from General Orders No. 1, Headquarters Department of Luzon, 1912.)

1. The Department Field Inspection begins February 12th, when the troops start for their respective points_of concentration.

They will be concentrated and organized as follows:
 (a). At Camp Stotsenburg, Pampanga.

THE NORTHERN DETACHMENT. (Campaign hats without modification.) The Provisional Cavalry Brigade-7th Cavalry. 8th Cavalry (less First Squadron), 14th Cavalry, First Battalion, 2d Field Artillery (mountain), One-half Provisional Company Engineers (pontoniers), One-half Company "L" Signal Corps, One-half Ambulance Company, No. 4, One Provisional Regimental Field Hospital, One Bridge Train, Two Pack Trains. (b). At Bocane, Bulacan. THE SOUTHERN DETACHMENT. (Campaign hats with white bands.) The Provisional Infantry Brigade-13th Infantry. 15th Infantry (less 1st Battalion and 2 companies), 19th Infantry. Company "A," 2d Regiment, Marine Corps (attached to 15th Infantry). Fifth Battalion, Philippine Scouts, Provisional Battalion Philippine Constabulary,

First Squadron, 8th Cavalry, First Battalion, 1st Field Artillery (light), One-half Provisional Company, Engineers (pioneers), One-half Company "L," Signal Corps, One-half Ambulance Company, No. 4, One Provisional Regimental Field Hospital, Two Pack Trains.

3. Directing, Command and Supply Staffs:

Director, Brigadier General Frederick Funston.

- Aide-de-Camp, First Lieutenant Owen S. Albright, 15th Infantry.
- Adjutant General, Major David J. Baker, Jr., Adjutant General.
- Commanding Advance Depot, Captain Tilman Campbell, Subsistence Department.
- Assistant at Advance Depot, First Lieutenant John S. Chambers, 13th Infantry.
- In Charge of Rail and Water Transportation at Manila, Captain William J. Kendrick, Quartermaster's Department.
- Assistant for Water Transportation, Second Lieutenant Bruce L. Burch. 14th Cavalry.
- Observer for the Division Commander, Captain Ewing E. Booth, 7th Cavalry.
- (a). Northern Detachment.
- Commander, Colonel Henry P. Kingsbury, 8th Cavalry, Commanding Provisional Cavalry Brigade.
- Adjutant, Captain Albert E. Saxton, 8th Cavalry.
- Chief Surgeon, Major Thomas S. Bratton, Medical Corps.
- Quartermaster, Captain Augustus B. Warfield, Quartermaster's Department.
- Assistant in Charge of Trains, First Lieutenant Clarence C. Culver, 7th Cavalry.
- (b). Southern Detachment.
- Commander, Colonel Robert R. H. Loughborough, 13th Infantry, Commanding Provisional Infantry Brigade.

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Adjutant, Captain Peyton G. Clark, 13th Infantry.

Chief Surgeon, Lieutenant Colonel Henry I. Raymond, Medical Corps.

- Quartermaster, Captain Chase Doster, Quartermaster's Department.
- Assistant in Charge of Trains, First Lieutenant Nolan V. Ellis, 19th Infantry.

4. The general situation or idea for the field exercises will be issued at the concentration points, the special situation as necessary.

5. The Bases will be:

- (a). For the Northern Detachment, Camp Stotsenburg,
- (b). For the Southern Detachment, Manila,
- (c). The Advance Supply Depot (neutral) for both detachments, Peñaranda, Nueva Ecija.

6. Matters of routine and questions of detail not prescribed from these headquarters are within the discretion of organization commanders.

7. Every effort will be made to minimize paper work, eliminate circumlocution, and lessen friction.

8. The purpose of the exercises is to give officers and inen of the several branches, corps and departments opportunity to solve in a considerable region and on unfamiliar terrain problems akin to those of war in such manner as to profit by the services of the special troops and conform to the necessities of supply and transport.

9. The result desired is not testing and contrasting the relative merits of officers, organizations and branches of the service, but thorough and painstaking practice of all in "team work" that the combined force may be tempered to and made more efficient for active field service.

The above General Order has evoked an event in the military routine of the troops concerned. There has been tried out on a large scale, by troops of the regular estab-

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lishment the "maneuver area" plan for conducting maneuver as opposed to the "maneuver camp" plan.

The "maneuver area" plan has been tried before and from such meager reports as have appeared, apparently with most gratifying results.

But to nearly all the troops engaged in this year's maneuvers, the experience and the plan were both new. This fact at once directs attention to the necessity for such maneuvers for the whole army each year, if progress is to be made in the field training of the troops. All those sharing in one year's maneuvers, such as these, so profit by them that the opportunity should be afforded for attaining even greater perfection wherever their stations may be. Such maneuvers would be a fitting culmination of the season's field training (target practice excepted), and they would be much more valuable, both as a test of the proficiency of the troops and as a means for correcting deficiencies, than are the more formal annual inspections of Department Commanders and Inspectors.

"Camp Fire" talk among the officers of the Cavalry Brigade (the real Northern Detachment) after each day's work and at the end of the maneuver period, was full of enthusiasm, interest and substance, such as is seldom heard at "maneuver camps." Nearly all the officers had at some time or another attended one or more "maneuver camps," so that such frequent exclamations as, "This beats 'maneuver camps' all hollow," "This is the real thing." "These are the first real maneuvers I have ever attended" are weighty evidence of the worth of the maneuver area" plan over the "maneuver camp" plan for conducting them.

The "maneuver area" plan at once forces many conditions akin to those of real war that a "maneuver camp" plan can never bring forth at all. On the one hand, marching and camping from day to day in the maneuver area, always in the presence of an alert enemy, calls forth the best there is in troops in order to circumvent the enemy. While, on the other hand, since maneuver camp life is practically garrison life minus the quarters, the problems are worked out more with the idea of getting through with them than of displaying the best training of the troops. The history of war is a story of mistakes as seen retrospectively; and hindsight always discovers things that foresight did not or could not see in the moment allowed for decision. These maneuvers were war without the bullets and the meat of the instruction gained from them was in the mistakes made and recognized with the proper remedy to be applied to prevent their recurrence.

The main reason for holding maneuvers at all is to offer the opportunity to make mistakes by big and little commanders. That a mistake was made is not the serious thing in maneuvers: but if made and not recognized as such, then that is serious. When recognized, valuable instruction has been imparted that will stand that person in good stead at other maneuvers or in war. All kinds of instruction is meant, from that the recruit receives in how to make his sleeping place more comfortable, or how to take advantage of odd moments to repair his kit or clothing, to that which the Brigade Commander himself gains in keeping his command in hand and so improving its team work day by day until he feels that it is responsive and ready to do his will quickly and efficiently.

On the part of the Cavalry Brigade, as well as the Infantry Brigade, these particular maneuvers were most successful and no doubt the objects set forth in paragraphs eight and nine, of the order assembling the two forces were attained in greater degree than had ever been anticipated or hoped for.

Could the troops engage in such maneuvers each year, much greater perfection in all details could be expected and the troops would be immensely benefitted thereby.

It is saying a great deal for the value of these maneuvers and for the interest taken in them, when nearly all the officers taking part in them express the wish, enthusiastically, to have maneuvers like them again next year. Such was the prevailing sentiment of officers of the Cavalry Brigade.

Note: The Cavalry Brigade had 122 officers, 2,053 men, 2,572 animals, 77 wagons, and 3 pack trains.

The Infantry Brigade had 153 officers, 3.697 men, 1.406 animals, 63 wagons.

General and special situations were handed out and solved to their logical conclusions, permitting each commander absolute independence.

BY FIRST LIEUTENANT WILLIAM WALLER EDWARDS, Squadron Adjutant, Tenth Cavalry.

I N a military sense a 'squad is defined as the smallest body of men, which has a head. The opening paragraph of that portion of our cavalry drill regulations allotted to the troop says:

"The management of the troop and its effectiveness are dependent upon the grouping of men into squads under the immediate control of the non-commissioned officers, who are held responsible for the discipline and order in camp and quarters and are trained as leaders of groups for battle." The lines quoted contain a world of suggestive truth. The squad leader and his squad are to the troop what the captain and his troop are to the squadron. Not only should he be held responsible for the discipline and order of his squad, but also to a large extent for the instruction and training of men both in garrison and field.

Our modern cavalry needs exceedingly careful training; for in campaign it is a very difficult arm to manage, performing as it frequently does the duties of infantry besides being able to fight mounted. In dismounted action, in changing suddenly as the need may be from the dismounted to the mounted formation, in the charge as foragers, the mêlée, the pursuit, on reconnaissance, in covering the retreat of a beaten army—these are a few of the conditions in which it is hard to have united action, in which a troop gets easily "out of hand" and a troop commander finds himself powerless for the time to influence conditions. He is then practically dependent for success upon the previous training his men have received and the manner in which the squad leaders handle their squads.

On patrol duty, in command of a picket or detached

post, on outpost, in charge of a flanking group, of an advance or rear guard, a squad leader finds himself in a position, where his judgment—or the lack of it—may decide the fate of the next day's battle.

Though the importance of the squad in war time is generally conceded, in peace it is often overlooked, or at times strangely underestimated. It is the intent of the following pages to outline a practical scheme for squad training and to assign to the squad leader a sphere of usefulness to which it is considered he has a rightful claim.

TRAINING IN GARRISON.

The tendency of many troop commanders seems to be to regard the troop either as a unit, or an aggregation of individual members. The existence of the squad leader is thus more or less ignored and the inevitable result must be that his interest lapses and his energy lags. Such a condition of affairs, if it exists, is due largely to a zeal on the part of the troop commander, which, though commendable enough. is wrongly applied, since he takes the duties of a squad leader upon himself. There is an old and homely proverb, which asserts that "the eye of the master does more work than both his hands." In proportion as the squad leader is given to understand that there is a responsibility resting upon him, so will his interest in his own proficiency as well as in the welfare and efficiency of the troop increase in like proportion, and as a squad leader begins to realize that confidence and reliance are placed in him by his superiors so will he have more self-confidence and self-reliance because of this fact.

The advantage of the squad system is twofold; it insures better individual instruction to the men and it affords the most effective means of training our non-commissioned officers.

There is no military training so good as personal responsibility. The test for a non-commissioned officer should be to place him in command of a squad. If he cannot command a squad, he is unfit to wear chevrons.

Squads should be made separate and distinct units. After a squad leader has been appointed he should exercise

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fully his authority over his particular squad, and his men must be schooled to recognize that authority and to feel and respect it. But the other non-commissioned officers of the troop have also a duty to perform. After having been divided equally among the four squads without partiality their status is at once defined and they ought to be held responsible for their part in the discipline and education of the respective squads to which they belong. It may be found advantageous to run a detail, putting each non-commissioned officer in the squad in charge of it for a certain period of time during which he is held responsible for its discipline, appearance and drill as though his position were of permanent tenure.

Very often a man is entirely underestimated until he is tested by putting him in authority. Opportunities of this sort will tend to bring out what there is in a non-commissioned officer, especially as to his ability to command men. No squad can possibly be made proficient unless the head of it first sets the example by being himself proficient, and therefore every non-commissioned officer should be chosen with the idea constantly in mind of his fitness for filling that office. If he shows himself unfit, a recommendation to have him relieved should not be delayed. If, however, he gives strict attention to his duties and seems desirous of improving himself, he should be given an early opportunity of demonstrating his ability. In other words, his training as a squad leader should begin at once.

A squad leader's military knowledge is to be acquired partly through theory, but largely through practice. In non-commissioned officers school, he learns what is expected of him and as the mind does not long retain what the hands do not put into practice it should be made clear at the very outset, wherein the subjects taught are useful, and means should be soon and frequently sought of giving them the necessary application. Otherwise it is a difficult task to get a class of men like our non-commissioned officers, whose early education in many cases has been in the school of experience, to the neglect of much knowledge from books, to see the practical side of what they are studying. Everything should be done, to awaken and keep their interest. Where officers are available for instructors, the non-commissioned officers of the troop might be divided into several classes each engaged in pursuing at the same time different lines of investigation.

At present our non-commissioned personnel is handicapped sadly by a lack of suitable text books. It remains for some one to prepare a series of books designed especially for troop study, upon a dozen or more vital subjects pertaining to the military profession and containing pertinent facts plainly and concisely worded in such a way that the enlisted man can readily grasp them. The books should be of such a size that they can be readily carried in the pocket or saddle-bags so that if he is so disposed he can carry one of them about with him in order to pursue it at odd moments.

The whole object of the school is to have the non-commissioned officers get a lucid idea of those things which are necessary or useful to them in their work, and which they may either be required to do themselves or to teach to others. Only the essential parts of a subject should be touched upon as it is detrimental, from a military point of view at least, to burden a man's mind with unnecessary facts. On the other hand he should be required to understand how to apply, if need be, everything he has learned. When a non-commissioned officer grasps an idea, it is a decided aid to him to explain it in his own words; it is not only an indication to how much he knows about it, but it familarizes him with the subject just so much more and gives him an added confidence in himself. Original ideas upon any subject should be sought and encouraged. It must be impressed upon him that he must be ready at all times to use his judgment; that occasions will arise when he cannot go to an officer for advice. He will then be required to act upon his own initiative and to demonstrate the amount of military knowledge he has acauired.

The squad leader should be expected, with the aid of the other non-commissioned officers, to impart to his squad, in the squad school the theoretical knowledge he has himself acquired. Squad school should embrace the entire period

prescribed for non-commissioned officers school, lessons being assigned by the troop commander. Where text books are available, the lesson should be read and explained by one of the instructors after which discussion should be held upon obscure points. Where no text books are at hand the subject may be presented as in non-commissioned officers' school, by lectures, questions and practical exercises. Simple as well as a variety of methods should be used. When the Guard Manual, Drill Regulations and Firing Regulations have been learned, other subjects will be easily suggested by the question: "What ought a squad to know in the field?" Besides knowing how to take care of themselves and use their arms, they should know how to use their horses. Hippology, farriery, blacksmithing, cooking, carrying orders, map reading, the use of the compass, the principles of orienting one's self in a strange country and finding the right way, scouting, the principles of security and information, the theory of swimming, the laws of hygiene and health, and how to render first aid to the injured, bridge building, making boats and rafts, fascines, hurdles and gabions and the simple use of explosives are a few of the answers to the above question. Doubtless there are many others.

The teaching should be begun in the squad school in garrison and continued later in squad drill and on practice marches. If uncertainty exists as to the efficacy of squad school, let the troop commander institute it in one subject, the Guard Manual for example, and watch the beneficial result.

Some men will assuredly be found who show more than ordinary aptitude along especial lines. These men should be encouraged, by giving them employment along those lines. The wheat may thus be separated from the chaff and the fruits of the system reaped to the fullest extent.

A working squad may be considered as consisting of from eight to sixteen men including from two to four non-commissioned officers. The squad leader besides being responsible for the general appearance of that portion of the barracks which his squad occupies, should, in a more general way perhaps, see that the portion of the stable assigned to his horses is kept

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neat and clean. It should be always a troop law that the mounts pertaining to each squad be stalled together, and it is just as important to keep saddles and other horse equipments by squads in the saddle room as it is the bunks in barracks. Here in addition to name cards over the saddle racks, squad leaders should prepare squad lists showing the names and numbers of his horses and men and should be responsible that these lists are invariably correct.

After the horses have been properly assigned and stalled it is directly incumbent upon the squad leader to see that the saddles and bits are fitted, the hoofs examined and shod if necessary, and that each man has the requisite number of extra horseshoes in his saddle bags. Under no circumstances should a squad leader allow any one of his men to change mounts except by special permission of the troop commander and then the saddle and bridle should remain with the horse.

It is the business of each squad leader to instill in each man a decided interest in his horse. Nowhere in the cavalry service is individual training more necessary. Ignorance or neglect of the horse has resulted in shocking loss and suffering of horses in past wars. Their management touches the very bed rock of efficiency of mounted troops. The practical care of the horse and at least an elementary knowledge of his commonest requirements and ailments should form a very important item of squad instruction. The cavalry recruit ought to be taught primarily to think of his horse before he does of himself, until the habit becomes instinctive. The care of the horse greatly depends upon the interest his rider has in him. This interest if not sufficiently apparent may be augmented sometimes by simple means, as for instance, by allowing the man to name his horse, by requiring him to keep the signboard over the stall neatly painted, by having him devote a portion of his spare time to the training of the horse. I mean by the something more, than merely teaching the movements he would be required to execute on the drill ground.

A squad leader should encourage his men to train their horses in such simple accomplishments as lying down at the

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word of command standing with the reins dropped to the ground, or coming when wanted by word or signal. These and many other such exercises might and probably would prove useful in the field, whether they are of direct utility or not they develop a man's patience, perseverance and ingeniousness; they are a means toward a better understanding between the horse and his rider; they tend to increase the riders control of his steed and the interest in him besides, for, as soon as he finds he can make the animal respond, he begins to be proud of him. There can be no well trained squad unless the members of it can manage their horses under all conditions and in this a squad should always take an especial pride.

* * *

Squad drill should be held each day there is troop drill. The schedule as laid out for the drill by squads should contemplate perfecting the drill of the troop as a whole and trying practically those things which were learned in theory in the squad school. The order in which the different drills shall be had by the squad is a matter to be determined by the troop commander. It must depend largely upon the efficiency attained in a given time. Squad drills might very properly begin with horse training, after which the drill as prescribed for the squad in the Cavalry Drill Regulations, in close and extended order, might be taken up and continued until at troop drill the squads show themselves sufficiently proficient to be allowed to take up other things in the order of their relative importance.

After a squad has been instructed a reasonable time in one thing, a test may be made of its proficiency. These squad tests serve the purpose of examinations and are another means by which a troop commander can determine what progress a squad has made. For illustration, each squad may be required to dig, with such tools as the troop commander may choose to furnish, a shelter trench which will protect him from rifle and shrapnel fire at from 1,000 to 2,400 yards; or it may be required to build a bridge twenty feet wide in the shortest possible time, across an unfordable stream, a certain number of axes, ropes, picks and shovels being furnished per squad and the work being considered as completed when the squad can cross mounted.

To estimate distances is excellent practice for the squad. It is not only advantageous for effective shooting at unknown ranges but also in making intelligent reports, covering military information as to the topography of the country and whereabouts of the enemy. After having learned to estimate distances quickly and correctly, the squad in addition should be practiced at traversing a certain amount of country adjacent to the post and noting on paper in the form of a rough sketch the principal topographical features, the estimated distances between them and the points of the compass. Such instruc-'tion will greatly aid them in patrolling a country with which they are unfamiliar.

In target practice, as sighting and aiming drill is carried on by squads, these squads should conform as nearly as possible to the fixed squads in the troop. If the squad leader is himself a good shot, as he should be, he may be allowed to some extent to practice his ingenuity in regard to the manner in which he teaches his men to shoot. If on the other hand, his previous shooting record happens to be mediocre, he should be ordered to see that his men carry out strictly, the instructions which emanate from the troop commander. At the end of the week, the program of work in preliminary target drills might be given and explained to the squad leaders in order that they may have a clear understanding of what their squads are expected to accomplish.

At gallery practice the squad leader should keep a book in which are entered all scores, a page being used for each day's record. The use of a carbon sheet will be found convenient, so that a copy of every squads' daily scores may be posted on the bulletin board. On the range, individual score books are helpful and men should be taught by their • squad leaders to keep their individual scores. In preliminary, as well as in record practice, also, besides the regular troop record of scores, squad scores should be kept by the squads' non-commissioned officers. These should be published daily, so that the troop can compare them. Competitions should

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be held between the bestshotsin t he different squads and between the squads themselves to keep alive the spirit of emulation which is the basis of all effective squad training.

The most important thing for the squad leader to consider after making himself a good shot is how he can become a good coach. The record of the squad and the troop figure of merit alike depend mainly upon hard continued coaching on the part of the non-commissioned officers. The squad score book should be vigilantly inspected by the troop commander. They are at all times a live record of the progress the squad is making on the range and the squad leader should feel to a certain extent responsible for the scores contained therein. Those men requiring additional pratice or additional sighting and aiming drill should be detailed therefore under a non-commissioned officer of the squad to which they belong.

In addition to having a squad leader carry out the ideas of the troop commander, every opportunity should be embraced, when practicable, after giving him a clear idea of what he is expected to do, to allow him to arrive at the result in his own way. In this manner administrators are developed; non-commissioned officers who can themselves devise, plan and instruct as well as follow instructions. To encourage self-reliance the head of a troop should have his squad leaders believe and feel that they are doing things even though it is under the commander's eye, for a competent squad leader is one who can be relied upon, either in peace or war, when his troop commander happens to be absent, to carry out his instructions as well as though he were present.

Emulation between squads may be encouraged by offering as a recognition for good work a pennant to the squad, which has the best record for one year, with the understanding, let us say, that a squad has to win the pennant three successive years before they shall be entitled to hold it permanently. As an additional incentive, prizes may be offered at target practice or other competitions between squads, great care, however, should always be exercised in the matter of giving prizes. To put a premium upon duty is to cheapen the performance of it. A squad leader is standing upon a false basis who regards the prize as the only reason for his striving to excel.

TRAINING IN THE FIELD.

The idea of squads for battle formation is not a new one. In the time of Epaminondas, ancient history discloses the fact that the Grecian cavalry was divided into "iles." which contained sixty four horses each, the ile being subdivided into four sections, each section containing sixteen horses ranged four in front and four in depth. The Roman cavalry, too, had a "turma," which was their tactical unit and was composed of three "decurias" of ten men each, under the command of an officer, styled a "decurion." There were ten "turmae" to each legion, or one to each cohort. Among the fierce Gauls, who ranged the wide forests of middle Europe and with whom Cæsar fought before the dawn of the Christian era, there was a cavalry composed of little groups or squads of three each, a sort of cavalier as principal combatant and his two assistants. To these small squads are traced the "lance fournies" of the middle ages. It is to be observed that these groups of ancient times, were practically what we would at present designate "fighting units." Although they represent an early stage in the organization of an army, it is instructive to note that the ripened experience of the many intervening years has not dictated much change in the system. The great dispersion of the firing line at extended order renders it today as necessary for the troop to be divided into squads in battle as for the "turma" of the Romans; the troop commander can then readily give what orders he may desire to his subordinate commanders and be reasonably sure of their prompt and proper execution, provided, of course, when the critical time arrives, the squad leader is a capable leader and has that perfect control of his squad, which can only be had through long years of training in time of peace.

The field training of the squad is the next progressive step to the squad drill in garrison, where much of the fundamental portion of the various field exercises can be advantageously taught.

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On marches and maneuvers over diversified terrain, the squad should learn how to care for itself, how to husband the strength of its horses and to keep them in the best possible condition for an emergency, how to match its wits against those of a represented enemy and particularly how to carry out orders with unerring obedience.

A list of articles of equipment required to be taken into the field should be posted in every squad room. Before going on a practice march the squad leader should be certain 'that he himself is completely equipped. In addition to what his men carry he should never under any circumstances forget his watch, compass, note book and pencil; a squad leader's service in the field is very much hampered by the lack of these necessary articles. By personal inspection, the leader should satisfy himself that his squad's kits are in the same condition as his own. If it develops later in camp that certain prescribed articles are missing or are in damaged condition he should never be allowed to compromise the responsibility.

Another habit which the squad commander should observe himself and which he should maintain among his men is promptness. It helps greatly to impart spirit and dash to an enterprise and for that reason is considered a cardinal military principle, but owing to the procrastinating element of our common nature it is also more liable to be violated than any other and with more pernicious effect. On practice marches, it is perhaps not too much to say, the squad leader and his squad get their best training; there they obtain the best chance to carry out a great many ideas the theory of which has been merely touched upon in squad school. At the end of a day's march camp can be pitched by squads with special reference to concealment and hygienic conditions. In case the troop is encamped as a whole, the squads if time permits, should be separated as distinctly as though they were in barracks, and the horses should be so placed on the picket line so that each squad could mount without a moments unnecessary delay if "to horse" were sounded in the middle of the night. At stables, both in field and garrison, leaders of squads should be expected, by a standing order in the troop, to examine and

report upon the condition of the horse's feet and they should be called upon in the field to take the proper precautions against preventing sore backs and to exercise general supervision over their treatment.

The camp offers excellent advantages for squad leaders to try out certain men in their squads at whatever they show a particular fitness for. Every man should receive, under the direction of his squad leader, individual instruction in such things as farriery and cooking (the garrison offers better facilities to teach horse shoeing) and he ought to be incited to use his faculty of invention in the construction of camping expedients.

What better means is there to train a man's memory and powers of observation than to assign him a lookout station on a high knoll and demand that he report within a specified time the conspicuous topographical features that lie within his view?

It is well, for practice, to break up the troop ocassionally into squads and place each leader in command of his own separate camp, say for a night at a time. The squad may be supposed to be acting as a picket, and ordered to cover a designated front by a line of sentinels, the support and reserve being imaginary. The troop can then be assembled at a fixed place of rendezvous in the morning.

A most essential mission for cavalry in war will be in the nature of scouting and reconnaissance, a great deal of which will be done by small patrols, in size not exceeding that of a squad. Much squad work, therefore, in the field should be planned along these lines. An enemy is defined by our drill regulations as being real, outlined, imaginary or represented. It is hard for men in any sort of a maneuver to develop much enthusiasm over an imaginary enemy or even one which is outlined. The nearest approach to a real enemy is most certainly a represented one and to have a represented enemy when the troop is engaging in field maneuvers alone, necessitates some kind of a sham combat between squads or platoons. Squad maneuvers serve the same general purpose as squad drill. In addition to being the best means of holding the individual interest and attention of

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the men-a primary consideration of great importance—they are the most satisfactory methods, by far, for training and testing squad leaders in their duties in the field, the men being directly under their control and they form the elementary training besides for maneuvers on a larger scale.

Perhaps a more lucid idea will be gained of what is meant by the term, squad maneuver, by the subjoined detailed description of a maneuver of this kind, the conditions of which are given precisely as they were worked out.

By way of prefacing the description it may be suggested that the same general rules should hold in governing squad maneuvers as in those between troops. The troop officers act as umpires, assisted, if necessary, by the First Sergeant and others. It is not essential to expend an incrdinate amount of blank ammunition; indeed the excessive and thoughtless use of blank ammunition in any maneuver is very often a hinderance to the umpire in making a correct decision, and in problems in reconnoitering, the advantage would not be given to the side making the most noise. In short, at squad maneuvers, firing a shot should be the exception and not the rule.

We will suppose the troop in camp near the outskirts of a town. It is, let us say, eight o'clock in the morning. The maneuver for the day is to have the first, second and third squads establish an outpost, each squad to cover its own portion of the line of observation; uniform blue shirts. Total number of men, twenty-six.

The fourth squad is to represent an enemy trying to break through the outposts: uniform khaki blouses. Total number of men, thirteen.

The ground traversed by the outposts extends from the edge of the town to a river about a quarter of a mile distant. It is a valley broken by numerous gullies and diversified by clumps of woods. The object of the Browns is to put six of their number inside the line of observation of the Blues or to locate the position of the led horses of the Blues. Either of these events is to decide the maneuver in favor of the Browns. The time limit is one hour and a half when recall will be sounded and everybody will stand up wherever he may happen to be so that a general inspection may be made by the troop commander. The outpost line is to face east.

It is deemed wise to publish as few rules for the maneuver as are actually needed, as a superfluity of rules leads to confusion. The undermentioned are proposed as covering fully the problem in question.

If a member of the Brown force gets within fifty yards of a Blue sentinel and sees the sentinel without himself being seen, he will quietly indicate the fact, the sentinel being considered "out," and vice versa even though there be no umpire present at the time. The man who sees first after putting his opponent out may be allowed to go back and change his position, if he wishes, by reporting to an umpire who will allow him reasonable time in order that he may have a fair chance henceforth with the rest of the participants.

The man declared "out," is to immediately report the fact to an umpire and take his place by a circuitous route beyond the limits of the ground fixed for the maneuver; to a large tree, a conspicuous landmark some distance in rear of the Blues position. He will also tie a white handkerchief about his arm to show that he is a non-combatant.

The above rules after having been gone over with the non-commissioned officers are read and explained to the troop. There being only one officer, with the troop, the First Sergant is detailed as an assistant umpire to go with the Brown force. At fifteen minutes past eight o'clock the non-commissioned officers having set their watches with that of the troop commander, the Brown force is ordered to proceed east along the river road. Their instructions as given to the Brown umpire are that they shall march a distance far enough to preclude their being able to discern the movements of the Blue force and that they shall make no effort to solve the problem until nine o'clock. During the interim the Blues dispose their outposts under the direction of the senior squad leader and place their led horses in some chosen out of the way place.

The maneuver should be over at half past ten and an hour afterwards should be employed in discussing it with the non-commissioned officers. Their interest will be in-

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creased by the many different arguments which the conference will bring forth upon both sides. The decision of the troop commander must, in the interest of discipline, be final, but the discussion should not be stopped too abruptly as it may be rendered productive of much good, in that mistakes may be pointed out and rectified and a system of general regulations for squad maneuvers gradually formulated by the light of experience.

Squad maneuvers may be continued between troops as follows: Imagine, for purposes of illustration, a stream fed by two tributaries, which we will designate the North and South fork. Between these two forks are many hills sparsely covered with pines and intersected by wooded cañons. The two troops march up the stream separating at the confluence of the two forks. One pitches camp on the North fork and the other on the South fork. At a certain time agreed upon by the troop commanders, the squads of each troop start out separately as patrols to find the enemy's camp. The troop which first locates the others' camp wins: or in case neither camp is located within a limited time the side loses which has the greater number of men seen first by the opposing side.

The two maneuvers described are intended merely as suggestions. They may be varied in an almost infinite number of ways. In learning how to follow a trail, in picking up knowledge of the country, in working out methods of concealment and in training their powers of obersvation. Squad maneuvers can cover a wide field, and one peculiarly their own. At scouting one squad at least in every troop should excel.

In the field each squad should carry pioneering tools often enough to thoroughly familiarize themselves with their different uses. Further details of squad work might be enlarged upon but it is considered unnecessary. The intention has simply been to lay out a program. The means of carrying it out if systematically sought may easily be bound.

In conclusion and to summarize in a measure what has already been written, our military training in times of peace has at best a narrowing influence which we should

THE SQUAD LEADER AND HIS SQUAD. 791

seek to counteract as much as possible. As one modern writer has said in substance: "By rigid adherence to the prescribed methods of drill with rules laid down in advance for performing the minutest detail, by blind obedience to orders, a soldier can never acquire that decisive vigorous promptitude of judgment and fertility of resource so necessary to the ever changing conditions of active operations." Or to paraphrase a remark credited to General Sherman: "A squad leader may be born and not made, but it is not well to trust to the probability of ones rising to meet an emergency without previous training."

The squad leader has a well defined place to fill. How far and in what manner he shall fill it, whether he shall be a squad leader in name only or in reality rests upon his troop commander. Squad drills and maneuvers are emphatically not intended to usurp those of the troop but to supplement them, to improve and perfect them, by giving the men and non-commissioned officers exactly the kind of individual instruction they need. Squad competitions and squad proficiency redound to the credit of the troop. Esprit de corps should mean troop spirit as well as squad spirit and one cannot well exist without the other. As a man becomes a more proficient soldier he becomes more resourceful and has more self-reliance and more self-confidence but by education and training we do not make the man less obedient to orders, nor should a squad leader be so because to a certain extent he has been allowed to use his own initiative.

Resourcefulness and self-reliance are not inconsistent with obedience. They make men cooler to think and act and carry out orders in times of danger and excitement. When the call is sounded a brilliant charge may be expected from men of this stamp, and every squad of them if acting alone could carry out as promptly and heroically any important mission which might be entrusted to their care.

....

This concentration was made in obedience to the following orders:

HEADQUARTERS OF THE ARMY,

ADJUTANT GENERAL'S OFFICE.

Washington, April 13, 1888.

General Orders No. 20.

I. The Secretary of War having approved of the following transfers of troops, they are hereby directed, the movements to commence not later than June 1, 1888.

* •

XI. The Eighth Cavalry will be concentrated at such point in the Department of Texas, as its Commanding General may designate and moved by marching to Fort Meade, Dakota, Territory and to such posts in the Department of Dakota, as its Commanding General may select.

XII. Such minor changes of other troops as the movement of the Eighth Cavalry may make absolutely necessary will be made under the direction of the Commanding General Department of Texas.

> By command of LIEUTENANT GENERAL SHERIDAN. R. C. DRUM, Adjutant General.

The marches of the Headquarters and Band and respective troops were as follows:

Troop "L" left Fort Hancock, Texas, and joined the Headquarters of the Regiment with Troops "A," "C," "D," "F" and "H," at Fort Davis, Texas, on May 16th, distance marched ninety-five miles.

On May 17th, Colonel Elmer Otis, relinquished command of the Regiment on account of sickness and the march of this portion of the Regiment to Fort Concho, was conducted by Major John Wilcox, senior Major. Lieutenant Colonel John K. Mizner, Eighth Cavalry, being stationed at the latter post with Troops "B," "I" and "M," distance marched 249 miles.

A LONG MARCH.

(Extracts from a report of the march made by the Eighth Cavalry from Texas to Dakota in 1888, rendered by Licutenant Colonel J. K. Mizner, Eighth Cavalry.)

I have the honor to submit the following report of the march of the Eighth Cavalry from Texas to Dakota, made in pursuance of War Department Orders No. 20, (pars. I. XI, XII), 1888.

After service of over twelve years at the different posts in the Department of Texas, the several troops of the regiment on July 1, 1887, were located as follows:

Headquarters, Band and Troops "C" and "H" at San Antonio, Texas; Troop "A" at Fort McIntosh, Texas; Troop "E" at Eagle Pass, Texas; Troops "D", "F," "G" and "L," at Fort Clark, Texas; Troop "I" at Fort Ringgold, Texas; Troops "B" and "M" at Fort Brown, Texas, and Troop "K" at Del Rio, Texas.

Under instructions from the War Department a movement of the Regiment commenced about July 10, 1887, which included every troop of the Regiment, except Troops "E" and "K," in a change of station. 'This was not fully accomplished until November 21, 1887, at which date and up to May 12, 1888, the stations of the troops were as follows:

Headquarters, Band, and Troops "A." "C," "D," "F" and "H," at Fort Davis, Texas; Troops "B," "I," "M," at Fort Concho, Texas; Troop "L" at Fort Haçnock, Texas; Troop "E" at Eagle Pass, Texas; Troop "G" at Pena Colorado, Texas, and Troop "K" at Del Rio, Texas.

Under the orders of the General Commanding the Department of Texas to concentrate at Fort Concho, the movement of the Regiment commened on May 12, and on May 31st, the concentration had been effected.

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Troop "E" left camp at Eagle Pass, Texas, on May 14th, and arrived at Fort Clark, Texas, on May 15, 1888, distance marched 45 miles.

Troop "K" left camp at Del Rio, Texas, on May 15th, and arrived at Fort Clark, on May 16, 1888, distance marched 30 miles.

These troops then marched together to Fort Concho. Texas, arriving there on May 27, 1888, distance marched 203 miles.

Troop "G" left camp at Peña Colorado, Texas, on May 20th, arrived at Fort Concho, on May 31, 1888, distance marched 250 miles.

The marches of these separate detachments of the Regiment were conducted in accrodance with the following extracts from regimental orders:

"In view of the coming march of the regiment to Dakota, the attention of Troop Commanders is invited to G. O. 73, of 1885, A. G. O., and Troops will be armed and equipped for field duty as therein prescribed, the saber attached to the saddle.

"Preparatory to the change of station of the regiment and in order that the Troops may be uniformly provided, Troop Commanders will see that for the march each man has twenty rounds of carbine ammunition. Besides that two thousand rounds will be carried by each troop. The remainder will be shipped."

Under telegraphic authority from Headquarters, Department of Texas, the march of the regiment was commenced on June 2, 1888, the strength being as follows: Thirty commissioned officers, 514 enlisted men and 526 horses.

Lieutenant Colonel John K. Mizner, Eighth Cavalry having assumed command of the Regiment on May 17, 1888, issued the following order: "Circular.

"The equipment of the troops of the regiment on their march to Dakota will be as follows:

Campaign hat, blue shirt, blue uniform trousers, and top boots, to be worn; overcoat, poncho, or rubber blanket, to be carried on the saddle. Two bed blankets and the necessary underclothing, in bundles to be carried in wagon.

One blouse, one pair trousers, one forage cap, one pair shoes, to be carried in box in wagon.

Carbine, woven cartridge belt, side lines, nose bag, curry comb and horse brush, and surcingle and canteens to be carried on the saddle.

"Ten lariats and picket pins and two wall and twelve common tents to be carried by each troop.

"Twenty rounds of ammunition will be carried by each man and one box (1,000 rounds) by each troop in the wagon.

"All other equipments will be packed and shipped, except such as are in excess of the needs of the troops, or such as it would be inadvisable to transport, which will be transferred to the proper departments at this post."

"Orders No. 33.

"For the march of the regiment after concentration at this point,* the following will be the organization:

"First Battalion. Troops "A," "B," "I" and "M"; Major John A. Wilcox, commanding.

"Second Battalion. Troops "L," "E," "F" and "H"; Captain Louis T. Morris, commanding.

"Third Battalion. Troops "G," "K," "C" and "D"; Major Reuben F. Bernard, commanding.

"Distance on march will be habitually 100 yards between battalions and 50 yards between troop.

"Battalions will take turn in leading and troops in the battalions will follow the same rule.

"The regimental camp will be formed, as far as practicable, in column of companies and in order of original arrangement in column, wagons for picket line on one flank, and officers tents on the other. The camp and train guard to consist of one commissioned officer, three sergeants, three corporals and twenty-four privates and will be regularly mounted each evening at time to be designated. Posts for sentinels will be designated to the Officer of the Day by the Regimental Commander.

•Fort Stockton, Texas.

"Herd guards consisting of one non-commissioned officer and six men will be detailed by troop commanders to go with herd on reaching camp. They will obey the instructions of the officer in charge of herds.

"On leaving camp the train will be escorted by the guard, one-third in front and two-thirds in rear, under the Officer of the Guard and all under the direction of the Regimental Quartermaster for any assistance that may be necessary. No others will be permitted to ride with the wagons. The wagons will move in the same order each day.

"Captains exclusive of Battalion Commanders will constitute the roster for Officer of the Day.

"The four First Lieutenants, not commanding troops will be subject to detail for herd duty.

"Other Lieutenants not on special duty will form roster for Officer of the Guard.

"No horses except those of officers will be saddled till "Boots and Saddles' sounds. No trains will be harnessed till the sounding of the 'General.'

"Animals will be watered frequently on the march when opportunity offers, but only when water call is sounded from Regimental Headquarters, which call Battalion Commanders will cause to be repeated on arriving at watering places.

"Men will be given opportunity to fill their canteens when necessary.

"No enlisted man will leave the ranks except on leave by Troop Commanders, approved by Battalion Commanders.

"Troop Commanders will exercise every care for their horses and see that man sit up and ride them properly and that the men wear the prescribed uniforms.

"Morning reports will be sent in as soon as practicable after arriving in Camp.

"The following hours for calls will be observed, unless ordered otherwise.

STANDARD TIME.

Reveille, Assembly of Trumpeters, 4:45 A. M. Reveille, 4:55 A. M. Assembly, 5:00 A. M. Stables, immediately after. Breakfast, 5:30 A. M. . General, 6:00 A. M. Boots and Saddles, 6:15 A. M. Assembly, 6:25 A. M. Mount and Forward, 6:30 A. M. First Sergeant's call, 5:45 P. M. Sick, 5:45 P. M.

Evening stables, 6:00 P. M. Guard Mounting, Assembly of Trumpeters, 6:45 P. M.

Assembly of Details, 6:55 P. M.

Adjutants call, 7:00 P. M.

Retreat roll call under arms at sun set followed by an inspection of arms.

Taps, 9:00 P. M.

All trumpet calls from head of column on march will be repeated in succession by Battalions. When the halt is sounded, Battalions and Troops will gain the proper distances. The attention, mount and forward will be obeyed promptly.

"One officer will attend roll calls and stables from sounding of calls.

"The old guard fatigue will be distributed as follows and will report as soon as wagons arrive in camp.

To Headquarters, senior non-commissioned officer and six men.

To major Wilcox, one non-commissioned officer and six men.

To Major Bernard, one non-commissioned officer and six men.

To the Surgeon, one non-commissioned officer and six men.

* * *

LINE OF MARCH.

Department of Texas.

From Fort Concho, via Abilene, Fort Griffith, Fort Belknap and Henrietta, Texas. Department of the Missouri.

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Fort Sill-Fort Reno-Guthrie-Alfred-Ponca Agency, Indian Territory; Arkansas City-Mulvane-Newton-Woodbine-Fort Riley and Concordia, Kansas. Department of the Platte.

Hardy-Superior-Juniata-Kearney-North Platte-Ogallalla-Nebraska; Julesburg, Colorado; Fort Sidney and Fort Robinson, Nebraska,

Department of Dakota.

Buffalo Gap and Rapid City, Dakota.

The march through each Military Department was made under the direction of the respective Department Commanders and over route indicated by them.

TANSPORTATION.

From Fort Concho, Texas, to Fort Riley, Kansas, the transportation consisted of:

Twenty-nine six-mule teams with army wagons.

Two four-mule teams with spring wagons, Dougherty.

One four-mule team with Red Cross ambulance.

One four-mule team with light hospital ambulance.

This gave two wagons each to the Band and Troops and three for the Field, Staff and Medical Department and was found barely sufficient for the purpose and not enough to afford the comforts and conveniences which should be supplied for a march of such length. At Fort Riley, this transportation was exchanged for the following:

Two spring wagons, Dougherty.

Two Red Cross ambulances.

Nine six-mule army wagons.

Twelve four-horse wagons under contract with Mr. C., Meyer, capable of hauling 45,000 pounds.

Ten four-horse wagons under contract with Mr. Dyche capable of hauling 33,000 pounds.

This contract transportation was as satisfactory as this class ordinarily is, the teams and wagons being of good character and capable of keeping pace with government teams on good roads and was retained as far as Kearney, Nebraska.

At this point the ten four-horse wagons furnished by Mr. Dyche, were replaced by:

Three eight-mule or horse wagons with trails. One six-mule wagon. One four-horse wagon.

These under contract with Mr. Sheppard.

This latter transportation proved to be entirely unfitted for the purpose, not arriving in camp till long after the command and on two occassions not till the following morning and in consequence the command was delayed three days at Willow Island, effecting a change of the transportation furnished by Mr. Sheppard, which was finally arranged as follows:

Four six-mule wagons.

Eight four-mule wagons.

After this it was retained to Fort Meade, Dakota.

The team with trail wagons above referred to were unable to keep up with the command even on a short march and should never be employed for this purpose.

Hired transportation is generally unsatisfactory and unsuited in many ways to accompany troops on the march. One of the chief difficulties is that, not being under military control, the command is at the mercy of the driver, who are also, sometimes owners of the teams. They may have at any time and as happened in one instance take their teams with them. The only redress is a pecuniary one which does not prevent vaxations, delays and troubles. hev require much more assistance than government teams and as frequent source of annovance to the command.

FORAGE AND FUEL.

From Fort Concho to old Fort Griffith, Texas, 141 miles, forage (grain) was placed by contract teams at points indicated by the Regimental Commander when camps were selected by Captain A. G. Hennisee, 8th Cavalry, who preceded the regiment with his troop ("I") numbering two officers (Captain A. G. Hennisee and Second Lieutenant Elwood W. Evans, 8th Cavalry), fifty enlisted men and fifty-one horses, for that purpose, guards being detached from his troop.

Wood found at camps.

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From Fort Griffith sufficient grain was carried on the wagons to provide the mules half forage as far as Henrietta, • Texas. Forage for the horses (chiefly sheaf oats) being purchased at or near camping places.

Grain for the animals was sent out from Fort Sill, I. T. by Army transportation, to meet the command at Red River, sufficient to last to that point and again from Fort Sill to Fort Reno, I. T.

Grain and fuel was placed from Fort Reno, by wagon and rail at the following points: Ben Reitles Ranch, Big Cottonwood, Guthrie, Ponca Agency and Willow Springs, I. T.

At Arkansas City and thence to Fort Rilley, Kansas forage and fuel was supplied at camps by Mr. John P. Ellis, under contract made by Chief Quartermaster Department of the Missouri.

From Fort Riley, Kansas, to Kearney, Nebraska, by Mr. John K. Wright, under contract made by the Chief Quartermaster Department of the Missouri.

From that point to Fort Meade, Dakota, by the Chief Quartermaster Department of the Platte.

SUBSISTENCE SUPPLIES.

From six to ten days rations were carried on the wagons, being supplied at military posts and railroad points by the Chief Commissary of Subsistence of the different Departments.

Funds for the purchase of fresh beef for issue to the troops every second day, were supplied to the A. C. S., 1st Lieutenant, Q. O, O' M. Gillmore, Eighth Cavalry, by the Chief Commissary of Subsistence, Department of Texas, and by the different officers in the Subsistence Department of posts, through which the regiment passed.

The beef furnished was of a good quality and the manner in which it was supplied, proved satisfactory in every manner.

It was purchased on the hoof and butchered in the field until the arrival of the regiment at Arkansas City, Kansas, at which place and from there it was purchased from local dealers (dressed) at the different towns near which camp was made. The butchers were enlisted men of the command.

PUBLIC ANIMALS.

The experience of this march, covering over three months, showed satisfactorily, that horses and mules may be herded with safety without lariats or side lines, if carefully handled and guarded. An officer (a senior 1st Lieutenant) detailed daily and acting under the immediate orders of the Commanding Officer had exclusive charge of all public animals. The troop herd guard reported to him upon the arrival of the regiment in camp for instructions. Grazing ground was assigned by him and each troop herd was kept separate. Being upon the ground and having absolute control, he could forsee danger of any kind and give timely warning. The herd officer also selected the watering places and superintended the watering of the animals.

Whenever on long marches horses fall off materially in flesh a second blanket should be used under the saddle, to prevent sore backs. To meet this necessity, the bed blankets may be put between the saddle blanket and the saddle.

* * *

Total expenses incurred by the Quartermaster Department, omitting wear and tear on stock in moving the Eighth Cavalry from Department of Texas, to Department of Dakota, was \$19,715.81.

Were the regiment to have remained in the Department of Texas, during the period consumed in marching from Texas, to Dakota, the cost to the Quartermaster's Department, barring wear and tear on stock, would have been, as per the contract of 1887, and 1888, \$16,315.81.

No account has been taking of cost of transportation of baggage by rail.

It will be seen by reference to the above, that omitting the item of hired transportation amounting to \$6,605.00 the regiment could have been supplied on the march between May 17th, and September 3, 1888, cheaper by \$3,205.00 than it would have cost to supply it between the same time if stationed at Fort Davis, Texas.

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Referring to the citizen transportation, hired for the occasion it was generally speaking very unsatisfactory.

Every expenditure has been noted on the abstract, even the money value of supplies furnished at the different posts through which the regiment passed, has been taken into account.

Had government transportation been used throughout, as it might have been, it would have added much to the comfort and convenience of the command on the trip, besides being a saving in expense.

Distance marched in each Department by the regiment as a whole:

Department of Texas. From Fort Davis, Texas, to Red River, Texas, 511 miles. Department of the Missouri. From Red River, Texas, to Hardy, Nebraska, 595 miles.

Department of the Platte. From Hardy, Nebraska, to Bluff Creek, Dakota, 510 miles.

Department of Dakota.

From Bluff Creek. to Fort Meade, 109 miles.

Total, 1,725 miles.

Distance marched by separate troops, etc.:

Headquarters, Field and Staff, non-commissioned Staff, Band and Troops "A," "C" and "D," from Fort Davis, Texas, to Fort Meade, Dakota, 1,725 miles. Troops "B," "I" and "M," from Fort Concho, Texas, to Fort Meade, Dakota, 1,477 miles. Troop "E," from Camp Eagle Pass, Texas, to Fort Buford, Dakota, 2,095 miles. Troop "F," from Fort Davis, Texas, to Fort Yates, Dakota, 1,179 miles. Troop "G," from Camp Pena Colorado, Texas, to Fort Yates, Dakota, 1,980 miles. Troop "H," from Fort Davis, Texas, to Fort Keogh, Montana, 2,613 miles. Troop "K," from Camp at Del Rio, Texas, to Fort Buford, Dakota, 2,080 miles. Troop 'L," from Fort Hancock, Texas, to Fort Keogh, Montana, 2,108 miles.

The march was conducted throughout strictly in accordance with orders previously noted; the regiment marching in column of fours and camping as indicated. One day was lost by high water in Brazos River, and three days through the inferior transportation furnished by contracts Department of the Platte.

The march was an uninterrupted success, the regiment moving with regularity and precision from camp to camp and camping in a body.

After a few days the rate of march as indicated by section lines and telegraph poles or mile posts along railroads was habitually four miles per hour.

The conduct of the men was uniformly $g \circ od$, not a complaint being made, notwithstanding the numerous settlements passed through.

The Regimental Commander is indebted to each and every officer for attention to duty and care for the troops under his command.

The Regimental Commander expresses his thanks to 2nd Lieutenant J. C. Byron, who as engineer officer performed his duties in a thorough and satisfactory manner and whose selection of camps, displayed excellent judgment.

To 1st Lieutenant, Guy L. Edie, Assistant Surgeon U. S. A. who conducted the affairs of his department in the most efficient and satisfactory manner. The health of the command was excellent.

To 1st Lieutenant Q. O.' M. Gillmore, R. Q. M. Eighth Cavalry for his efficient service as Quartermaster and Commissary officer keeping the command at all times well and promptly supplied.

To 1st Lieutenant and Adjutant Chas. M. O'Connor, Eighth Cavalry for his able assistance on the entire march.

THE ARMY REMOUNT QUESTION. 805



THE ARMY REMOUNT QUESTION.*

BY CAPTAIN A. H. WADDELL.

W E have read a great deal in the newspapers and magazines about the Army Remount, the kind of horse required for the service, and the various methods of breeding him. Some of this correspondence has been conservative, logical and sensible, and has been written by gentlemen who, if they have not had the practical experience of those responsible for the cavalry horses of the great military nations of Europe, are still men of practical common sense, and desirous only of arriving at a sensible conclusion in regard to this most important matter. A large part of these communications, however, have emanated from those who are neither experienced cavalrymen nor practical horsemen. and their letters not only bespeak total ignorance of the matter in hand, but an absolute lack of breeding knowledge.

This country from a long continued peace and the worthy desire from abstaining from foreign interference, and pursuing a policy that in its peacefulness must be the admiration of the bellicose nations of the world, will, with all its love for the amicable settlement of disputes by arbitration, still see the day when she will have to fight to uphold her greatness and maintain her power. The settlement of International disagreement by arbitration in most worthy of achievement, but the time for its fulfilment is not yet. Man of today is not sufficiently removed from his fighting ancestors to sit

*From The Field Illustrated for December, 1912.

down and be content with the rulings of a Hague Tribunal, while the vast, rich, uncivilized and unopened territories of the world remain as they are. One or other of the great powers will eventually bring these vast territories under the refining influence of civilization and education, and open up their hidden treasures and undreamed of riches and resources to the commerce of the world, and it will be the power with the greatest and best equipped army that will acomplish this splendid achievement.

An army to hold its own against the great martial nations of today, must not only be numerically strong, but its component parts must be in the very front rank of modern militaryism and equipment, and while the officers and rank and file of the United States Army are unrivalled as regards brains and education, and unsurpassed for courage and heroism, and while their general equipment is, I believe, as good as anything on earth, their cavalry, as compared with that of France, England and Germany is deplorably deficient in horses.

The American mounted service, both regular and volunteer, is sadly wanting in remounts, and it makes one shudder as he wonders how this deplorable state of affairs is going to be remedied.

The thoroughbred, if he could be procured in sufficient numbers and with the right temper and temperament, and of the different types and sizes suitable for the various branches of the service, would be the ideal army horse for all purposes. For light cavalry he is ideal, for heavy cavalry also if he can be procured up to the weight; for mounted infantry, small sturdy thoroughbreds would make that branch of any army the best and most efficient in the world, and for light rapidly moving artillery, horses of this breed and of the right stamp would be the animal par excellence.

The United States can not afford to lose any time in settling the best and most practical manner in which to produce cavalry horses, for if they delay, thoroughbreds of the right stamp will not be procurable, and under such conditions it will be absoulutely impossible to breed army horses fit to compete against the cavalry of other nations.

All the thoroughbreds in America to-day physically fit

for military purposes, would not, I believe, horse a single regiment as it should be horsed on a war footing, so it will be readily seen how appallingly necessary it is to conserve what thoroughbred blood there is, and to make the best possible use of it for the cavalry horse of the future.

The great essential and pre-requisite in the cavalry horse of to-day is speed, reinforced of course with staying powers, courage, and constitution, to which must also be added body, bone and substance, generous temperament and good temper. All these splendid characteristics are outstanding signs of good blood and careful breeding, and in no class of animal are they more pronounced than in the good tempered thoroughbred of to-day. The thoroughbred therefore, if specially bred for army purposes, and with the requirements of the various branches of the mounted service in view, is ideal, as would also be the case with the pure Arab if he were big enough and fast enough, but unfortunately he is neither, at least for modern European and American requirements, although for the light lathy Sowars of the native cavalry in India he was always considered by that great General and consummate master of warfare, Lord Roberts, to be unequalled and unsurpassed.

In discussing this matter with the great fieldmarshal years ago, the subject being the Arab horse as a Remount, and relating to pure bred Arabs only, the great soldier said that they are not procurable, and that the Arab, to hold his own amongst the hostile tribes of Arabia must sell his mare and buy a rifle—the Arab has never sold his mare. This, therefore does away entirely with the Arab, and leaves the horse that after a century he has helped to make—the thoroughbred of to-day—supreme in the field, and as it is impossible at present to mount a great army on thoroughbreds as it is on Arabs, the question that confronts us, and particularly the United States, is what is the best course to pursue in order to produce the right kind of cavalry horses, in sufficient numbers, and the best way of going about it.

Centuries upon centuries of actual warfare, and lives upon lives of distinguished soldiers and practical horsemen, have shown us that the more thoroughbred blood of the right

THE ARMY REMOUNT QUESTION. 807

kind that we can get into the cavalry horse, the better war horse he is; and this brings us to that most important question —the right kind of thoroughbred blood, which embraces speed, constitutional soundness, size, bone, weight and substance, courage, grit, endurance, and almost above all, good temper, for we all know what bad temper means in a thoroughbred horse. A good tempered thoroughbred like all well-bred animals is the noblest and most generous of creatures, but the bad tempered one, the most fractious and unmanageable; it is therefore clearly apparent that to attempt to breed army horses through bad tempered thoroughbreds sires, or from good tempered sires even, whose families are noted for bad tempers and fractiousness—and this would apply equally to the mare—would be to defeat the object at the outset.

The dam that is pre-eminently fitted for the production of the army horse is the big, roomy, good-tempered, well-bred heavy type of hunter brood mare, with size, body, bone, substance and constitution, weight carrying capacity, disposition, and those matronly qualities so essential in the brood mare; and which by a process of careful selection and mating, after the first crosses, would eventually produce a stamp and type of army horse for all mounted branches of the service that would be unbeatable among even the great military nations of Europe. But this takes time, and time *must be taken* to achieve such an end as this, and the sooner the United States sets about this matter in a workmanlike and practical manner, the sooner will they be prepared for the war which must inevitably come.

Few of the crosses that have been suggested will answer the purpose, because of the unfitness of the family from which the dams would be taken to cross with the thoroughbred horse

The trotter for instance. While the trotting bred horse is a wonder, and the fleetest and most extraordinary animal that has ever graced harness, the trotting bred mare is in all probability the worst breed that could be selected for producing cavalry horses, and the reason is this—she is a trotter by instinct and heredity, and it would take generations upon generations to breed out the trotting gait, and supplant it

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with the galloping, the extended action of extreme speed and the prerequisite element in the cavalry horse. The Kentucky saddle mare is another that would not do, for beautiful as she is, and exquisite as she looks mounted in the park, her paces from long years of breeding to this end, are the trot and the slow canter; she is not a galloper and lacks the low, stealing gallop so characteristic of the thoroughbred. The Morgan, wonderful little horse as he is, can be dismissed on practically the same grounds, and on top of this is altogether too small. The hackney fits the bill no better, and the gaited saddle horse is impossible.

For the heavier branches of the service, such as heavy artillery and transport, thoroughbred horses of the stamp alluded to crossed with the best families of clean limbed, active Percheron mares, would, after years of careful selection, re-thoroughbred crossing and mating, produce big strong and well bred animals that would fill the purpose, and eventually produce typical horses for these branches of the service.

Reducing matters to a nutshell; the logical and only practical way in which to produce cavalry horses under present conditions, is firstly to secure *mares* of the right stamp, and this is the first and most important step to take. The thoroughbred stallion of the right kind and right family, is the only sire worth considering for this purpose, but one good mare, as things are to-day, is worth fifty stallions; so it is the *mares that are of the first importance*, and these should be such animals as above suggested, viz., big heavy boned, roomy, weight carrying hunter mares, or mares of her type and breeding. Get the mares, you can always secure the stallions.

An occasional good troop horse may be bred through a trotter-thoroughbred or Morgan-thoroughbred or other cross but they would not be satisfactory as a class, nor could they be raised in sufficient numbers to justify such crossing. I have seen a Shire colt jump a five barred gate in excellent form but what use would he be as a hunter? The same may be said in regard to high action in the trotting-bred horse. We have all seen performers of the standard bred trotter in the show ring, but how many of them, among the hundreds of thousands of trotting horses that are bred in this country for speed alone, and wherein action is detrimental rather than advantageous? Such horses however do make their appearance occasionally, and are nothing more or less than freaks, whose action is due to that latent but extraordinary element of heredity that crops out occasionally in all breeds, and dates back to their almost forgotten ancestors. The extraordinary knee and hock action which occasionally manifests itself in American trotters, finds its source in the Norfolk trotter from which they are descended.

We must therefore, above all things, look for the galloping breeds from which to produce the best army horses, and these breeds comprise only those in which thoroughbred blood predominates, or is at least well marked. Nothing is too good for this great, progressive, and rapidly improving land; indeed the best that we have to-day is not good enough for the American who can look into the future greatness of his country.

The whole matter of the production of army horses in the United States, formidable as it is, seems to me to be easy as compared with many of the great accomplishments of this country, and its cost, trivial as compared with its vast financial undertakings. I believe that the parent stock having been secured, and the whole matter practically organized and placed on a safe, sound, and solid foundation, army horses could be raised in certain parts of this country almost as cheaply as range ponies. Elaborate methods are not necessary, indeed they would be against the practical working out of the system. What is necessary, is good management, proper supervision, and the strictest adherence to the fundamental principles of breeding, and this is what I fear has been so terribly neglected in horse breeding operations in this country. It has been speed, speed, at the expense of everything else. The trotter for instance, extraordinary animal as he is, and electrifying as he is to witness at speed, would have been an infinitely better, sounder, more beautiful, and I believe faster animal than he is to-day, if more care had been taken in regard to his constitutional and physical soundness, shape. make, his anatomical perfection, and the type best adapted to produce extreme trotting speed.

The American thoroughbred too, having been bred for speed alone, has developed into an undersized sprinter as compared with the English and French horses. Let such not be the case in regard to your counsels concerning the breeding of the American horse.

My idea can be put in very few words, and it is this— Provide yourselves with mares of the stamp that I have suggested, let them be great, big, roomy, heavy boned, sound constitutioned and good tempered animals of the weight carrying hunter stamp of brood mares with a good proportion of thoroughbred blood in their veins, and let them be the offspring of animals noted for size, substance and soundness.

Many animals of this kind can be purchased in this country, and any number of them in England, Ireland, Scotland, and Wales. What is to prevent this immensely rich government from purchasing five or ten thousand such mares, classify them, divide them into herds, alloting a suitable thoroughbred stallion to each herd, distributing them on government lands in those sections of the country best suited for breeding purposes, and having thoroughly practical men to overlook and supervise them. In five and twenty years from now under such methods, the United States would have on her Western ranges a stamp of horses that no other country in the world has got, and apart from having the very best army horses procurable, there would be great numbers of horses among them that would fetch tremendous prices for hunters and riding horses, should peace be prolonged; and in addition to this, America could, with her surplus stock, supply Great Britain with her ever increasing demand for hunters, and the armies of other nations with remounts that they would be only too eager to buy and could secure nowhere else.

The above is but the outline, the skeleton if you like, of a practical system. Rethoroughbred crossing would be necessary, as would also that of good half or three-quarters bred stallion crossing on the lighter mares, and this system would have to be pursued until a class of horse, practically thoroughbred and that would breed true to type, was produced. This would, as said before, take time but it is worth it.

To accomplish this, those at the head of the undertaking must be "Breeders"; they should be horsemen, but they *must* be "Breeders."

THE USEFUL MORGAN HORSE.

BY GEORGE M. ROMMEL, ANIMAL HUSBANDMAN, DEPARTMENT OF AGRICULTURE.

(From the Bit and Spur of February, 1913.)

THE Morgan Horse Club attracted much attention by its purchase some time ago of Morgan geldings to be turned over to the War Department for use as cavalry remounts. That the committee which made the selection had no easy time in finding even ten horses which were suitable is no secret. During the Civil War thousand of horses, probably, were sent from Vermont to the front; now, as some one has said recently, it would probably be impossible to mount a single regiment of cavalry from that state.

However, the Morgan is coming back and is coming into his own, and I make bold to say that, when he does again take his proper place in our equine family, he will be a better Morgan and a better, more useful horse than he was when the name "Morgan" stood for the consummation of excellence in horse flesh. Anyone who has visited the Vermont State Fair during the last two years, or has seen the show put up at recent western fairs by Illinois, Iowa, and Kansas, Morgan breeders, cannot fail to realize that the Morgan is still with us and is gaining ground daily. The descendents, not only of the horses left in Vermont, but of the best of those taken West years ago, are being carefully saved to form the foundation of the Morgan breed of the future. Vermont has not a monopoly on the Morgans, although she probably possesses more of them than any other state, and the combination of the best of the

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Vermont strains with the best of the western strains gives very gratifying results.

But I started out to say something about the use of Morgans as sires of Army remounts. Basing my statement on the experience of New England regiments during the Civil War, it would seem that in supplying part of the demand for horses for military purposes, the Morgan has an addition to his already well-known and many-sided usefulness. He has stamina, good weight carrying ability, toughness of bone and sinew, dauntless courage—all characteristics of the greatest value in a cavalry horse. He is hardy, accustomed to making himself comfortable in a rigorous climate, and this helps mightily in a campaign.

Of course, we may expect his small size to be an objection for this purpose, but an Army officer may sometimes overlook that if the horse otherwise is highly satisfactory, and we may, of course, expect the average size of the breed to be reasonably increased in time. Other things being equal, size, within reasonable limits, adds to the value of a horse, and we may expect that to be true with a Morgan as with a Hackney or a Percheron. The Army wants cavalry horses standing 15.1 to 15.3, if it can get them. The minimum is easily obtainable by our Morgans and can be attained by proper selection and feeding and without sacrificing any good qualities of type or conformation and the future army horse's height is more liable to rate under 15.1 than over.

The patriotic person may get a lot of gratification out of this thought. Think what it would mean to Vermonters, to all New England, in fact, if the cavalry regiment stationed at Fort Ethan Allen was mounted on Morgan horses bred in Vermont, New Hampshire, or elsewhere in New England. It would attract immediate attention to the worth of the Morgan for the purpose as nothing else could.

In the plan of the Government for the encouragement of the breeding of horses for the Army, it is planned to establish a breeding district in New England, where Morgan stallions are to be used, without in any way changing the plan or purpose of the work at the Morgan Horse Farm of the Department of Agriculture at Middlebury, Vermont. Morgans are to be sent to New England because the breed originated there; it was developed by the conditions there and it is peculiarly suited to those conditions. Who would think of doing otherwise?

But enough of the Morgan as a military horse. We must not overlook what he has done as a roadster and a carriage horse, a show horse and a horse to improve other breeds. Our show rings since the days of Black Hawk have rung with applause for some descendant of Justin Morgan, sometimes shown under his true colors, but often in a masquerade. Our great Kentucky saddle horse owe some of the best that is in them to the Morgan blood they carry in their veins.

No one need longer lament the decadence of the Morgan. The day for that has passed. From now on we will have these splendid little horses with us, to mount our soldiers, to draw our fine carriages, to improve and strengthen less vigorous stock and we do not doubt, to bring some profit to the men who breed them.

To demonstrate the value of the breed for cavalry service the members of the Morgan Horse Club are preparing to hold an endurance test next September in connection with the Vermont State Fair. They purpose to start a squadron mounted on Morgan horses from Fort Ethen Allen, for White River Junction and judge the animals on arrival, after the fashion of coaching endurance runs at the horse shows. The march will take them diagonally across the State of Vermont, almost one hundred miles, making a practical test of value. Why not have a test including the thoroughbred, the trotter, Arab, Hackney and other breeds to follow—or lead—the Morgans up hill and down, with regulation weight up, from Lake Champlain to the Connecticut River?

THE TROTTER AS A CAVALRY HORSE.

By P. M. BABCOCK.

(From the Bit and Spur of February, 1913.)

E VER since the discovery that horses suitable for cavalry were difficult to obtain at the price the Government is willing to pay, there has been much discussion relative to the best type of horse for use in this branch of the Army service. Such discussions have embraced a wide range and have not at all times been as temperate or confined to as correct a delineation of the merits of the respective breeds as might be wished. That there can be found most excellent cavalry horses among the thoroughbred, trotting, Morgan and saddle families is not open to doubt. Considering, firstly, the number of horses of such breeds in the country; secondly, the present use to which the cavalry horse is put, and, finally, the price which the Government pays, it is most desirable that no mistake be made in seeking the needed number and quality for the Government supply.

The total number of horses in the Government service is about 35,000 and the mounts and re-mounts for the fifteen regiments of cavalry require about 15,000. The average annual loss from death and disability is about 3,000, and this loss must be replaced by purchase each year. It is reported that the average price paid by the Government for the horses purchased last year was \$147.

There are two reasons why the thoroughbred, saddlebred and Morgan breed of horses cannot be utilized except to a very limited extent in furnishing the horses required by the Government. One is that the number of such breeds is too limited and the other is that no one can afford to breed and sell such horses at the price fixed by the Government. With these breeds practically eliminated it necessarily follows that the Government is primarily compelled to look to the trotting-bred horse for its supply for the cavalry service.

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Many writers have held the fallacious theory that all trotting bred horses are eligible for cavalry service, whereas, there is no breed of horses possessing as large a percentage of nondescript and worthless culls as the American-bred trotter. It has been said that "a good cavalry horse needs a level head, steadiness, a disposition to learn, with a kindly disposition. Physically he should possess great powers of endurance, soundness and a dogged capatity for plodding on and on in an emergency with scant rations." This qualification of a cavalry horse being predicated upon the assumption of actual service in times of war, it should also have added that, as the cavalry, when marching, generally employs only the walk and slow trotting gaits, no horse is suitable for such service that is not a fast walker and possessing an easy moving trot under saddle. That the best types of the standard-bred trotter of the present day possess these elements in a superior degree cannot be doubted by anyone familiar with their achievements and characteristics. The difficulty is that the types of the trotting horse suitable for cavalry service under this requirement, are in such demand they readily command double the price the Government is willing to pay and the result is the trotters purchased at the remount depots are anything but a credit to the breed and would be of but little use in case of actual service upon the battlefield.

In the general discussion the advocates of the respective breeds have based their contentions upon the requisite qualities of a cavalry horse in a war with some foreign nation, or in subduing Indians on our Western frontier. As a matter of fact we are, and for many years have been, at peace with all the world and there is not the faintest shadow of a prospect of a conflict with any other nation. There has not been a Federal gun fired at an Indian in this country for more than twenty years and there is scarcely a possibility of the American cavalry ever again being employed in chasing Indians over tractless territory and bridgeless streams, as it did in the days of Generals Merritt, Crook, Miles and Custer.

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While this is true, it is nevertheless necessary for the Government to keep a few regiments of well-trained cavalrymen that can be called upon in an emergency. So far as the present duty of the men and horses constituting the cavalry service is concerned, there is but little of the hardships incident to military life in war times in evidence. Dress parade, daily drilling, cross-country events and polo playing are the most strenous activities in which the cavalry horse is engaged in time of peace. For these purposes quite a different type of horse is required, than when forced marches of several hundred miles with but little rest and scarcely anything to eat becomes a necessity.

While, therefore, the best types of the standard-bred trotter are eminently qualified for actual field service their deficiencies in some of the requirements of the Army post in times of peace make their desirability at least questionable. There are plenty of such horses in the country, but they cannot be purchased, for anything like the price the Government is paying, and so long as the present policy is pursued we may expect to see cavalry mounts consist of the trottingbred culls and cross-bred nondescripts which made our cavalry horses the laughing stock of other nations and caused American horsemen to hide their heads in shame every time the quality of American cavalry horses has been mentioned.

MARCHING TO THE SOUND OF THE GUNS.*

BY CAPTAIN A. G. MCBURN, THE EAST SURREY REGIMENT, BRITISH ARMY.

IF we examine and analyse the title of this essay we wil find that it can be divided into three constituent parts. First, loyalty in its broadest sense; secondly, disinterestedness; and thirdly, the assumption of responsibility. All these qualities are vital in a commander, and there is many an instance in history where the lack of these attributes in a leader has brought

*From the Journa' of the United Service Institution for July, 1912.

about disaster. The Franco-Prussian War can show us some of the best examples of men endowed with these essential virtues.

One of our most distinguished officers, in a criticism of the Russo-Japanese conflict, points out as a lesson, from it to be taken to heart, the necessity for generals to be more disinterested and loyal to one another.

As long ago as 1870 this lesson had been well learnt by the Prussian army and the soldiers of the German States who fought with it. The good resultant from its practical application in the field cannot be shown to better advantage than in the battles of this campaign. Ungrudgingly and unhesitatingly the German commanders supported one another, sinking all personal aims for the common weal, gaining their reward in that series of successes which culminated at Sedan. That the Germans were specially fortunate in their generals, no one who reads the accounts of that struggle can for a moment doubt. The fear of responsibility, that bugbear of so many generals, was conspicuous by its absence; indeed most of the first battles fought in the war were begun without orders from headquarters and on the initiative of generals whose moral courage enabled them to act as they deemed best at critical periods and to take advantage of the opportunities which fortune sent their way. The battle of Woerth was even started against orders, the officer responsible for beginning it being convinced that he was acting for the best; and the commander-in-chief on arriving, having approved his subordinate's action, issued orders for the continuance of a battle which he originally had no intention of starting.

The battle began on the morning of the 6th August. The French and German armies were only separated by the valley of the Sauerbach and a collision of some sort was inevitable. The Prussian advanced guard commander sent forward two battalions supported by a battery to reconnoiter towards Woerth; the French advanced guard commander at the same time advanced towards Gunstett. This led to a series of disconnected fights which lasted till nearly noon. On the German right was the 2d Bavarian Corps under von

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Hartman. In the centre von Kirchbach's Corps, the 5th, while von Bose was bringing up the 11th Corps on the left. All these corps became more or less engaged with the enemy. The last named had bivouacked for the night at Sulz, but hearing the guns at Woerth, had hurried up towards the firing an was drawn into fight at Gunstett. The commanders had received orders not to bring on a battle, and the Bavarians retired. Von Kirchbach, however, believing it of the utmost importance that the French should not be given a chance of claiming a victory, was determined to continue the combat and begged von Bose, a great personal friend, and von Hartman, to support him. The fighting had already been somewhat severe and the Germans had not had the best of it; a retreat at that moment was not to be thought of and von Kirchbach decided to accept the responsibility for the battle, the other two generals lovally supporting him. The Crown Prince's headquarters were at Sulz, and when in spite of his orders the firing grew heavier and heavier, he galloped off to Woerth. On his arrival there he saw that the troops were too far committed to think of a withdrawal and he determined to support the corps already engaged with the remainder of his army.

Although the orders of the commander-in-chief distinctly forbade an engagement, the resulting victory was so decisive that one can only admire the man who had the fortitude to dare to disobey them and who was therefore directly responsible for the success gained. On receiving his orders, von Kirchbach knew that a retirement would be looked on by the French as a repulse and a French victory at that period of the war would be a dangerous moral asset to the enemy.

On the same day was fought the battle of Spicheren, which had been "neither planned nor desired by the German commanders." The generals responsible for it were von Kameki and von Alvensleben, the former for beginning it, the latter for bringing it to a successful conclusion.

The intention of the Germans was to concentrate their three armies and get into line so as to be able to attack the French main body with the whole of their available forces. This idea was, however, frustrated by the action of their subordinate generals. So weak in fact was the army which attacked Frossard at Spicheren that only the lethargy of the French averted a serious disaster.

On the day of the battle von Kameki with the 14th Division was to have marched as far as Gnichenbach and thrown his outposts forward in the direction of the Saar and Saarbrucken. The cavalry, however, reported that Saarbrucken was unoccupied, that the French had retreated to the heights of Spicheren, and that they appeared to be preparing to retire still further. Hearing this von Kameki pushed on to Saarbrucken and determined to occupy the opposite heights with his outposts. Von Zastrow, the commander of the 7th Corps, who was following behind, approved of this and von Francois, commanding the advanced guard of the 14th Division, passed through the town and made for the opposite hills. Von Kameki imagined that he has in front of him only the rear gua d of the retreating French army and no serious fighting was apprehended. Only artillery was visible on high ground above the town and the reports sent in by his cavalry confirmed his view of the situation. The 7th Corps was advancing behind him, and the 13th Division was also marching towards the river Saar; the result of his actions, therefore, caused him no anxiety.

The real situation, however, was very different and, after the attack had been launched on Spicheren, became well nigh desperate. The French 9th Division was entrenched on the Roteberg, on their left was Verge's division and Bataille's division was in reserve at Aetingen. Thus to start with there were three French divisions to the German one, the position too was strong and entrenched; already the odds were against them. To make matters worse, near Saargemund and only $7\frac{1}{2}$ miles on the right of the French was Montaudon's division, while $12\frac{1}{2}$ miles in rear was Bazaine's 3d Corps. By all the rules of war the 14th Division was doomed, but the inexplicable immobility of the French troops posted close at hand within supporting distance enabled the shattered remnants to hang on till help arrived. Every German within sound of the guns marched at his best 820

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pace to the battlefield and had the French acted in like manner the battle of Spicheren might have had a different ending.

The first reinforcements to arrive were the men of the 3d Corps, who were quite unexpected. They belonged to the 2d Army, under Prince Frederic Charles, which was rapidly being concentrated on the left of the 1st Army. Von Alvensleben, commanding the 3d Corps, was in advance; a keenwitted soldier, he was well aware of what was happening and was already moving his troops with all speed up to Saar. On arrival at Neunkirchen, hearing the sound of the guns, he pushed forward to Saarbrucken by rail and road with all possible despatch. He was thus able to bring up 14 battalions, 4 squadrons, and 6 batteries in time to take part in the fight, the men being flung into the battle as soon as they arrived, so immediate was the necessity for troops in the hard pressed firing line. The 8th Corps also hurried forward, but only their advanced guard arrived in time to take part in the action.

The commanders of the 3d, 7th and 8th Corps and von Kameki met on the battlefield and von Alvensleben assumed the chief command, the only troops then available being those of the 3d Corps. As the batteries of the 8th Corps came up they were placed under the orders of von Buelow, commanding the artillery of the 3rd Corps. In fact von Alvensleben was supplied with every man, horse, and gun which arrived irrespective of division or corps, the divisional and corps commanders placing them all under his orders, thus enabling him to bring the hard-fought action to a successful conclusion.

So extraordinary does the behavior of the French commanders appear that one could almost believe they regarded the issue of the struggle at Spicheren with indifference. At any time up to 3 o'clock in the afternoon, when the first German supporting troops arrived, they should have placed an overwhelming force on the field and completely wiped out the 14th Division, but by their immobility and apathy they let the chance slip by and with it the victory which was theirs for the taking.

Before the war the superiority of the French Army to

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those of other European Powers had never been questioned. It had always been looked upon as the model of what an army should be. Its success in the Crimea, in Italy, China, and other places gave it unlimited self-confidence. That the Prussians would be destroyed within a few short weeks was undoubtedly the opinion of most French people and of many of the other European nations. A few men, such as Bismark, von Moltke and Prince Frederic Charles had gauged its true worth and were not afraid of pitting their own highly trained troops against those of France, but the majority of the Prussian soldiers, though longing to try their mettle, held their opponents in some respect. The battles of Woerth and Spicheren changed all this; the moral effect of these successes was tremendous and the German troops henceforward were confident of victory.

The battle of Colombey, the next action fought in the war, was begun by a divisional commander on his own responsibility, and had not been intended by the commanderin-chief. On 14th August, about 11 o'clock, reports were brought in to von Manteuffel, commanding the 1st Corps, that the enemy before Metz were retiring. To be ready for emergencies, and in case the movements should be a prelude to an attack, the alarm was sounded. Von der Goltz, who commanded the advanced guard of the 7th Corps, hearing this and seeing the French apparently retreating, decided to attack, and sent word of his intention to the 1st Corps: thus the battle began.

The French columns on hearing the sound of the guns turned about and hastened towards it. They greatly outnumbered the Germans, but were unable to shake off their attack and a bloody and decisive combat raged from Colombey to Noilly, along which line three German division were extended. Up to 6 o'clock this unequal contest continued and then the Prussian reinforcements began to arrive. In this battle, as at Spicheren, the men were rushed into the fight as soon as they appeared.

There was no time to form a large reserve with which to make a decisive attack; help was urgently needed in the firing line and the supports were pushed up in driblets and

absorbed at once. However, they sufficed and the tide gradually began to turn, the French falling slowly back beneath the guns of Metz. Here, as in the battles immediately preceding it, the sound of firing acted as a magnet to the German troops; till late in the evening regiments continued to arrive, the last struggling in about 9 P. M. Although this battle had not been intended by the commander-inchief, it accorded with the situation he had created and with his intention of harassing and impeding the French armies. The success also added still further to the *moral* of his soldiers and detracted from that of the French.

On the night after this battle there was some doubt at the German headquarters as to the intentions of the French commander. It was thought probable that an attack would be made on the 1st Army by the combined French forces. The French needed a victory badly, and here was a chance of falling on the 1st Army and defeating it before help could arrive.

The 3d and 9th Corps of the 2d Army were therefore ordered to halt and close up in readiness for an attack should it be made as contemplated.

The general commanding the 3d Corps was, however, certain in his own mind that Bazaine was retreating westwards, and on the early morning of the 15th his cavalry brought him information which confirmed this opinion. He knew that his orders to halt were due to the fact that the headquarter staff were in ignorance as to the exact position of affairs. The news he had gathered from his patrols was in his opinion sufficient to warrant an advance with his whole corps in order to get in touch with the escaping French army. He reported his decision to headquarters and made off by forced marches to the Moselle. He had marched more than nine miles when an order reached him to halt and he was obliged to do so; he sent forward men and materials, however, to bridge the river which was then in flood. Shortly afterwards the retreat of the French became known to the headquarter staff and the 3d Corps was allowed to resume its interrupted march. Von Alvensleben's orders were to

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make for the Metz-Verdun road at Mars-la-Tour by way of the Gorze road.

The general was convinced that to stop the French he would have to advance at his utmost speed. On his own responsibility, therefore, on the 16th he divided his corps into two columns, sending one ria Gorze and the other by a difficult mountain road from Onville to Les Baraques, thus combining speed and a greater readiness for battle. If he could not throw his corps across their line of retreat, he was determined to delay Bazaine's troops by hanging on to their rear and so retarding them until the rest of the army arrived. The commander-in-chief had not contemplated a battle on the 16th, as the position of the headquarters of the two armies at Herny and Pont-á-Mousson shows, but the determination of von Alvensleben to close with the enemy before they could escape and the energy he displayed in carrying out his resolve were responsible for bringing on the fight which finally compelled the French to fall back on Metz.

In all these battles the German commanders relied on ultimate supports from their own forces. They knew the positions of the troops nearest them and could to calculate approximately the time up to which they would have to fight unaided. The positions of the enemy were also known more or less and the fear that the supporting troops would be drawn into side issues by being attacked by the French was therefore not present.

To chance a battle on the assumption that any of your own troops in the neighborhood will come to your aid on hearing the sound of your guns is a dangerous practice unless the situation is so well defined and clear that the arrival of supports is a certainty. An instance from Gourko's operations south of the Balkans in the war of 1877 will illustrate this danger. Gourko was opposed by Suleyman who was south of him at Semenli with a much larger force than Gourko had any idea he possessed. A detachment of Turks was at Jenizagra some distance from Semenli and this force Gourko determined to attack and wipe out, thus leaving him free to deal with Suleyman. With this end in view he advanced in three columns. It so happened that Suleyman had, on

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the same day, come to a decision to attack Gourko and also marched off in three columns. The Russians were to have concentrated at Karlikioj, but only the left and center columns arrived. Later on Gourko heard that his right column had been engaged with the Turks at Eskizagra and that the latter were now at Dzuranli. Being unaware that he had to deal with Suleyman or that the Turks were in any force, he determined to make an attack on their position, relying on his right column to help him by co-operating as soon as they heard the sound of his guns. This nearly proved fatal, for the Russians on this flank were fighting desparately with Suleyman himself and were quite incapable of rendering any aid to Gourko, who was obliged to fall back, only extricating his force from its dangerous position with difficulty.

The fact that even the heaviest firing will not always be heard by troops who may be perhaps only a few miles distant from the actual battle, shows that sound is at best but an unreliable guide. Two curious instances of this are given in Maude's "Military Letters and Essays": the first is from the battle of Spicheren. The 13th Prussian Division was marching on the Saar when sounds of firing became audible from the direction of Saarbrucken. The line of march was at once changed and the troops set off towards it. The new route led through a big forest and after marching through this for some time the sounds suddenly ceased. The Prussian commander, thinking that it could only have been a skirmish, thereupon halted his men. At the same time, across the Saar, two French divisions were put in motion, they too having heard the guns at Spicheren. At 1 o'clock all sounds of firing ceased and the French generals marched their troops back to camp. The time at which the guns appeared to have ceased firing was the same in both instances, namely, 1 o'clock, and yet in reality the battle raged all day long without cessation. Just before 6 o'clock the sound again made itself heard and the Prussian troops getting under arms hurried to the battlefield arriving in time to take part in the fight. The French, less fortunate, when they again heard the guns, marched off towards Spicheren once more, but were too

late to be of any use to their comrades who had already retreated from the field.

The second instance occurred at the battle of Gaine's Mill in the American Civil War. The Southern Army under Longstreet and Jackson attacked and defeated the right wing of the Northern army in full view of their left wing which was unable to take any part in the fight owing to an impassable river and swamp. Though only two miles separated the spectators from the actual battle, every incident of which could be clearly seen, not a sound reached them.

From this it would appear that a general who depends on the sound of his guns to bring him aid pins his faith on a somewhat untrustworthy factor, though the value of marching to the sounds of battle when the guns are heard is amply demonstrated in the successes won thereby in the Franco-Prussian War by the Germans. Nowadays the absence of all smoke and the extended formations which troops necessarily have to take up render the location of the actual combat rather more difficult than in the days of black powder. In some cases it might even be difficult to tell friend from foe as was actually the case in the action of Koedoesburg in the South African War. Babington with a cavalry brigade sent by Methuen to reinforce Macdonald was unable for some time to distinguish between Boers and British.

It may be taken, however, as a safe military axiom from the examples given us by the Germans that when in doubt one cannot do better than march to the sound of the guns. A commander from his knowledge of the general course of events should be able to appreciate the significance of sounds of battle from a certain direction and could decide as to whether his presence would be required or otherwise.

CAVALRY AND AIRCRAFT IN THE SERVICE OF RECONNAISSANCE.*

BY LIBUTENANT COLONEL V. SANDEN, AUSTRIAN CAVALRY.

Will cavalry remain the best means of reconnoitering the enemy and the terrain in the future or will it transfer the difficult and onerous reconnaissance service to airships? General Count Haeseler says in the foreword of his "Achievements of Rider and Horse": "It should not be overlooked that those inventions and discoveries, adapted to the military service, may be of the greatest advantage, but they will never wholly replace the trusty trooper on a good mount in the service of reconnaissance and in transmitting messages and orders. . . . What we may expect of airships, only the future can show." By "those inventions and discoveries" he refers to automobiles, cycles, telephone, telegraph, and airships. Of these, airships of all sorts have come to the front in an unusual degree and gained a prominence never thought of, and they promise to play an important rôle in the service of reconnaissance.

The final object of the far and near reconnaissance is the most definite ascertainment of conditions of the enemy, of the features of the terrain for purpose of movements, fighting and camping, transmitting its observations by messengers to the general commander, who then makes his disposition and transmits his orders therefore to the different bodies of troops by fast and trained mounted messengers. For communication between the different bodies of troops of a command troopers and mounted officers of all arms are required. They appear to be specially qualified to meet the demand of celerity. Of course cyclists, automobiles, and unmounted infantry officer's patrols, sent far out into the

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enemy's terrian, augment the mounted reconnaissance service materially. Captive ballons also are of importance in this as far as their immediate sorroundings are concerned, but have the disadvantage of having to be transported from one point to another.

Like anything else in this world, cavalry reconnaissance has its good and weak sides; but up to date it has proved to be the best means. Cavalry is the natural arm for that service and is trained for it in peace in accordance with both old and new experiences and lessons. It can be utilized in all sorts of weather and in most any terrain; it can go whereever a horse can find a foothold; can seek out the enemy and can ascertain exactly whether or not and in how far a piece of country can be used for fighting by all arms.

In the far reconnaissance, cavalry proceeds far to the front and gains a good view in case of need by forcibly driving the enemy back, should its patrols be unable to make any headway. When the patrols thus have gained breathing room, they can observe either in the open or in concealment and report the enemy's whereabouts and, if discovered, can disappear quickly and reappear at some other points. Even at night, if not too dark, a patrol leader can find his way by his sense of sight and hearing, supplemented by the excellent sense of smell of his horse, and discover the enemy.

When the enemy has been located, a hasty report is sent back and the patrol then sticks to the enemy for further observation, without having to return to its command, meaning a saving in horseflesh.

Rapidity of patrols depends on the load carried by the animals, the features of the terrain, horsemanship, care and feeding of horses. According to regulations patrols ride at alternating trot and gallop, covering one kilometer in about three minutes. This rate of gait cannot be kept up as a matter of course, for long distances, nor when making careful observations, but may be kept up by single orderly officers, mounted messengers and orderlies.

Failures of cavalry in reconnaissance work are attributable to the playing out of the animals primarily; patrols and messengers carrying reports may be captured by the

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enemy; frequently natural obstacles interpose to cut off all view; hostile counter measures, which can be overcome only by fighting, may interfere; and on the whole it is frequently difficult and time consuming to find good observation points. Even the best trained cavalry will find it difficult to overcome natural obstacles such as swamps, streams, etc. Often also the manner of issuing orders to the cavalry interferes with good results, as well as the duties set patrols by those not entirely familiar with what can and may be expected of them. Unmanageable horses, not sufficiently trained to travel in any kind of terrain, are often also a serious hinderance to effective service. All of these hinderances have to be overcome some way and we will now inquire in how far aircraft is able to help out in this matter.

Dirigibles can cover from 80 to 100 kilometers and more per hour and thus an opponent, still a day's march distant, may be discerned and reported within 20 to 30 minutes after the start is made. Cavalry, well mounted and trained. would require more than four hours for the same task. It is clear that aircraft can see quicker and report sooner from far distances by returning and dropping reports by means of small parachutes to its own troops. But to do so the aircraft must either return itself or the use of wireless telegraphy be resorted to, but the latter has not yet been sufficiently developed for that purpose. Or, an accompanying aircraft undertakes the rôle of messenger to the rear, while the other one remains hovering in the vicinity of the enemy to continue observation. A cavalry patrol, remaining close to the enemy, merely sends back one or two messengers; if it is still within the limits of our field telegraph system, that will be resorted to; but in this case errors in transmission and delays have to be taken into account.

In addition to celerity, each aircraft, whether dirigible baloon or airship gives the observer the advatnage of overlooking many square miles of ground at one and the same time, while the rider, confined to the ground, is not so favored. However, aircraft flies with the wind after having once ascended, and, for the consolation of the mounted man, we will say that the act of ascending is not always easy and successful, for the elements hate anything wrought by the hand of man.

The aeronaut, steering his craft in the enemy's domain. must take care not to get within range of his firearms, and for the purpose of observation and reconnaissance a special observer has to be carried along. The latter scrutinizes the open terrain and also has a good view into valleys, depressions, villages, farms and clear woods. But he cannot look into dense forests, deep and wooded ravines, interiors of buildings, as can the trooper. Troops can hide themselves from the view of observers in aircrafts, while they cannot do so in the face of a well regulated patrol service. Another point: Country viewed from above creates a different impression than when viewed from the level, for viewed from above everything appears more or less flat. Rapidity of flight should not interfere with good observation; still, when the flight is rapid, the observer can hardly note everything which is absolutely material. It is true that one patrol can also not see everything, but several patrols working on a line alongside of each other can easily reconnoiter all features of the terrain that is of importance for the proposed operations. Thus it will be seen that the near reconnaissance and especially reconnaissance of the features of the terrain in the immediate front of an operating body is the special task of patrols, without the far reconnaissance of cavalry having to suffer thereby.

Aircraft probably are best employed for the far reconnaissance, to seek out the enemy, to observe the more important routes of approach and railroads, to which points the cavalry can not proceed rapidly enough or which may already be held by the opponent. But if the cavalry is already far in the front and on the flank, as may be assumed to be the case generally, there is no reason why it should not perform the same and as good service as aircraft, especially with the help of a dense net of patrols.

Aircraft will be out of hostile range at 500 meters elevation, above that height there will be little danger of hits. Troops firing on aircraft will have to exercise great care, for projectiles returning to earth and exploding without having hit the aircraft fired on may become dangerous to the

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troops firing them. At present firing on aircraft is still in its infancy and exceedingly difficult.

A few words concerning explosives thrown by aircraft. We well remember what a confusion a sudden and unexpected exploding shell caused among marching or camping troops in our campaign. Confusion reigned supreme in a moment, men ran everywhere, horses were panic stricken and stampeded. This happened in cases where artillery approached unperceived. An airship could quickly approach a camp, drop a few bombs and cause great disorder, affecting materially the morale of the troops. However, it hardly pays to take this probability into serious account at present; so far we have no data to go by, especially as the war in Tripoli shows but one or two instances of the kind and it is also said that the airships or aeroplanes were hit from below in each instance.

We now come to the question of the future of the cavalry screen. It is our opinion that the screening duty may be carried on without interruption, for opposed to the hostile cavalry will always remain the screen on the ground, or at least a guard or shield behind which the main body can concentrate and go into position before attacking. In addition, conditions with the cavalry far in front often change so rapidly that the cavalry's movements cannot be reported by aircraft quickly enough, especially if the weather is unfavorable for observation.

At the present time progress in the matter of aerial reconaissance is still in its infancy and no absolute reliance can be placed on it; there are faults to be overcome in construction and management which will take considerable time. Aircraft has to take into account the opposition of wind and weather, great heat, thin and hot air, which factors often greatly interfere with or entirely prevent ascent. A trooper and his horse are not so dependent and even if cavalry is occasionally prevented from going out for some reason or other, it can quickly perform some other service of equal importance to reconnaissance.

Another great factor to be reckoned with by aircraft is the giving out of the motor. This often is the reason why the aeronaut is not willing to go to any great height in order to be able to make a quick landing in case of accident. But what if in that case he should find himself immediately above the enemy? But if our live motor, the horse, gives out, that is merely a matter of inconvenience and of little importance, except in cases where a lone trooper carries an important message, but as is well known, important messages are generally carried by two or even more parties.

As airships can be seen from afar, the enemy has an opportunity to take proper counter measures. One advantage the airship has is the fact that at the present time airships of all countries are about the same in shape and design and it is hard to tell whether we have our own or a hostile one approaching us and no one will know whether or not to fire on it, or whether or not he may be fired on from it in the next moment.

Like the horse man, the observer in an aircraft is dependent on conditions of the air for his view; however, the former had the advantage of being able to go closer to his objective and of seeing to better advantage consequently. For instance if an ascent is made close to the enemy, the aeronaut will have difficulty in ascending rapidly enough to get out of the enemy's range, therefore, in such cases, only cavalry will perform effective service.

Considering the numerous disasters to aircraft which have so far happened we may suppose that they will be more frequent when working in war conditions and that then a shortage of aircraft and trained aeronauts will soon occur, which can not be replaced in a hurry. Of course the same thing applies to the enemy. However, it will be a very long time in war until a shortage of trained patrol leaders can occur in the cavalry.

We now come back to our original question: Can cavalry transfer the entire reconnaissance service in war to aircraft? The main point to consider is that although aeronautics have made an undreamed of progress recently, airships can not be considered perfect until we are absolutely certain of the reliability of the machine, of its carrying power, of its inde-

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pendence of wind and weather, and of its capability of rapid ascension, and last, but by no means least, the efficiency and reliability of the motors. Therefore the question will have to be answered in the negative. The time has not yet arrived for cavalry to throw away its lance and other arms and give up the duties of reconnaissance; we know what cavalry has achieved and what it can perform, while airships still have to prove what they can do. They may be able to perform many services, but their reliability is still shrouded in doubt.

THE BRILLIANT RÔLE OF THE TURKISH CAVALRY*.

UR patrols were to enter Bulgarian territory upon the receipt of the news of the declaration of war. This news we awaited with impatience, certain of victory, skeptical however as to war, which we did not vet believe would occur, although we had been informed of the concentration of the enemy's forces on the frontier. The fortification works of Adrianople being finished, we were pushed out in front of the line Adrianople-Kirk-Killesse. On the 18th of October, when we were still ignorant that war had been declared, we saw a strong Bulgarian column pass the frontier and advance by the route, Bayuk-Derbent Vaissal. Before the arrival of these troops Bulgarian emissaries had burnt the Mussleman villages of the frontier, Hadjilar, Tekie, Hadji Talichman, Sari Talichman, Suleiman Talichman, Malkoutchar, Devlekli Agatch, etc., etc. Our cavalry dismounted, contested in bloody fights the advance of the Bulgarian infantry, yielding the ground to them only inch by inch; the latter were able to advance only fifteen kilometers in four days. During a whole day twenty-four cavalrymen stopped the advance of an entire battalion of the enemy.

The same day that war was declared, a squadron of our division, dismounted, attacked a blockhouse, took it, fought until night against two battalions, and withdrew in perfect order without being pursued, after having burnt the blockhouse.

On the night of the 19-20th I was present at an extraordinary episode. Two soldiers, Bulgarian Ottomans, had deserted from our cavalry. A patrol commanded by one of our sergeants penetrated by mistake into the Bulgarian lines, believing themselves within their own. The conviction of the sergeant that such was so was made all the greater upon seeing at this moment, warming themselves at the fire, the two deserters in the uniform of the Turkish army; he approached saluted them, then, all at once discovering his mistake, with an astonishing sang froid, he killed one of the two with a pistol shot, seized the other by the throat and brought him back to us.

The Musselman villagers fied, abandoning their homes, driving off their flocks, and accumulating in their carts their poor household possessions. Passing through the Bulgarian villages they burned and pillaged the latter. What remained of the animals were eaten by the troops; thus it is that today the district of Adrianople is vacated by all its inhabitants, completely ruined for ten years at least.

Our division under the command of Salih Pasha, who during the entire war displayed the greatest bravery, withdrew to Mosach, forty kilometers from the frontier but without ever loosing contact with the Bulgarians. We learned then that the infantry were coming to support us and on the 21st, we advanced anew in the northwestern direction.

The 22d (day of Kirk-Killesse), we fought on the right wing of the 4th corps; we were engaged between Getch Kiuli and Ortaktche. I saw the entire battle, one time we were between the right wing of the Bulgarian army and a strong column of the enemy that was executing a turning movement. The latter was stopped by some of our squadrons dismounted, while our main body vigorously supported our left wing. At night along the entire front the Bulgarians withdrew and we were convinced that we had won a victory. We had with-

^{*}By George Remond, special correspondent for the L'Illustration, Paris, at the Tchaldja Lines. As told to him by an officer belonging to the Independent Cavalry Division. Translated by Lieutenant Colonel W. C. Brown, U. S. Cavalry.

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drawn for the night behind the infantry, when to our astonishment we heard a violent fusilade, and upon going forward we found along the road a mass of fugitives. We found in the morning that two battalions had shot into each other, each mistaking the other for the enemy and this had caused the panic. However, we hoped to take the offensive the next day and a division of the 4th corps reoccupied the position of Haskeui. The greater part of the dead and wounded of the preceding night had been struck by Turkish bullets. They were abandoned to the Bulgarians in the course of the panic and because of the bad organization of the Red Cross (Sanitary department). During the day a soldier of a partrol came to tell me that his sergeant had been wounded and that he had left him in a hut. It was a good non-commissioned officer, very brave, and of whom I was very fond. I went to the place indicated, accompanied by a doctor. We found him with his nose and ears cut off. And in addition a sword had been plunged into his shoulder, the point of which stuck out from his abdomen. He still lived, and not understanding his condition he begged us not to leave him there. The next day, the 23d, we were still advancing when a courier from Abdullah Pasha came with an order for us to retreat on Loule-Bourgas. We did not understand it all and were exasperated. It was Colonel Veit, German officer in the service of Turkey, and who commanded the 1st Lancers, who explained to us that the right wing must have been beaten. We had this confirmed but not until eight days later. The order said to retire rapidly. We marched three days through the wind, rain and cold; nearly an entire army corps perished without having hardly fought at all. The Bulgarians did not pursue. They on their side had considered themselves beaten, for they burned all their supplies, and it was only after two days of uncertainty that they learned of our retreat and decided to move forward. The 26th of October the 1st, 3d and 4th Army Corps had withdrawn behind Loule-Burgas. We received the order to rejoin Mouktar Pasha near Viza, and on the 30th and 31st of October and the 1st of November we took part in the battle of Tchengra. The third Corps, alone, commanded by Mouktar Pasha, had behind it a good road for revictualing his troops (route Viza-

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Kirk-Killessee). I was present at the heroic assault of the left wing of the Third Corps, which repulsed the Bulgarians at the point of the bayonet, and carried their position to the north of Tchengra. The first Corps was unfortunately unable to support this movement as they were without rations and ammunition. A large number of officers were killed in this battle; the first regiment of the first division lost fifteen; there remained in the entire army corps only two or three officers in each battalion. I met a lieutenant commanding a regiment.

The First and Second Corps commenced to withdraw because of the lack of food. It rained all the time and everybody passed the night in the mud without food, while the Bulgarians had at their, disposal the great depot of Kirk-Killesse, which by some unpardonable blunder, we had) forgotten to destroy. The Third Corps left several batteries and considerable ammunition in the mud. The Bulgarians used these guns and ammunition in the battle next day, but their canonade did not cause much harm. Mouktar Pasha ordered us to join the Seventeenth Corps, of which he had bad news. We found on the road the convoys of provisions sunk in the mud, unable to advance or go back.

Mahmoud Pasha, who must not be confused with Mahmoud Mouktar, who also displayed great bravery, displayed the greatest courage and bravery in this battle of Tchengra, exposing himself personally and trying to hold the soldiers, who having had nothing to eat for some thirty hours, ran here and there begging for food.

On the first of November, in the afternoon Mahmoud Mouktar received the order to retire. The rain began again. Quantities of ammunition had to be left on the road. However, we cavalrymen did not lose contact with the enemy. The Bulgarians uncertain of their victory did not pursue; they had even begun to build defensive works in their positions. Our division withdrew slowly before them, holding them easily when they advanced, for they did not care to risk anything. Their cavalry never separated itself from the infantry. In this manner, delivering frequent combats we arrived at Tcherkeskeui.

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A comrade who was at other points during the battle of Loule Bourgas, told me that on the left wing, the cavalry alone for three hours had prevented the Bulgarians from taking that city, then attacking an important column advancing along the railroad, it had charged and forced the column to withdraw precipitately to the protection of their guns. The second day of the battle at the extreme left wing it checked a turning movement of a strong Bulgarian column. Afterwards the cavalry defended Tchorlu with the support of a single battalion ot infantry against the attack of an entire Bulgarian division, and this without orders but out of a pure spirit of bravado.

The lack of cohesion in our army, the large number of Redifs mixed among the troops of the active army have lost everything. In our retreat we encountered these unfortunates by thousands, wandering lost, hunting for their battalion, and if one of our officers questioned them, or threatened them, saying to them: "Where are you gcing?" "Are you running away?" We heard them answer: "Mon pere, mon bey, I am not running away, lead me to the enemy so that I can fight, but I am hungry, very hungry, and I cannot find my battalion." Our arms dropped to our sides.

At Babi-Eski we found the village looted by the emigrating musselmen, and even Alpia was burned. There had been a small battle between the emigrants and the christian population. On the road, near Saretchal, I saw soldiers seated, cigarette in hand and dead, neck opened behind, assassinated by villagers. We burnt the village. On the 29th, at Asbac, the villagers had assassinated our wounded. In searching for forage for my horses we found uniforms of officers who had been assassinated and which had been hidden on our approach.

THE BATTLE OF LOULE BOURGAS OR KARAGATCH.*

(Viza, November 7, 1612.)

Today General Dimitrief established his headquarters at Viza, which the Bulgarian troops have occupied for twentysix hours. It is a little village whose inhabitants, for the most part Greeks, have fled before the sanguinary rage that the vanquished army everywhere displays in its passage in retreat. Some houses are still burning, others have been pillaged in regular form, and there remains in the streets of the little village, only piles of debris, broken furniture, receptacles with contents gone, while the air is filled with a suffocating odor of burning wood and roasting flesh. The route from Bounar Hissar to Viza traverses the battlefield of Karagatch. the name given to the battle of the 29th, 30th and 31st of October. I have traversed it on foot, going minutely over the theater of the different combats, visiting the intrenchments and the locations of the reserves. I have thus been able to reproduce in my mind exactly the struggle, and, after the explanations so clear and concise, which by order of the General, his Chief of Staff, Colonel Jostof, the Chief of the Bureau of Operations of the III Army, Lieutenant Colonel Asmanof, have been kind enough to give me, I am in a measure able to give the story of the battle in manner fairly complete.

During this time the Bulgarian Cavalry division which had been operating on the right of the Army of General Dimitrief, received the order to advance straight to the south

[•]From the *L'Illustration*, Paris, November 80, 1912. Translated by Lieutenant Colonel W. C. Brown, U. S. Cavalry.

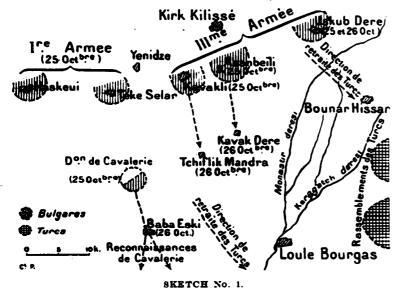
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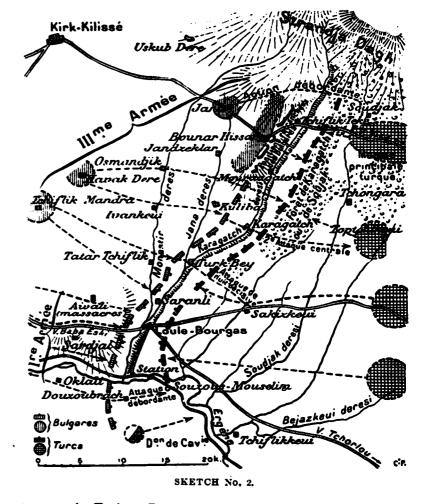
and to cut if possible the railroad Constantinople—Saloniki towards Baba Eski. It succeeded completely in this operation and in the railroad station of Babi Eski captured several trains loaded with ammunition and rations. However, there was at Bulgarian headquarters considerable uncertainty as to the exact situation of the Turkish army. So on the 26th the army stood fast, a day of rest moreover being necessary for the troops. The cavalry of exploration alone, did not remain inactive.

The reconnaissances towards the south to Hairaboli and Rodosto, showed that none of the enemy were to be found



in that direction, while large concentrations of the enemy were found towards Tchorlu and Sarai.

There was no longer any doubt. The Turks had assembled all their forces to the southeast and covered the direct road to their capital. The latest reconnaissances sent hastily towards Viza, confirmed this hypothesis and announced besides that the army of Abdulla Pasha, far from awaiting passively the check of attack was already on the march and some of his columns had already reached that village. Now as we have already seen, the army, or rather the Bulgarian armies of the left and center (III and I) were stationed, facing to the south. It became urgent to change toward the southeast, and to advance with all the forces united



to meet the Turks. But the proximity of the latter whose right was almost in contact with the Bulgarian left, the certainty that was felt that the principal effort of the Turks was to be

made towards this right where they were massed, exposed the pivot of the movement, that is to say the division which the 26th, was at Uskub-Dere, to sustain alone or almost alone, the offensive operations of the enemy. The other divisions could engage only successively, and even at an interval of several days. However, General Dimitrief, on the evening of the 26th, gave the order for the offensive in the general direction of Viza-Sarai.

The 27th, the left division marched via Jana towards Bounar Hissar, while the rest of the Third Army and the First Army commenced their change of direction. But the absence of roads running in the direction of the march, the almost



incessant rain rendering very precarious those that were utilized, caused great delays to the right of the Third Army and to the concentration of the First Army. The 28th October, the march continued towards the southeast. Already the advance guard of the Bounar-Hissar division had cleared the stream of Karagatch Deresi, when they encountered at the west edge of the forest of Soujak, forces of the Turks in greatly superior numbers. The decisive battle of the war was now engaged.

The terrain offers in its entirety the aspect of a vast plain, with hardly a feature, and which terminates in a high escarpment forming the western edge of the wooded plateau of Soujak-Karagatch. On the side of the Bulgarians, that is towards Bounar-Hissar, not an undulation, not a height, not a single defiladed artillery position, nothing, only a regular billiard table. On the Turkisk side a vast undulating, wooded plateau, whose crest overhangs the Karagatch-Deresi at a height of more than 50 meters but whose slopes are steep enough to place the course of the stream and its channel in dead ground and completely sheltered, from rifle fire coming from the eastern bank.

The Karagatch-Deresi is a considerable obstacle whose passage is everywhere difficult on account of its depth and the strength of its current. There is not a bridge except at Tchiflik-Teke and farther to the south towards Turk-Bey and Loule-Ecurgas, hence it follows that artillery can cross it only with difficulty. The running fight which his advance guard was engaged in seemed insufficient to General Christof, who commanded the left division. To clear the situation it is proper to observe that the mission of this division was to serve as the pivot for the general change of direction towards the southeast and to hold or draw towards Bounar-Hissar the forces of the enemy until all the other divisions reached their places in the line. In a certain sense this mission is defensive, but for him who has heart in his work and desires to come to close quarters with his enemy, there is no defense that equals in value that of an attack. Furthermore one cannot, without cavalry reconnoiter the enemy except by an attack; following the old adage "that one finds out about an army with an army" the offensive rôle seemed the better to the Bulgarians, and General Christof ordered his regiment forward.

Now, the Turks to begin with had massed the greater part of their forces towards their right. In exact proof of this the numerous abandoned camps between Viza and the forest of Karagatch and even in the latter itself, bear testimony. The intention of the Ottomans was evidently to try to maneuver their adversaries by the right and to throw them back on Haskeui, by cutting them off from Kirk-Killesse.

From the first shock, in spite of the élan of the Bulgarians, the latter understood that they had a serious affair

in hand; but the object of their offensive work was already gained, for, by their furious attack upon the edge of the forest, they had forced the Turks to deploy a large part of their forces and to disclose their plans.

General Christof then ordered his troops to entrench on the hummocks on the right bank of the Karagatch-Deresi, where he concentrated his whole force and prepared to resist to the end. Splendidly seconded by his valiant troops, well supported by his artillery, artillery of Crusot, whose shrapnel showered the enemy's infantry lines with mathematical precision, whose melinite shells caused entire files of soldiers to disappear by their explosions, General Christof heroically sustained for two whole days the attack of the Turkish masses, whose numbers far from decreasing, seemed to constantly and continually increase.

But on the evening of the 29th, the situation became modified. Successively the other divisions of the third army arrived to prolong the line to the right of those who were engaged towards Bounar-Hissar and they also attacked the Turks whom they found intrenched on the east back of the Karagatch-Deresi.

By reason of the difficulties of a terrain entirely level, a veritable glacis in front of the enemy's position, by reason especially of the lack of suitable artillery positions, the entire army of General Dimitrief made very little progress during the entire day of October 30th. Towards the middle of the day, however, the arrival in line of the first army along the front Saranli-Loule Bourgas-Douxoubrach, brought some improvement to the situation. General Koutinchef who commanded it had been greatly delayed by the mud, that "fifth element," of which Napoleon complained to such a degree in Poland, and which we groan so much over here. In spite of all, though the development of the Bulgarian lines were extended from Bounar-Hissar to Douxoubrach by Loule Bourgas, a distance of 30 kilometers, the Turks showed head everywhere, and seemed unshaken in their positions. The Bulgarian army had all its elements in line, there was no longer a reserve; scarcely a few regiments remained at disposal in certain sectors of attack, fractions to weak to give

the critical blow that would finish the battle and give the decision of victory.

It was at this moment, nevertheless, that during the night there happened one of those incidents which we call an "evenment," (crisis upon which depends victory or defeat). A brigade of the right division of the Third Army attacked at eleven o'clock at the night Turkish position, at Turk-Bey and succeeded in gaining a footing on the plateau on the left bank of the Karagatch-Deresi, fairly in the enemy's center. The attack, minutely prepared, they told me, was executed with admirable energy without firing a shot, at the point of the bayonet. "na noge" (to the knife) as the Bulgarians say, and when the sun rose on the morning of the 31st on the field of battle a formidable breach, garnished with six thousand rifles was opened in the middle of the Ottoman lines.

While the Bulgarian infantry entrenched, improvised passages were built in haste across the stream, one, two, three batteries crossed, and then still more; finally all that could be assembled of disposable fractions were hastened at this point to oppose the offensive returns of the Turks.

Now at the same time an event of importance took place at the extreme right of the Bulgarians, to the south of Loule Bourgas. Following the roads on both banks of the river Ergine, in conjunction with the cavalry division which covered them towards the south, the regiments of General Kontinchef reached Souzous-Mouselim, outflanking completely the Turkish left. Towards this point a mass of artillery was put in battery which took in enfilade the entire left of the enemy and caused him heavy losses.

From this time the situation of this portion of the Turkish army became extremely critical and during the last hours of the day it was in full retreat in the direction of Tchorlou. It may be said that at this moment, the evening of October 31st, the battle was virtually gained.

However, there still remained the whole mass of the Turkish right, the most considerable and the most tenacious also. But, inflamed by the success of their divisions of the center and right, the Bulgarian regiments of Karagatch

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pressed forward, and under their irreststible elan the enemy yielded, crumbled, and fled in all directions.

The 1st of November the Bulgarians reached Toptchikieui, while towards Tchiflik-Teke the rear guard of the Ottoman army held their ground the entire day. But on this side there arrived at Bounar-Hissar, a brigade of reserves that had come up by forced marches. Without delay it was thrown into the battle; marching to the north of Tchiflik-Teke it reached Soujak and from there turning south and in an immense open clearing, fell on the flank of the last of the Turkish troops in retreat which fled towards Viza abandoning important material.

The 2d of November, while the Bulgarian infantry was halted before Viza, the last cannon shots of this six day's battle were fired at the rear guard of the Turks who burned the village in revenge for their defeat.

This is, in its simplicity, and perhaps a little stiff, the story of a homeric struggle which recalls Liao-Yang and Mukden, whose study as were these latter will be the subject in military circles of all nations of study and instructive criticism.

Personally I do not draw any conclusions. But, I recall the triple affirmation that has been given me at the same time by General Dimitrief, Colonel Jostof and Lieutnant Asmanof. "This victory where we have fought front to front, under conditions which forced us to forego the tactical envelopment so dear to the Germans has been obtained by the success of an• attack executed in the full center of the enemy, such as is advocated by your École superior de guerre. It is the idea truly French, of delivering the deciding blow at the spot where one is strongest, as at Karagatch and Turk-Bey and as formerly at Losengrad, that we owe the success of our arms.

CAVALRY: ITS ORGANIZATION AND ARMAMENT.*

BY BREVET MAJOR-GENERAL WESLEY MERRITT, COLONEL FIFTH CAVALRY.

T has become so common to assert that the uses and armament of cavalry must be materially modified to meet the recent changes in small arms and tactics, that much confusion has arisen in the minds of military men as to what modifications are necessary. Some, because of the iteration of the idea, have gone so far as to make wild guesses as to the changes which should be made, while others agree that cavalry as an arm of the service will be unimportant in future wars. It is to be regretted that cavalry officers have conceded this, and that men of some experience in the cavalry service have advocated the abandonment of the sal er as a weapon for mounted men. It seems to have been forgotten by these officers that the cavalry has been advancing as other arms of the service have advanced, and that at this day the cavalry is as far progressed by its own expertence in great battles in our country, as either the infantry or the artillery. In fact, it can be established, I think, that if there is any difference in improvements in modern warfare, it is in favor of our mounted troops.

Contrast the cavalry of the present with that of Frederick the Great, or Napoleon, in the points of formation and tactics. Instead of the heavy, solid, inflexible columns, which permitted unrestrained action in but one direction, we have the simple, flexible and easily modified battle army, which can multiply its assaulting powers to infantry, or can hurl itself in solid mass against an enemy by a single impulse. Has the infantry arm been improved? How much more the armament of the cavalry. While we still retain the saber, opportunities for the effective use of which history

*From the Journal of the Military Service Institution for 1879.

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shows occur once or oftener in every battle, we have a short breech-loader,* which for the purposes of battle on foot is as effective at reasonable ranges as are the arms used by the infantry; and there is more than one gun for the cavalry brought nearer perfection as a repeating arm than any yet invented for infantry use.

In a letter from the highest army authority, asking the views of officers on the subject of the abandonment of the saber, it was intimated that age in military matters was ultra-conservative, and opposed to all change; while youth was progressive and innovative. As a nation we can afford to be original, and as individuals we may invite progress, but in neither capacity can we be justified in adopting new ideas without carefully reckoning the results, simply for the reputation of being youthful and adventurous. A cavalry leader who conducts a headlong charge over unknown ground against an undeveloped foe, except in the nature of a forlorn hope, nine times out of ten will have reason to regret his temerity.

All our experience during the war of 1861-65 taught us we were well armed, well equipped, and well fitted for cavalry service. The changes made since the war, in our tactics, are improvements which we all value, and which we would not have profited by early in the war, had not circumstances which it is needless to mention prevented. If the cavalry was not efficient during the first two years of the war, it was not its fault. Our want of proper organization and concentration was to blame, and until the end of the war we had the lack of experience to contend with that an earlier perfection in these would have given us. Still, the history of the cavalry, even as written—and but scanty justice has been done it—will bear me out in asserting that there is no modification in either its uses or its armament now necessary.

ORGANIZATION.

Our cavalry as now constituted is susceptible of the following organization: Each company to consist of one hundred men, including non-commissioned officers; to be officered

"It is to be regretted that we have not such an arm now. The italics are ours.—EDITOR.

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by a captain, two first and one second lieutenants; four companies, thus organized, to constitute a battalion, to be commanded by a major; three of these battalions to comprise a regiment, to be officered, in addition to those already named by a colonel and his staff, and a lieutenant-colonel; a brigade to consist of from three to five such regiments, and a division of three brigades. The brigade and division to be commanded by a brigadier and major general respectively. Such, in brief, should be the organization of the cavalry, as far as it is necessary to characterize it for purposes of war.

ARMAMENT.

This is covered in three words; saber, carbine, pistol. The saber should be carried on the saddle by a simple contrivance now in use on the frontier. In referring to this manner of carrying the saber, it may be said that it is entirely free from objections, either in injury to the weapon, or in inconvenience to the horse or trooper. Also, by this method of attachment the sometime serious objection that the saber is noisy, on marches to be conducted with secrecy, is entirely removed. Besides, it is at hand for use, and never in the way when a command is dismounted.

The carbine now in the possession of the cavalry is an excellent arm. In actual practice at targets, for ranges up to from two to five hundred yards, it has been found to be as good an arm as the infantry rifle in accuracy of fire, and in some respects preferable. As a breech-loader, I doubt if there is any superior arm, though I have always been partial to Sharp's carbine. Improvements in resighting the carbine, as recently suggested, would undoubtedly be advantageous. A magazine gun of about the same size would be a great improvement, as an arm for cavalry. The Spencer answered a good purpose in the last years of our civil war, though much fault was found with it, because of accidents in service, afterwards on the plains. The carbine should always be carried along as provided for in our tactics.

The pistol (Colt's revolver) I consider the least useful of the three arms. On all occasions when it can be used, the trooper is least fitted to use it to advantage. In the shock

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of a charge (no cava'ry soldier will recommend firing during a charge) the man and horse are both so excited that nice aim is impossible, and in the mélée, while the same objections hold, the carger to friends is about as great as to foes. unless the men are careful as well as experienced. A revolver which will fire half as many times, loaded with six or less slugs, would be a very much more effective weapon for a mounted man.

Recent experience demonstrates that the old theory that a man who was provided with the means, and required at times to fight on foot, could not be made a good mounted soldier, is little better than nonsense. While agreeing that it takes more time (perhaps double) to make a good cavalry soldier than to make an equally good infantry soldier, if we expect that the cavalry should never be required to fight on foot against men mounted, all other instruction and experience will improve him as a cavalry soldier, and he can be made to do as good service, either on foot or mounted, as the best. A cavalry leader in future wars will make a great mistake who heads his squadrons at well-formed and unshaken infantry troops, no matter what their formation. But is this any more true now than in times past, or with reference to the cavalry more than to the infantry? Magruder's charge at Malvern Hill and Pickett's advance at Gettysburg are memorable instances in our recent experiences, when infantry could not be used as Napoleon used Macdonald's corps at Wagram. Who, because the Army of the Potomac suffered disaster at Fredericksburg, will insist that infantry should never attack an army in position? There are times and there are times; and while the occasions for successful attack for mounted men may be reduced, we have gained the immense advantage in upsetting the latter half of another old "axiom," that "cavalry is an offensive and not defensive arm." The cavalry which fought on foot and held in check two divisions of the enemy at Dinwiddle Court House, on March 31, was the same that charged mounted over the enemy's field works on April 1st, at Five Forks, capturing his artillery and pursuing and capturing his scattered forces for miles toward Ford's Station. And it was this same cavalry which, hanging on the enemy's flanks.

harassing and clogging him with the pertinacity of the sleuth hound; charging him mounted when the opportunity offered, or impeding him on foot when cover made it desirable; pouring into his tired and harrased columns a withering fire which induced the belief that our infantry was on him. It was this same cavalry that, mounted on the morning of the last day at Appomattox, stood in the line of retreat of Lee's army, and gallantly held the ground until the Army of the Potomac advanced to take its place. After which it moved to the flank of the Confederate army, and was ready to make the final mounted charge, when the flag of submission stayed its onward course, and the surrender of the 9th of April, 1865, terminated the war.

Up to 1863, as an organization, the Union cavalry had no existence. At the first battle of Bull Run, McDowell had only seven companies of cavalry in his army. Later, under McClellan, the mounted troops were increased in numbers, though they were not regarded with favor, and were never sufficiently concentrated to be able to show their true value. However, the regiments, isolated as they were, were gaining valuable experience, so that under Hooker's rule, when they were organized into brigades and division, and placed under able commanders, the little they had to learn to make them the superior cavalry regiments they were, was soon accomplished. The regular regiments had one disadvantage to contend with which must have impaired their efficiency, and is perhaps, inseparable from our service,--the absence on detached service of all or nearly all of the field officers and ranking captains. The compensation was, that most of the volunteer cavalry became as good as the regulars, though much of their perfection resulted from contact with the regulars, and the example of the latter.

I have great hopes of a glorious future for cavalry. All that has ever been done by it in the past is possible in time to come, and much more. While it is well settled that raids such as were made by both the Confederate cavalry and our own in our civil war are often unwise, we have nevertheless learned that there is a large field of operations akin to raiding which is open to the cavalry.

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Sheridan's first expedition (for it could scarcely be called a raid) was that which left the Army of the Potomac in 1864, during Grant's flanking movements toward Richmond. The cavalry moved out by the left flank of the army, and passed unmolested near the Confederate lines. crossed and destroyed fractions of two lines of railways, captured trains and stores, interrupted the enemy's communications for several days, defeated his cavalry in two battles. in one of which its chief in command was killed, passed around two sides of Richmond, and joined the Army of the James. There is now no question that if with the cavalry from five to ten thousand infantry had marched (mounted on animals drawn from the army transportation, which could have been spared), the command could have captured and probably held the Confederate capital. Nor would the movement of this large body of troops have been attended with difficulty. The same roads crossing the tributaries of the Mattapong that accommodated our cavalry, ten thousand strong, would have answered amply for double the number of mounted men, and a couple of hour's marching would have put our force beyond the possibility of attack from the Confederate infantry, and their the cavalry was not an obstacle. In the future such expeditions will be made, as they have been in the past, and they will either be successful in making important captures, or force large garrisons for defense of important cities to be detached from campaigning armies. Nor need more than half of the auxiliary force be mounted. Our cavalry in this and other expeditions made no march in any twenty-four hours, two-thirds of which could not have been accomplished by well-seasoned foot troops. Taking turns in riding, the infantry could easily accomplish more than would be necessary.

In the early part of our civil war there was much opposition on the part of our best cavalry officers to arming horsemen with the carbine. This opposition was based on the theory that the same man could not be instructed to fight well on foot and mounted. The old definition of the dragoon: "A man who fought indifferently (well) on foot and mounted,"

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was often derisively referred to. Now that it is established that arming cavalry with the carbine does not impair its capacity in its legitimate warfare, but rather better fits it for mounted work, the opposition to the carbine as an arm for cavalry must cease. But let no cavalry soldier give up his arm par excellence, the saber, on the dictum of inexperience or envy. In every great battle there are moments when cavalry, if properly handled must decide the fate of the day, either in overwhelming a shaken army or in checking the onward career of a victorious but disordered force. At Winchester, the Union cavalry finding itself on the left flank of Early's army, took advantage of the confusion in rident to a change of front by the rebel infantry, and by repeated charges decided the fate of the day on that part of the field. if not that of the whole battle. I have somewhere seen a report in which the enemy give the cavalry great credit for gaining this battle, and General Sheridan, in his report of his operations, in speaking of it says:

"At Winchester, for a moment, the contest was uncertain, but the gallant attack of General Upton's brigade of the Sixth Corps restored the line of battie" (which in another part of his report he says had been driven back by a charge on the part of the enemy), "until the turning column of Crook, and Merritt's and Averill's divisions of cavalry, under Torbett, sent the enemy whirling through Winchester."

This is only one of the many instances in which cavalry did good service, both on foot and mounted, on the same day. The passage of the Opequan was forced against infantry by our men on foot, and the three brigades of the First Cavalry Division made six distinct mounted charges against the enemy's infantry capturing artillery, colors and prisoners.

But it is not needed to cite more examples on this subject. If the cavalry was abused during the early part of the war for its inefficiency, it was unjustly dealt with; and it was more than compensated for all when, near the close of the Valley Campaign, the Great War Secretary, who was never lavish of econium, dispatched as follows to General Sheridan:

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"This Department again tenders its thanks to you, and through you to Major General Torbett, Generals Merritt and Custer, and the officers and soldiers under their command. Under efficient leaders your cavalry has become the efficient arm in this country that it has proved in other countries, and is winning by its exploits the admiration of the government and the country."

There is little doubt that the effect of breech-loading arms is greatly exaggerated. Military men have been too quick to attribute the failure of the French cavalry, in the war with Prussia, to the breech-loader. The truth is that it failed, as did the infantry and artillery, because it was not properly equipped. While the charge of the cuirassiers at Worth, probably saved the remnants of MacMahon's army, it was made by but three regiments, and was of necessity in the nature of a forlorn hope; and throughout that disactrous war, the cavalry, fike the infantry, fought without heart, and its defeat was a forgone conclusion.

The result of the battle with Indians on the Little Big Horn, in 1876, would seem to indicate that the breech-loader, under circumstances which may occur in any battle, is not so terrible a weapon as many claim, for while the fate of Custer's command was, considering the numbers against it, perhaps inevitable, yet the casualities with the Indians were so few as to show that a resolute charge leaves but short time for the use of even treech-loaders. Does not the disaster which recently occured to a portion of Lord Chelmsford's command in Zulu-land point unerringly to the same fact? True, the numbers of the Zulus were great, but when we contrast their arms with those of the invaders of their land, who can doubt that determined, resolute, disciplined soldiers, who have confidence in themselves and their leaders. well armed and brave, can accomplish feats in charges in the heat of battle, such as have made and will continue to make the part of cavalry glorious in all wars?

The policy of the cavalry officer now is to give up this idle talk about and complaint against his arms; and his duty is at all times to perfect himself and his men in the use of the means the government has furnished; drilling and discipling his command, and by his example and precept instilling into his men the lesson that skill, zeal, determination, and daring, with judgment, will overwhelm any and every command that lacks any one of these important requisites; if he does this thoroughly, my word, for it in the next war he will surprise himself, his friends, and above all the foe against whom he wages battle.

A WORD OF ADVICE.*

 $A^{\rm T}$ the present time, at the height of perfection to which the instruction of the French cavalry has arrived, its tactics, its methods of fighting are capable of no further perfection.

Since that thrice fortunate day when our great and illustrious chief General de Galliffet, whose memory should be sacred to all cavalrymen, awakened the cavalry from its long inertia, brought it back to the high traditions and to the true and never changeable principles of fighting as cavalry, we have nothing to do but follow in this direction, to follow him without departing from his way.

But, alas, instead of continuing uniformly in this direction, in attempting to perfect the manner of execution, there has been produced since 1890, a school which has wanted to make things less difficult, to create, notwithstanding, everything.

Thus have appeared the echelons, offensive or defensive, either of maneuvering or of support—the flank attacks always attempted but never successful—the half-turns in front of the enemy's line who ask nothing better than that,—then the scattering, the dispersion which does away with all cohesion,—the initiative given to all to the detriment of the chief who has nothing left to command, etc., etc.

*From the *Resue de Casalerie*, for April, 1911. Translated by Captain Charles S. Haight, Fifth Cavalry, September 15, 1911.

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But however brilliant were the writers, however seductive were certain of their works, nothing will remain of this effort, for it is an established maxim, which should never be departed from, that the maneuvering of cavalry should be simple.

And all these studies, all these theories are far from being simple. They contain the error, above everything else, in their application, of demanding many movements, a great deal of galloping and it is the horses which are the sufferers. How many of these authors have I seen whose horses were knocked out, and who, notwithstanding, cut no better figure in the school of the squadron pure and simple.

From whence then does it come that so many good souls torture their imaginations to create new things, to do something not done before?

This comes from three causes:

1. The desire, first, of doing better, of working. They have seen, all around them, the infantry, the artillery, changing their tactics, trying new ones and finally perfecting them. They have witnessed their comrades of the other arms spending an enormous amount of labor in order to try new methods imposed by their rifles and their rapid fire guns. So the officers of cavalry have not wished to remain behind, they have wanted to do something, all of their imaginations were awakened their pens have advanced without their having been able to see that the cavalry is an arm of unchangeableness, that their tactics are based solely on the horse, the saber and the lance, all as in the time of Napoleon, the Greeks, and the Romans. Our horses have become easier to manage, our cavalrymen mount better. That is the progress.

2. In the second case they have created for us a terrifying spectacle of the German and Austrian cavalry. These have, so they have told us, a go, a dash which is very extraordinary, they arrive on their adversary in a cloud, with an offensive intensity which nothing can resist. They can not be fought to the front, they must be outmaneuvered.

Certainly, one must not misjudge his enemy, but, if we have such a terror of our adversary we must not collide with him head on, we must not come against him at all, we must stay at home, we are beaten beforehand. It is not that we would arrive in dispersed formation with our efforts spent in useless flank movements that our enemy will charge us with less force or vigor. He would have the self-confidence which we have not got, he will be in order when we will be in disorder, he will obey a uniform impulse, while the plan of our chief will have passed through so many intermediates that it will neither be understood nor executed.

3. In the third case, the present generation has never been in campaign, therefore they do not take into account the morale of the men, they put beside each other the effect of fire and the fatigue of the men and horses, they do not take into account how impressionable is cavalry and how it suffers from different influences. It is to these different influences that must be attributed the mania of maneuvers which surround us, "maneuvermania" one could say after a happy expression. It is always "maneuver," maneuver anyhow, not only with masses, but also with half-regiments, squadrons, even platoons.

Gentlemen, these little units do not maneuver, the regulations tell us so and they are right. When the enemy is seen and they (these units) feel strong enough, they jump on him, and since they attack the enemy with the utmost confidence in themselves and in their own star, with the conviction of their own superiority over the enemy, the certainty that they will defeat him, they bowl him over. He no longer exists, he is yours.

That is the way to do it, there is no other.

"Bravery," it is the first of the military qualities. "It comes before knowledge and intelligence," Napoleon has said. It is above everything else true as regards cavalry.

There must be courage of the heart which makes you despise danger and death.

There must be courage of the mind which, in the midst of peril, leaves the mind clear and the conceptions active.

There must be bravery which draws others, which communicates itself to your men and which makes them follow you to death.

There must be that supreme bravery which makes you scorn the dangers for those which you command, which in-

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spires you with courage for them and for yourself and which makes you accomplish that which the timid will never attempt.

Have we not this courage, or are we so afraid of the Germans, of their large horses, of their rapid gallop, of their lowered lances?

Have we lost the "Furia Francese"?

That is the best maneuver.

In the pages recently published which I have before me, (in the January number of the review) written by an officer certainly well gifted, a deep researcher, and a good worker, I find an example of that which I criticise.

I see the squadrons placing themselves on guard, dividing to reunite to attack two others.

But go after them at once friend. What better manner of placing yourself on guard do you think you will find than with your two squadrons in double column? They are protected in front and, better still, on the flanks. You have your two captains right in hand, they will execute to the letter your orders. Only make use of the ground, which you do not mention, to act with surprise or, at least, to impose on your adversary a long march to the approach. If you find the task too great, discard your horses, so quick and so light, then make use of your rifles, find a more favorable occasion and you will succeed since you desire to succeed.

I can allow myself to counsel you, my young friend, as I have already been in the light cavalry twenty-six years even, and I have been in two campaigns. It is true that I have also been a cuirassier, and on that I pride myself. You will not want my light and easy criticisms. You are too intelligent for that. You are, I can judge that from reading you, too intelligent for that. One must have been in a campaign in order to know to what degree cavalry is impressionable or how it can differ from the normal at times, and it is for that reason that it must be handled with extreme care in order to have it ready at the desired instant to launch with the greatest dash.

It is all very well to be brave but there is, notwithstanding, something of a shock felt on finding one's self facing a line which, with lowered lances and raised sabers, descends on you with all the speed of its horses. Certainly, as I have said above, you would give way before them, gentlemen, even with the most daring spirit imaginable. But at this time have the head cool enough to permit you to execute a maneuver which three-fourths of the time you disregard on the drill ground, which it is not given to everyone to be able to do, and for which very few have the requisite coolness.

And your cavalrymen, so impressionable as we have said, and now so young in the service, do you think that much would be required to make them turn and go the other way? Beware of the half-turn. Your men would see in your hesitation and would lose confidence. Launch them at full speed to the front so that they cannot turn, and they will march solid—to the enemy, you will see them accomplish great things.

And as to orders. In all your dispersions, how will they reach their destinations? The idea of the chief, will it be understood? Have an order arrive even when you are all well in hand, and, already, there arises a difficulty

There is still one other thing that you do not know, you who have not been under fire, and that is of the importance of the principle knee to knee, and boot to boot, to cavalry, where it exists as does that of shoulder to shoulder in the infantry. Each isolated group aspires, you will see it quickly, to but one thing and that is to become one of the mass. By your plan you would crumble away a squadron to the point of its becoming a squad which would be all that you would have left to maneuver with.

My dear friends, when you wish to disembarrass yourself of a too importunate an enemy, you give him a swift blow with your fists. When you do this are you going to strike with you fingers open?

No, no, you will never execute in war any but the simplest of maneuvers, those that you make use of every day, which are done mechanically. Do not look for others. Repeat them. Repeat them without ceasing and in such a way that you can execute them even when the mind is on something else.

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If you will really take historical examples, say those of the Empire you will see that in giving you this advice I invent nothing.

The cavalry of Napoleon did not maneuver, they went into battle deployed in two lines, then launched themselves on the enemy, often in echelon. They never attempted other combinations. Previously, the greater part of the cavalry, the heavy cavalry in particular, was incapable of executing a single maneuver, often not even in deploying, and it is sufficient in order to convince oneself, to read in that very remarkable work of General Bourderiat the manner in which the French cavalry, the cuirassiers (and the Austrian as well), deployed before their adversary, at Ratisbonne. You should read also the report of General de Preval addressed to the Emperor of September 10, 1811. (Revue de Cavalerie, September 1895). Nevertheless this cavalry was always victorious, even in 1814, even with cavalrymen of two months service. (Battle of Valiouan).

And to conclude, I will simply ask your permission to repeat the instructions which I gave to the 6th Cava!ry Division, when I had the honor to command it. I see nothing that I wish to change.

"Above everything the maneuver should be simple. Make use as much as possible of the features of the ground to cover yourself from the fire of the enemy, make use of it to conceal your formations and to give to your flank attack the effect of a surprise. Concentrate all the heavy cavalry under your own command; place all your elements so that they will have a field of action directly to their front, then make your attacking line strong and powerful: launch it at full speed against the heavy cavalry of the enemy, covering the flanks and keeping a good reserve. This is the only way of being understood by all and to succeed."

Complicated dispositions, the offensive flanks designated as, "advance," "defensive attack," "offensive attack," etc., etc., are difficult combinations which rarely succeed on the drill ground, never at the maneuver, still less often in war.

March straight at the enemy if you are in force, con-

ceal yourself if you are too weak, covering your retreat by artillery and rifle fire. These are the only tactics.

"See only the end to be gained," says de Brack, "accomplish it by simple maneuvers." "Execute no maneuver but that which it is impossible for your officers and men to misunderstand."

General Geslin de Bourgoyne is right when he says. "The point of attack is where the enemy is the weakest. The squadrons which face him charge to their front the others charge on the flanks."

All is contained in that. That is the true cavalry combat it is the tactics of the Napoleonic cavalry. They formed themselves in mass and charged through, without troubling themselves as to whether the enemy had lances or larger horses than they had.

They have said of our maneuvers, as did Valbonne, that they were good but that they provided no single new method. Heaven guard us. Is this to mean that we have still nothing to do? All to the contrary. A good maneuver rests but on one foundation, a good evolution. The good evolution is the guage of success. The good evolution rests on cohesion and extreme rapidity of deployment. The most advanced maneuver will lead to disaster if the squadrons arrive in disorder. Here is what we should seek, the end to which we should attain.

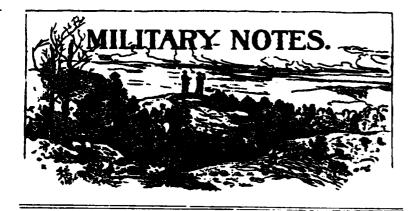
This end. I assigned it to the 6th Division, from the day of my entering into command of it.

This end, from the depths of my retreat, I indicate again to my youny commanders of the cavalry.

General de Charbot.

Le Chataigners. February, 1911.

Translators Note.—This is an excellent article and which all cavalrymen should read and take to heart. The advice of a cavalryman who has seen war and whose advice is based on personal experience.



COLOR OF HORSES.

A FTER twenty-nine years of continuous practice and observation. I am convinced that the coat and skin pigmentation of both horses and mules has little, if any. influence on their usefulness.

Coloration has no evil influence on the health, longevity, work, speed, endurance, soundness or digestion of these animals.

Influences for good or evil, among horses and mules, are dependent solely on work, footing, feeding, sanitation, temperament, breeding, soundness, conformation and last, though not least, handling.

> GERALD E. GRIFFIN, Veterinarian, 3d Field Artillery.

SCOUT TYPE OF MILITARY AEROPLANE.

THE Chief Signal Officer, U. S. Army, has issued the following specification for as to the general requirements for the Military Scout Aeroplanes of which it is proposed three in the near future. General Requirements:

1. Enclosed body.

2. Protective armor for aviators and engine. This armor shall be made of chrome steel and about .075 inches thick. The armor shall be subject to the Ordnance Department penetration test for small arm fire before being placed on any machine.

3. The following instruments and radio equipment shall be placed on each machine by the manufacturers and shall be considered a part thereof:

(a) Tachometer.

- (b) Compass.
- (c) Aneroid barometer.
- (d) Barograph.
- (e) Map holder.
- (f) Pad and pencil holder.
- (g) Clock.
- (h) Angle of incidence indicator.

All of the above instruments shall be of the make and type approved and furnished by the Signal Corps. U. S. Army.

4. Provisions for a radio apparatus shall be made on each machine. This apparatus shall be furnished by the Signal Corps, drawings and specifications of which shall be furnished to the manufacturer by the Signal Office. The base for the generator shall be part of the engine base. The generator will be driven by chain or gear from the engine unless a generator is selected which is mounted as part of the engine. The hanging antenna should be as nearly under the center of gravity as possible. This antenna shall be arranged to unwind readily from a reel and so fixed so that it can be cut loose when desired with some foot mechanism. It is estimated that the weight of radio telegraphic apparatus will be about 75 pounds.

All of the above instruments and the keys for operating the radio apparatus shall be within easy reach of the pilot and observer.

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5. The power plant of each aeroplane may be designated by the Chief Signal Officer, U. S. Army. When so specified, it shall be given a six hours' test on the block to determine its H. P., speed and gasoline and oil consumption before being installed in the machine. The H. P. of the motor will be designated by the manufacturer who will be responsible that the aeroplane fulfills the actual air tests when the motor is turning out the H. P. that he specifies. The Chief Signal Officer will be responsible for the reliability and H. P. of any power plant that it specifies or purchases for installation in aeroplanes.

6. Upon delivery for tests the manufacturer will furnish the following data concerning the aeroplane:

- (a) Weight.
- (b) Normal angle of incidence in horizontal flight.
- (c) Gliding angle.
- (d) Gasoline and oil consumption of engine
- (e) Safe increase angle of incidence.
- (f) Two blueprints of engine and aeroplane.

THE FOLLOWING AIR TESTS SHALL BE PASSED BY EACH AERO-PLANE BEFORE IT IS ACCEPTED BY THE GOVERNMENT.

1. The aeroplane must carry two people with seats located to permit the largest field of observation for both.

2. The control must be capable of being used by either pilot or observer.

3. The machine must be able to ascend at least 2,000 feet in ten minutes, while carrying a live load of 450 lbs., and fuel and oil for four hours' consumption. This live load will be made up of the operator and observer and such other weight as may be put in the enclosed body to make up the 450 lbs. The live load does not include the weight of the instruments and radio telegraphic equipment, which are part of the machine. This live load to be carried in all the prescribed flying tests except the test in paragraph 10.

4. The machine must be capable of being transported by road, in which case its width must not exceed ten feet. The construction must be such that it can be assembled for flight within one hour by six men.

5. The engine must be capable of being so throttled as to allow one person to make a flight without any other person assisting. This test to be made by the operator starting the engine and making a flight without any assistance.

6. The machine must complete a continuous flight for four hours, the first part of which shall be a non-stop, crosscountry flight of at least 180 miles over a course designated by the Board conducting the tests. The flight may be completed over the aviation field.

7. The machine must have a minimum speed of more than thirty-eight miles per hour, and a maximum speed of not less than fifty-five miles an hour. The maximum and minimum speed must be measured by the machine flying over a course.

8. The machine must be capable of landing on and flying from harrowed ground and long grass within 100 yards.

9. The machine must be capable of safe gliding.

10. The efficiency and reliability of the system of control must be demonstrated as follows: the aeroplane must be capable of executing a figure eight within a rectangle 500 yards by 250 yards, without decreasing its altitude more than 100 feet upon the completion of the figure eight. This test may be made by the aviator alone.

11. Manufacturers must provide a name plate for each machine giving necessary data, such as maker's type and serial number. Painting of names or similar data on any part of the machine is prohibited.

12. The manufacturers shall furnish the demonstrators for all tests.

13. The system of control must be of a pattern approved by the Board of Officers conducting the tests.

14. The suitability of each machine for military purposes

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shall be determined by a Board of Officer Aviators appointed by the proper authority, who shall conduct all tests.

15. The following desirable features will give the machine a higher rating under paragraph 14:

- (a) An effective silencer with cut-off on the engine.
- (b) An actual flight in a twenty mile wind without damage to machine.
- (c) Engine started from within the enclosed body.
- (d) An efficient stabilizing device.

SWIMMING HORSES.

W^E have received from "An Officer Abroad" a photograph illustrating the practice of swimming the horses of the Second Regiment of Dragoons, First Brigade of the German army at Schwedt on the Oder. Unfortunately the photograph was received in such bad condition as to not admit of its reproduction.

Concerning this exercise, the writer says:

"A cavalry corps of two divisions swam the Elbe in a single afternoon during the last maneuvers without losing a single man or horse. Possibly we could do the same but certainly not without more practice than our cavalry has had in this line of late years. We must not forget the proficiency of our troops in the Philippines in swimming their horses. At home every man and horse should be made proficient in this art."

THE RIFLE OF THE FUTURE.

THERE appears in the last—February, 1913,—number of the Journal of the Royal Artillery a précis of an article by Lieutenant General H. Rohne, translated from Schuss und Waffe by Lieutenant H. W. Roberts, R. G. A., the article being entitled "The Rifle of the Future." The following are extracts from the article:

"The art of rifle shooting consists in giving the barrel the correct line and elevation. The correct elevation depends on the range as well as the relative height of the target and firer. It is as a rule easy enough to get the correct line since the targets are generally broad, for example a line of skirmishers, but great difficulty is experienced in getting the correct elevation even if the range is accurately found.

"Experience teaches us that the more perfect the rifle becomes the more misses are made in warfare. For example, in the Bohemian campaign the Prussian infantry fired on the average 33 rounds for a single hit; in the Franco-German war of 1870, the number rises to 350; in the Russo-Japanese war every Japanese soldier hit cost the Russians 1,000 cartridges; in the South African war about 5,000 rounds were expended for every Beer hit, or, in other words, every = man hit represented about twice his own weight in cartridges."

"Of course it can be claimed that these figures are accounted for by the range becoming so much greater, the targets being so much more indistinct, and the necessity for taking cover being now-a-days so much better drilled into men, but I maintain that these factors only explain away a small part of the question.

"The loss of accuracy is due to a very large extent to the fact that fighting has become such very much more nervous work than it was formerly, and that a half-trained soldier will fire away rounds at a needlessly rapid pace. A steady aim has become the exception instead of the rule and many men in action never even aim at all. The most careful musketry training is useless if the soldier is going to be too nervous to aim. The most strict discipline may help a little, but the only real solution to the difficulty is to provide the man with a rifle which cannot be fired unless it has the correct elevation. Such a rifle provided with a 'butt sight' has been invented by Major A. D. Muller, of the Prussian army."

Here follows a description of the mechanism of the socalled "butt sight" which is, briefly and in part, as follows:

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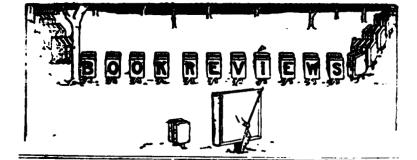
Within the butt of the rifle is what appears from the diagrams to be a somewhat complicated mechanism which will not allow the trigger to be pulled and the rifle fired until it has the elevation for which it has been set. All of this mechanism is covered by a plate, except that a nut or thumb-screw, a small handle and a scale are exposed on the right side of the butt. A pendulum which is free to swing on a bolt, when the rifle is properly held so that the sight is vertical or nearly so, to which bolt is fastened a pointer which moves up or down the scale according as to the elevation. There is also connected with this bolt an arm on the end of which is a recess designed to receive the end of a safety pin, which safety pin is normally pressed up against the trigger and prevents its being pulled. When, however, the correct elevation is taken with the rifle, according to the range for which the mechanism has been set, this safety pin can move back into the recess when the trigger is pulled and the rifle is thereby fired.

There are three positions in which the handle above mentioned can be placed. First when the rifle is being aimed by a skilled marksman who sets the ordinary sight at the determined range and then aims at the target; when this is done, the pendlum being free to swing, the pointer indicates a certain number on the scale. This number is then communicated to the firing line and then, by means of the nut or thumb-screw, all the men set the pointers on the scale on this number, the arm mentioned being in the second position when this is done. They then aim at the target and when they have obtained the proper elevation their rifles can be fired and not until then. The third position of the arm is that in which the mechanism is clamped and in which it is habitually kept when on the march, etc.

Of course it remains to be seen how this new rifle will work in practice and on campaigns but General Rohne seems very sanguine as to its usefulness and gives a synopsis of experiments made in firing with this rifle. He says: "This experiment was carried out by a considerable number of men firing at the rate of nine rounds a minute and that over half of the shots hit within thirty centimeters of the middle line. the range being 500 meters.

"The great advantage of the system is that the number of hits scored does not in the slightest degree^e depend upon the state of the nerves of the firer. At any time in an action, when such a course seems advisable, the whole mechanism can be put out of action by simple movement of the handle and the rifle can be used with the ordinary sight.

"The great efficiency of this sight will only be fully realized when reservists with insufficient musketry training are sent to the front in war time."



Transformations of War.* In the introduction of this interesting work, the author argues that war is a science: that its form changes with improvements in weapons and with changed conditions but that the transformations are gradual; that formations

of war which have disappeared may reappear and that the student of military history may observe the trend of these transformations and may deduce from history and a study of the conditions which influence the forms of war a conception of the forms which war will assume. He says: "The successive forms of war in the past will in their evolution enable us to grasp what the combat, the battle, the war of our days may be." Chapter I relates to the combat in antiquity and the author deduces that in ancient combats the frontal fight did not lead to a decision. He quotes Ardant du Picq: "When studying ancient combats, one sees that it is almost always a flank attack, or one from the rear, or some sort of successful surprise, that wins battles, especially against the Romans. Among the phalanxes there is no mélée, but a mutual pressure which may last long if one side or the other does not succeed in getting its adversary taken in flank and rear by some detached body of troops," and adds: "Thus it is a mobile detached body which decides victory by *maneuvering*. From the beginning, cavalry, however weak in numbers and deficient in equipment it may be, even to the length of being without stirrups or saddles, is often the factor which decides victory, because of its mobility."

He points out that with Alexander the Great and Hannibal cavalry is always the decisive arm and that Scipio defeated the Carthaginians at Zama by using Numidian cavalry in the same manner. He shows that the same principles is deducible from later Roman history and from the wars of the middle ages and states as a conclusion: "It is not that the defensive cannot succeed, but it must be undertaken by the appropriate arm—the cavalry—and by maneuvering to take the enemy in flank." He shows that the introduction of firearms did not at first materially change the form of war and that it took more than a thousand years for gunpowder to effect a transformation in war.

Frederick the Great deduced the principle that "Battles are won by fire superiority" but he did not win his battles by frontal attacks merely. His highly trained infantry maneuvers on the battlefield and attacks the enemy both in front and flank and when his enemy is shaken, his cavalry gives the finishing blow.

In the Napoleonic wars artillery assumed an important rôle and there were cases, as at Friedland, of a frontal attack succeeding when strongly supported by artillery. But Napoleon always planned to combine his frontal attack with an attack in flank or rear. Later improvements in small arms made frontal attacks more and more difficult.

Von Moltke, although an ardent advocate of the offensive, is aware of the difficulties of the frontal attack.

From the Franco-Prussian War the conclusion is drawn that fronts are inviolable. "In spite of their superiority in numbers and in tactics, the Germans never succeeded in taking a position by a frontal attack, and the French still less so."

^{•&}quot;THE TRANSFORMATIONS OF WAR." By Commandant J. COLIN of the French War School. Translated by Brevet-Major L. H. R. POPE-HENNESSY, D. S. O., p. s. c., 52d Light Infantry. HUGH REES, Ltd., 5 Regend Street, Pall Mall, London. Price 7s. 6d. net.

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Passing to the combat in modern wars, the author deduces that the principle of the inviolability of fronts is unchanged. He says: "••••• in the frontal fight, the attack has rarely been able to get the better of the defense. In the Transvaal, the British •• * * never succeeded in tearing down the Boer resistance otherwise than by manuever. * * * It is stated that the Japanese did succeed in frontal attacks. This point, however, is not yet sufficiently well established. Whenever we have been able to verify this statement, we have found that the evacuation of the trenches had been determined on and almost completed before the assault in order to avoid some threat of envelopment. * * Taking the great battles in Manchuria as a whole, it seems that there victory is decided by a turning or enveloping movement. As in 1870 fronts seem to have been inviolable."

The author gives us an interesting description of the manner in which fear manifests itself in modern combats and discusses the modes by which the effects of fear may be overcome.

Chapter IV is devoted to "The Modern Battle" and as the portion of it devoted to "Cavalry in Battle" will interest our readers we will give it in full.

"If cavalry no longer gives the *coup de grace* to the vanquished as it formerly used to do, it is because the generals do not try to employ it to do so. The Prussian cavalry at Sadowa was only waiting for the signal to pursue; the King of Prussia, it is said, refused to let it charge in order to spare the enemy (?). What would have been left of MacMahon's army after Froeschwiller if the German cavalry had pursued energetically on the Niederbronn road? At such moments beaten troops are without resisting power.

"Even if one must no longer reckon on useful charges during the course of the battle, cavalry remains essentially the pursuing arm, that whose action is the most irresistible and most efficacious on demoralized troops in process of breaking up. Perhaps at times it will be necessary for it to use carbines against some units still capable of offering resistance, but very often it will still be able to produce great results by the mere rapidity of its action. ""Whenever possible,' said Napoleon, 'we should always prefer the thunderbolt to the gun.' There are no mounted troops, however little accustomed they may be to the use of the saber, who have not found opportunity^c to charge rather than to shoot. The Boers, who normally only used the rifle, and merely charged several times when they fell unexpectedly upon British troops. The great cavalry leaders of the American Civil War, in spite of the great use they made of dismounted action, made numerous and fine charges."

"We must not, however, become a prey to catch-words, and overdo the assertion that cavalry may find opportunity to intervene 'during the course of the battle.' On the front there is only room for skirmishers lying down and for concealed batteries. For the matter of that, let us think of some former battle, of Saint-Privat, Coulmiers, Mukden; at what moment in any of these battles can we conceive the apparition, even if it were instantaneous, of a body of cavalry charging, were it but a single squadron? Undoubtedly cavalry must still charge and so obtain great results, but it must be outside the front or in the pursuit.

"The opportunities for charging are only to be found in a very limited number of cases; if to this we add the fact that in the wars which have taken place in Europe since 1815 the opportunity of charging was, so to speak, never found, we should be tempted to infer that the rôle of cavalry is becoming insignificant, and the arm may be reduced without inconvenience.

"As a matter of fact, cavalry has never been more necessary, and cannot be too numerous, provided it is handy in fighting with shock and with fire action, according to the circumstances of the case.

""We have expended a considerable number of millions,' says Rudyard Kipling, 'to prove once more this fact, that horses go faster than men on foot, since 2 and 2 make 4.' And it follows that men on horseback will do better service than men on foot provided that they do not, on the pretext that they are mounted, abandon the weapons which are used by men to fight on foot. In a word, there will never be horsemen enough if, while ready to charge as soon as opportunity to so do offers,

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they do not confine their action to these extremely rare occasions."

"There is one very remarkable fact in the decisive maneuver at Mukden; it is the necessity recognized by the Japanese of forming a cavalry corps to extend the turning movement and reach the enemy's line of retreat. It would seem, in fact. that in future only mounted troops will be able to carry out the decisive maneuver with the rapidity and secrecy indispensable to it. When Napoleon introduced great turning movements in battle, he was able for some years to give effect to them by means of army corps directed in advance against the flanks. The enemy did not forsee such operations, and did not dream of countering them. Nowadays this is no longer so, we can only bring off a surprise by keeping the troops intended for outflanking movements out of sight, that is to say. usually in echelon behind a wing of the army. They are thus concealed until the moment when they pass the front of the troops already engaged. But if corps which come out like this are infantry, it is difficult for them from the moment they have revealed themselves to carry out a movement of any great scope. Only mounted troops can throw themselves quickly on the flank of the enemy far enough back to threaten or perhaps even reach his lines of retreat.

"A numerous cavalry is necessary, therefore, to give the rapidity and power requisite to attacks in flank and in reverse. It will also be necessary to form strong reserves suited to putting to good account the partial successes gained on the front which cannot be forseen. We have seen that the great turning movements to which Napoleon was accustomed became difficult to bring off, because it was almost impossible to conceal from the enemy the march of the troops charged with their execution. Mounted troops alone can obtain the indispensable surprise effected, and can outpace, if not the information of their movement, at any rate the move made to counter it.

"The dismounted action of cavalry is as old as firearms. It was practiced in the sixteenth century? In Turenne's battles the dragoons formed great swarms of skirmishers. Little by little the custom was forgotten, and, in spite of Napoleon's efforts, dragoons hardly ever fought except as horsemen, sword in hand. After 1815 all European cavalry forgot the use of the carbine.

"During the American Civil War a reaction came about in this matter. The cavalry of both sides, armed with carbines, made considerable use of them during raids and in battle. Dismounted action was their customary procedure. For instance, at the Battle of Cedar Creek, on October 18, 1864, the Federals were on the point of being beaten when Sheridan intervened with his cavalry. He dismounted his men, made them take their carbines, and attacked the Confederates, who were establishing themselves in the captured positions; he threw them back into the valley of the Cedar Creek and recovered the victory.

"Six months later, Lee's army, beaten and almost surrounded near Richmond, succeeded in slipping away; but Sheridan's cavalry overtook it, passed it, dismounted and barred the road. Lee, checked in his retreat, was soon surrounded and capitulated in the open field. These decisive exploits, accomplished carbine in hand, did not prevent the American cavalry from charging sword in hand when the opportunity offered, thus proving that dismounted action is in no way incompatible with the cavalry spirit.

"The lesson was thrown away on all the cavalries of Europe. In 1870 the Germans had not even got their carbines. The Transvaal War produced a pretty sharp reaction. It was quite clear that it was not possible to acclimatize in Europe the organization and methods of fighting the Boers, for lack of the peculiar circumstances which had called them into being; but it was none the less evident that the British Infantry encountered serious difficulties from the mere fact that its adversaries were mounted and were extremely mobile. The British found themselves driven to make calls on the cavalry or, for want of cavalry, on what was termed mounted infantry. They have got so used to it since then that they have now made its employment customary. In his report on the Manchurian battles. General Ian Hamilton notes numerous cases where the intervention of a body of cavalry would have had far-reaching results.

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"Up to now French cavalry has hardly gone in for dismounted action except in its defensive aspect, but it is above all the offensive fight which it must undertake, supported by its guns and machine-guns. Its task is to move rapidly to decisive points, and there to attack, not merely to defend itself. German cavalry for some years now has set the example in its maneuvers."

The foregoing deductions may disclose the reasons which have induced the Germans to maintain twelve cavalry divisions and train them to make dismounted attacks.

In part III, which is devoted to "Operations," the advantage gained by an army operating on a broad front are described. While it is necessary for an army to be "assembled" when in the presence of an enemy, it is not necessary for it to be "concentrated" except in battle. An army is "assembled" so long as its component parts are so little separated from each other that the enemy cannot prevent their concentration.

The author is a Frenchman and he takes apparent satisfaction in showing that Napoleon was more skilled in grand tactics than was Von Moltke. Von Moltke's wheel to the right toward Sedan is contrasted with Napoleon's wheel to the left before Jena and Auerstadt. The author thinks also that if Napoleon had commanded the Prussian army at Königgratz the battle would have taken place one day earlier and would have been a more decisive victory. And in regard to Vcn Moltke's use of cavalry he says:

"There is certainly one possible corrective to the rigidity of the dispositions taken by Moltke: it is exploration. Deployment under the best conditions being assured so long as the army marches in the direction of the enemy, it is, and it should be, sufficient that it be kept constantly informed by the cavalry.

"In his instructions to the commanders of the larger formations. Moltke defines the principles of exploration; as often as possible they are to employ patrols of officers, composed of a small number of horsemen, and only quite exceptionally large units, such as brigades or divisions. Its mission is to make known exactly the position of the enemy, and usually will only succeed in this by turning it. "This method of exploration differs essentially from that which Napoleon organized in 1805, in 1806, in 1813; its rôle is more strictly limited, its means less varied.

"The principles laid down by Moltke are little observed in practice. He is not kept constantly informed, as he counted on being, and on August 11, 15 and 17, his ignorance about the enemy is almost complete.

"The fault lies with himself, because he leaves the cavalry in the hands of army commanders, or even of army corps commanders, without laying down for it any well defined task. He expects information to come to him instead of having it sought at some given point. The exploration cavalry is, as we have seen, the instrument of the commander-in-chief; it is he who causes it to act; it only furnishes him what he asks of it. There is perhaps no part of the army that feels and expresses so clearly whether the general has ideas and a firm and definite will."

Of Napoleon's use of cavalry he says:

"The manner in which he provides himself with information stamps the value of a general rather well. Napoleon, with carefully worked out plans, is always calculating the measure to be adopted according to coming situations; he does not wait for information to come to him as the chances of reconnaissance may ordain, but it is he who directs exploration, calling for light on some essential points of which he alone has seized the importance.

"'I am enveloping the enemy completely,' he said, 'but I must have information as to what he wants to do.' And while for ten days he knows the enemy to be on his left at Weimar, he sends his exploration cavalry out ahead and to the right on Leipzig. 'It is not the sort of exploration you usually practice,' he explained to Murat 'do as you saw me do at Gera.'

"The whole of the cavalry corps then is sent into a region which it is known that the enemy is not, but which is traversed by his principal lines of communication. Leipzig besides is a very important town, to which letters and news must flow. Murat goes to intercept convoys and couriers on the roads; at Leipzig he empties the letter boxes and

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questions travellers. On receiving his intelligence Napoleon exclaimed! 'At last the veil is torn; the enemy is retiring on Magdeburg!' He did not say: 'The enemy is at Weimar, because he had known that for some time, and the veil which had been torn concealed, not the positions, but the intentions of the enemy.'

"This is an example of Napoleonic exploration. That day it was negative, that is to say, carried out in a zone where there was no enemy; in other cases it will seek the enemy itself, it will be positive. It was done by an entire corps of cavalry, divisions of hussars, dragoons, cuirassiers and artillery, because the weakest hostile battalion encountered by chance at Leipzig would have checked the exploration of a regiment or of a brigade.

"Let us above all notice that the task of exploration was not permanent. It was ordered at a definite moment and lasted two days.

"In other circumstances exploration may be positive, prolonged, permanent; it can be carried out by a small body of troops. Napoleon's campaigns offers us examples of every kind of special case; but never will he have 'cavalry dust." For great objects he employs great means."

The author believes that the campaigns of Napoleon furnish us in their general features with a picture of what war will be in the future and with this idea gives a long chapter on 'Napoleonic War;' he says in conclusion:

"'Movement is the soul of Napoleonic war, just as the decisive battle form its means. Bonaparte makes his troops move with a calculated rapidity. • • • Multiply themselves by speed * * *; make up for numbers by the quickness of marches, are maxims continually on his lips. 'Marches,' said he, 'are war, • • • aptitude for war is apitude for movement, • • • victory is to the armies which maneuver.'"

In regard to the opportunities which future war will present for the detached action of cavalry he says:

"To sum up, it is with war as it is with battle, operations will be as varied and as supple as possible; they will admit of, and will demand as much skill as in the past, so long as we make use of all the new means which allow us to gain intelligence, issue instantaneous orders, execute rapid maneuvers.

"The last transformation of war only accentuates the evolution accomplished since the middle of the eighteenth century.

"1. The battle was formerly independent of the operations; since Napoleon's day it has been intimately linked up with the operations; it now absorbs all the operations.

"2. The line of communications, which was so little thought of until Valmy, became very important in Napoleon's day; it now has assumed vital importance.

"3. Following a natural law, recent industrial and military progress has favored the defensive in frontal fights; but the offensive is more potent in imposing battle and forcing decisions to one's advantage, for the assailing army occupies the whole theater of operations and sweeps all away on its passage."

"Superiority in cavalry is of vital importance. It alone makes a decisive victory possible and enables us to check the successes of the enemy. It saved the allies in the first campaign of 1813, and also gave them their terrible revenge at Leipzig. It will not play a lesser part in the war of the future.

"A cavalry division numbers about as many men as a regiment of infantry. It is the equivalent of the personnel of twenty batteries. However preponderant the rôle of infantry, taken as a whole, we must not forget that in an army of 500,000 or 1.500,000 men a regiment of infantry is of quite inferior importance to a division of cavalry, or to twenty batteries.

"Therefore, so long as the artillery does not come up to the proportion of four guns to every 1,000 men, so long as it is possible to create squadrons (a matter of horses and money), and so long as it seems desirable to endow the army with more plentiful means of communication, there is a great advantage in doing so. By diminishing to a slight extent the numbers of infantry, we may increase our chances of success."

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This work is stated by the author to be a compilation from lectures given by him at the British Staff College in 1907, and which have since appeared in articles in the Army

Review (British). The object of the work is to draw tactical lessons directly from military history or rather to illustrate tactical principles which are accepted in the British army by descriptions of events which have actually occured. The epoch selected is the opening campaign of the Franco-Prussian War of 1870. General Du Cane contributes no new historical matter to that contained in the standard histories of this campaign already in existence. He draws his accounts of facts from the French Official History, the German Official History, Bonnal's Froeschweiler and Henderson's Battle of Woerth. The narrative chapters however contain a concise and readable account of the combat at Weissenburg and of the Battle of Woerth which would interest the general reader.

The comments on the events described are original and are interesting to our officers as indications of the views now held in the British army on tactical questions. An appendix contains six original problems based on the combat of Weissenburg and eight original problems based on the Battle of Woerth. There are seven maps for use in connection with the historical matter and a map of a portion of British terrain for use in the solution of the original problems.

Military history has heretofore furnished much material for the study of strategy but very little which could serve as a satisfactory basis for the detailed study of tactics. The accounts of battles which have come down to us have seldom been sufficiently detailed and accurate to enable us to make tactical deductions from them. The official histories which have been prepared by the general staffs of Germany and France have widened this field for us. But even these histories are far from being as complete and as accurate as they might be made and as they should be for the study of tactics. For in order to be able to criticise a tactical situation in-

*"THE CAMPAIGN IN ALSACE, by Brig. Gen. J. P. DuCane C. B., Hugh Rees, Ltd. 5 Regent St., London. 1912. Pricetelligently, we should have a complete knowledge of all of the conditions which could affect it. We should know the situations which have led up to it, the amount of information possessed by the commanders at the time, the condition of the troops, of the weather, the roads, etc. It is to be hoped that our army will soon have a bureau of historical research which will produce reliable accounts of the battles of our Civil War. From these our officers could prepare tactical studies similar to these prepared by General Du Cane but of much greater value to us.

General Du Cane's work is chiefly an effort to explain and illustrate tactical principles already formulated in official manuals. He does not attempt to deduce new principles or to combat those already accepted. That he does not agree with the author of "Protection in War" (a recent British publication) in regard to the employment of cavalry is, however, shown by the following extract (p. 17): "Is it legitimate to place the independent cavalry and the most advanced infantry formation under one commander and form the whole into a general advanced guard? The answer must depend on the nature of the task that it is intended to assign to the independent cavalry. The tasks of an advanced guard are to protect and to reconnoiter, if necessary, by fighting. It follows that if it is intended to give the independent cavalry a task which might necessitate their moving wide to a flank, leaving the front of the army uncovered, they should not form part of the general advanced guard, or be made subject to the orders of the commander of that force. Conversely, to support the independent cavalry in such circumstances by a force of the other arms might place the supporting force in the position of an isolated detachment. The independent cavalry should therefore only form part of the general advanced guard and be placed under the orders of the advanced guard commander when the scope of the reconnaissance is restricted, and it is possible to combine the duties of reconnaissance and protection, which is equivalent to saying that the main force of cavalry is no longer independent."

i.

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The following extracts shows that British views have changed in some respects since the War in South Africa: "The lesson of Woerth is the necessity for depth in the distribution of the troops for battle, both in attack and defense, and it would be most unwise to ignore it. Yet a very marked tendency to over-extend the front has been noticeable in our maneuver training, and has elicited unfavorable comment from the Chief of the Imperial General Staff (Memorandum on Army Training 1909, page 5; also 1910, page 5). This over-extension of the front has perhaps been due to a variety of causes. Firstly, in some cases a confusion has existed between the undoubted necessity for infantry to extend when advancing under fire, and the extension of the front on which a force of a given size can fight. The former has been conclusively proved by all recent experiences, but it is no excuse for the adoption of exaggerated ideas with respect to the latter.

Then there was a misreading of the most recent lessons of South Africa and Manchuria.

The front was unduly extended in South Africa on account of the exceptional conditions. The Boers were all mounted. When attacked and threatened with envelopment by superior numbers, they used their mobility to prolong the line and prevent envelopment. They were content to maintain their position, and seldom or never aimed at decisive results by means of counter-attack. Their mobility enabled them to escape the natural consequences of such tactics, which would have overtaken a force composed principally of infantry.

Manchuria was conspicuous for bad communications, which enabled the lines of operation to be foreseen some time beforehand. The Russians, who usually fought on the defensive, were thus able to employ field fortification to a very large extent. Men were economized, and the front considerably extended, without risking penetration unduly."

F. S.

2

Troops 68 Riot Duty.* This is a small book, three and threequarters by five inches, of 181 pages that appears to be an excellent work on this important subject. While it is probable

that it would be more useful to the officers of the National Guard, yet it has happened in the past that regular troops have been called out on such duty and such will undoubtedly be the case in the future, and that they also will then have need of the information to be found in this book.

The fact that it has been adopted by the War Department for issue, upon requisition, to the regular army and to the National Guard, is a guarantee that it has been farvorably considered by our General Staff.

The book is divided into four parts under the general headings of: Rules; Tactics; Legal; and Appendix. There are sixteen chpaters upon the following subjects: General Rules of Riot Duty; The Assembly of Troops; Conduct and Appearance of Troops; Leaving an Armory surrounded by a Mob; Marching through the Streets; Meeting and Dispersing a Mob; Defending and Attacking Buildings or Barricades; Disposition of Troops in General and Local Riots; Protection of Street and Steam Railways; Prevention of Lynchings; Tactics of Troops under Martial Law; Transportation of Troops; Duties of Civil Authorities in Riots; General Conditions from Legal Viewpoint; Troops in Aid of Civil Authorities; and Martial Law.

The appendix contains extracts from the Army Regulations pertaining to riot duty, extracts from the Articles of War, forms, etc., and a synopsis of cases where soldiers had been tried by the civil authorities for killing those engaged in riots while in the discharge of their military duty.

The book is illustrated by several plates showing how troops should be disposed in making attack in streets, in attacking buildings, in attacking barricades, in defending houses, barricades, etc., etc.

880

^{*&}quot;TROOPS ON RIOT DUTY. A Manual for the use of th³ Troops of the United States." By Captain Richard Stockton, Jr., Second N. J. Infantry, and Captain Sackett M. Dickinson, Second N. J. Infantry-Member of the New Jersey Bar. Second Edition-Revised. The Military Publishing Co., Trenton, N. J. Price 75 cents.

U. S. CAVALRY JOURNAL.

The following are extracts from the preface:

"There has been no hesitation in showing diagrams of and specifying certain formations and methods of attack and defense. But we do not believe in 'normal formations.' The methods shown are thought to be possible solutions, in many cases, when varied to meet the conditions. We use them that they may assist an officer in making his own formations. Though in most cases being explained for small bodies of troops, all formations are equally applicable to different sized bodies.

"In the legal portion of the work the attempt has been made to present the most important facts relating to riot duty in a manner suited to those not of the legal profession, and without the time or inclination to make a study of riot duty. Here, as in the balance of the book, it has been the aim to so arrange the matter that when a subordinate officer is suddenly called for duty, he can place a copy in his pocket and in spare moments find a few paragraphs that will relate entirely to the kind of duty on which the troops are going. + Editor's Cable. +

GENERAL RODENBOUGH.

While it has not been customary heretofore to publish obituary notices in this Journal, and it has been thought best to leave the publication of such items to the weekly service periodicals, where the following has already appeared, yet it is believed that an exception should be made in this ase.

General Rodenbough was a distinguished cavalryman, during and after the Civil War; was a military writer of note and was for many years the Editor of one of our service cournals, and it is thought proper to give place to the following order from the Headquarters of the Second Cavalry, of which regiment he was an officer and whose history was written by him.

HEADQUARTERS SECOND U.S. CAVALRY.

General Orders) FORT BLISS, TEXAS, February 17, 1913. No. 10.

At a special meeting of the officers of the Second Cavalry, held at Fort Bliss, Texas, on the eighth day of February, nineteen hundred and thirteen, the following resolutions were adopted:

WHEREAS: The regiment has learned with the deepest sorrow of the passing away of one of its most gallant regimental commanders, Brigadier General, THEOPHILUS

EDITOR'S TABLE.

FRANCIS RODENBOUGH, United States Army, which occured on the nineteenth day of December, nineteen hundred and twelve,

RESOLVED: That in the death of this brave soldier, gallant commander, and generous friend, the regiment has suffered an incalculable loss.

RESOLVED: That through his services, as a Second Cavalryman, including the command of the regiment in the following named battles, Gettysburg, Brandy Station, Rappahannock Station, Todd's Tavern, Yellow Tavern, Meadow Bridge, Mechanicsville, Hawes' Shop, Hanover Court House, Old Church, Cold Harbor, Trevilian Station, and Winchester, he has handed down to succeeding generations an example of devotion to duty, patriotism, integrity, and honor, which will ever ge guarded as one of the regiment's most valued legacies.

RESOLVED: That the gratitude of the regiment is due him for his continued fatherly interest in his old command and his services as historian, in preserving the records of gallant deeds of the Second Cavalry for the first seventyfive years of its existence, and of adding them to the country's history.

RESOLVED: That the sympathies of the regiment be extended to the widow and to the other members of the family of General Rodenbough in their bereavement.

RESOLVED: That these resolutions be published in orders and that copies be furnished to the members of the immediate family of General Rodenbough and to the press.

By the Order of COLONEL WEST:

C. G. HARVEY, Captain and Adjutant, 2d Cavalry, Adjutant.

RIFLE VERSUS CARBINE.

On page 864, et seq., of this number of the Cavalry Journal there appears a report of a précis of an article by Lieutenant General H. Rohne, entitled "The Rifle of the Future," which, quoting him, contains the following startling statement: "Experience teaches us that the more perfect the rifle becomes the more misses are made in warfare. For example, in the Bohemian campaign the Prussian infantry fired on the average 33 rounds for a single hit; in the Franco-Prussian war of 1870, the number rises to 350; in the Russo-Japanese war every Japanese soldier hit cost the Russians 1,000 cartridges; in the South African war about 5,000 rounds were expended for every Boer hit, or, in other words, every man hit represented about twice his own weight in cartridges."

Remarkable as is this claim, yet it is more or less strongly confirmed by other military writers of recent times, although they give other additional causes for the falling off in the number of hits per shots fired in battle.

Of course the percentage of hits to the number of rounds fired in any engagement can be only a rough estimate and is arrived at from the reports of the killed and wounded and the expenditure of ammunition.

Bally in his work, "Le Tireur du Champ de Bataille," page 18, quotes several authorities who give the number of hits per shots fired in modern battles as one hit to from 500 to 2,000 or 3,000 shots, according to the authority. He says that during the entire Franco-Prussian war it required an expenditure of from 1,200 to 1,300 rounds for every hit and that the greatest percentage of hits was made by the defenders at Saint-Privat where it reached 2.2 per cent.

Balck, Mayne, Earnes and other authorities also show conclusively that other causes, such as the more extended order formations, the greater use of cover, the less visibility of uniforms, etc., greatly diminish the number of hits in proportion to the number of shots fired in battle.

All this being true, it is undoubtedly the case that the discrepancy between the battle efficiency of a good, up-todate carbine and the infantryman's rifle will be, if it has not been in the past, practically nothing. In the days of the old Springfield carbine and rifle, it was estimated that the difference in accuracy between these two arms on the target range was only four per cent. Such a small per cent. of difference on the target range, where the conditions as to wind, weather and nerves were always the most favorable pos-

EDITOR'S TABLE.

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sible, would have been reduced to an exceedingly small fraction of one per cent. on the field of battle in those days.

If the above conclusions are only approximately correct, the difference between the battle efficiency of the carbine and rifle of today would be so infinitesimally small as to be negligible. If this fact can be established, then the great bug-bear of some of our cavalrymen that it would ruin the morale of our troopers to go back to the carbine would be no more. They have maintained that the cavalry should have just as efficient a firearm, as to range and accuracy, as has the infantry or else the morale of the cavalry would be lost when fighting on foot. The writer believes that we *practically* had such an arm when we had the Springfield carbine, which General Meritt stated, over thirty years ago, was the best arm ever devised for the cavalry, and that we can have such again, provided the cavalry will ask for it.

With a carbine, the question of how it should be carried could be easily determined and the additional weight as well as the hammering of the dead weight of the rifle on the now overburdened horse be avoided.

E. B. F.

RELATIVE RANK.

The following letter has been received and is published for the consideration of our cavalry officers. While, in the opinion of the writer, this scheme does not go far enough in correcting the evils that have resulted from the heretofore existing inequalities of promotion and the "One List for Promotion" idea is far preferable, yet, inasmuch as it is thought by many that the one list scheme cannot be adopted, it is believed this proposed legislation should receive the approval of this Association. At any rate, we will be pleased to hear from them on the subject.

A member of the Military Committee of the House of Representatives proposes to bring up before Congress a bill embodying the following provisions: "Officers of the Army below the grade of Brigadier General shall take rank in their grade upon the relative list, according to the length of their continuous commissioned service in the Regular Army:

"Provided, that nothing in this act shall be construed to change the present rank of any officer on the lineal list of his own arm of the service, as at present determined according to the Act of Feb. 2, 1901; and

"Further provided, that nothing in this act shall be construed to change the present rank, on the lineal list of his own arm of the service, of any officer who has lost rank by reason of the sentence of a general court-martial, or through his failure to pass an examination for promotion."

This bill is intended to rectify a condition of affairs that exists in the Army, which is without doubt the cause of the more or less veiled antagonism between the several arms of the service, the cause of the lack of unity and of the heartburnings that exist in the corps of officers which cannot but impair its efficiency.

You perhaps do not know that owing to the present laws four young men may in four successive years enter the service, each at the same age upon entrance, and that six years after the last man is commissioned, he, Number 4, may be a Captain, Numbers 2 and 3 may be First Lietuenants. while Number 1, the first to enter, is still only a Second Lieutenant-merely through the operation of our present system, and not through the merit of Number 4 or the failure of Number 1. To the person not familiar with army conditions, this discrepancy may not seem very vital. But differences of rank are not merely differences of preference-they include the dignity of the service, the command of men and of officers, junior in rank, precedence in courts martial and boards, and minor privileges. In the foregoing case the youngest man, Number 4, who was not commissioned until four years after Number 1, in the case of their going into the field, would, with his lesser experience, command the older man and the soldiers under the latter.

This condition of affairs arises from the fact that the rate of promotion in certain arms of the service is relatively

EDITOR'S TABLE.

much slower than the rate of promotion in others. As long as this exists there can be no unanimity of opinion, no disinterested consideration of plans that will affect any one branch of the service or the service at large. In time of war the exigencies of the battlefield will determine rank; but in time of peace a system of uniform arrangement of rank according to years of service is absolutely essential. The harmonious peace time army becomes the invincible unit on the field of battle.

To explain these discrepancies of promotion, the working of the present system must be understood. The strength of each arm, Infantry, Cavalry, Field Artillery and Coast Artillery is fixed by law, which provides for a certain number of Colonels, Lieutenant Colonels, Majors, Captains, First Lieutenants and Second Lieutenants and Enlisted Men in each arm. Promotion is separate and independent in each arm. An officer is commissioned in an arm of the service by standing at examination and partly by his individual choice. At the Military Academy a certain number graduating in the upper portion of the class are assigned to the Engineer Corps. Those next in class standing submit their choice for assignment. They are assigned according to choice and to the number of vacancies in the several arms.

Take four commissioned officers, W, X, Y, Z, entering respectively the Coast Artillery, Field Artillery, Cavalry and Infantry. Each normally takes his place at the bottom of the list of second lieutenants of his arm; as the older officers are retired for age or die, each gradually rises on the list and becomes a first lieutenant. If the strength of the different arms remained unchanged or were increased proportionately W, X, Y and Z would fare about the same in promotion.

When one arm, however, is greatly increased by law, adding greatly to the number of officers, the lower grades swarm up rapidly into those above. This is precisely what has occured in the Coast and Field Artillery. The officers who were assigned in three successive years to the Artillery joined their companies as first lieutenants. So that W and X, are far in advance of Y and Z. Indeed W of the class of 1908 ranks above Y of the the class of 1902 and Z of 1903. X of the class of 1906 ranks Y of 1902 and Z of 1903. These are in the same grade of first lieutenant. Take, however, W, X, Y and Z, all of the class of 1902. W and Z are captains, Y and Z will not be captains for nine or ten years.

Now when different arms serve at the same post or in field service, the command of men and seniority in all matters is determined by the officer's position or the Relative List. The Relative List in each grade is made up of all the officers in the army of that grade arranged in the sequence in which they obtained their commissions or promotions into that grade. From this it will be seen why First Lieutenants W, 1908, who, upon assignment immediately became a First Lieutenant due to the increase of the Coast Artillery ranks First Lieutenant Y, Cavalry, 1902, and ranks First Lieutenant Z, Infantry, 1903. Lieutenant Z, Infantry, was commissioned six years before Lieutenant W and had been his instructor at the Military Academy. These are not isolated instances but there are many such cases in the Army to-day.

Now this proposed bill provides that the relative list shall be arranged so that in each grade the sequence will be determined by the total number of years of commissioned service and not by the number of years in that grade. Thus First Lieutenant Y, 1902, and Z, 1903, would be placed above First Lieutenant W, 1908, and X, 1906, on the relative list. And when the different arms are brought together, the man in each grade having the longest service and ripest experience would be the senior not only in years and experience but in rank, in eligibility to exercise command of men, and in those other privileges that go with rank. There is no question as to the fairness of this. Officers of all branches of the service will admit it.

In conclusion, it is desired to emphasize the fact that the passage of this bill and its operation will not increase the cost of the Army. It will not affect promotion in any arm—Promotion in the Infantry, Cavalry, Coast and Field Artillery will remain as at present. It will not affect the lineal list in each arm, that is, it will not rearrange the rank of the officers of Infantry among themselves. That was

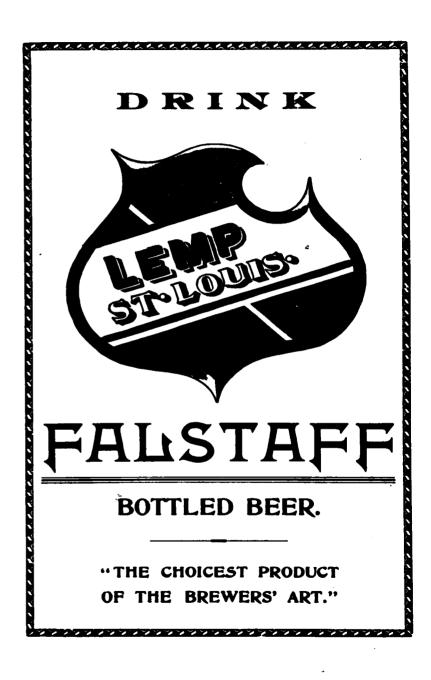
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provided for in the Act of Feb. 2, 1901. It is not a scheme for increased promotion for anyone. It simply tends to adjust the relative rank on an equitable basis when officers arrive at the same grade—that is, all first lieutenants of the Infantry, Cavalry, Field and Coast Artillery will be rearranged on the Relative List according to length of commissioned service in the Regular Army—similarly for all captains. etc.

The justice of this measure precludes all question. And it is hoped that your favorable consideration and active assistance may be counted upon.



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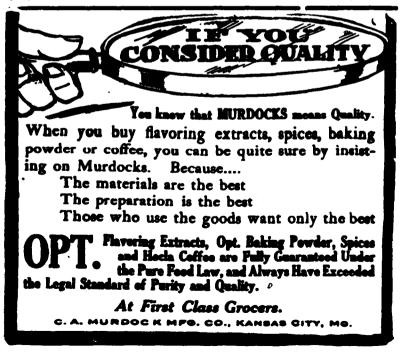
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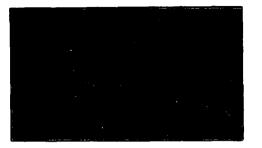
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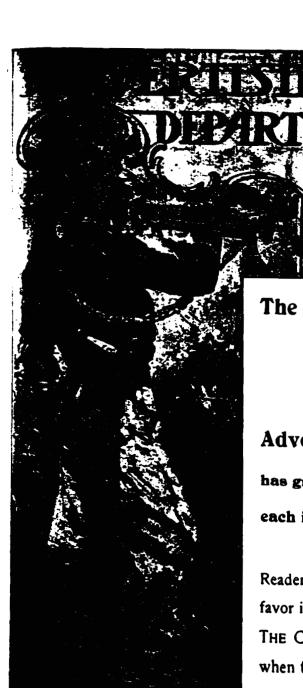


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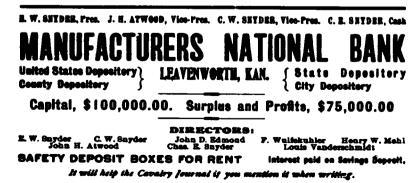


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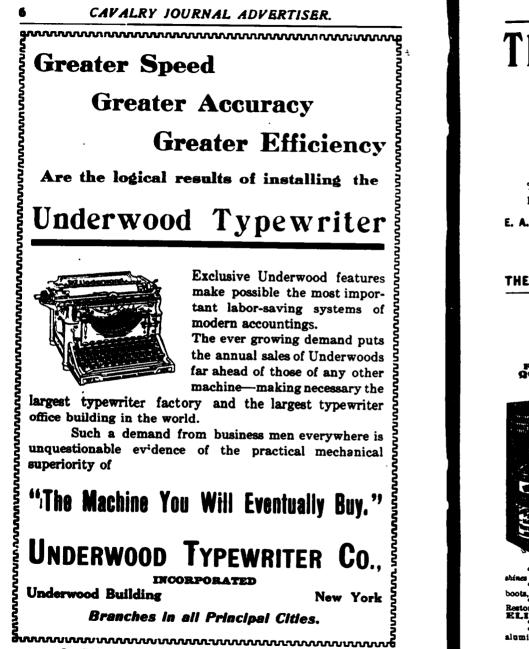


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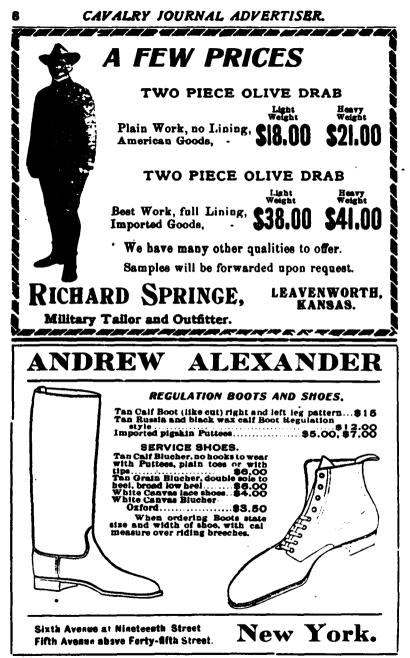
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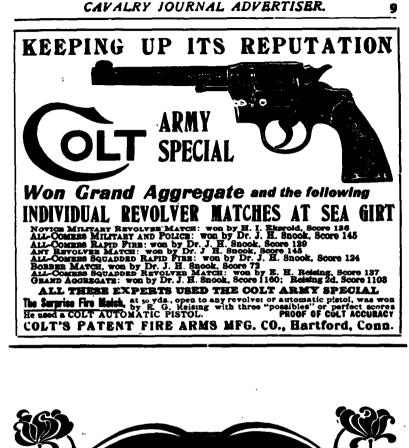
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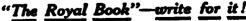
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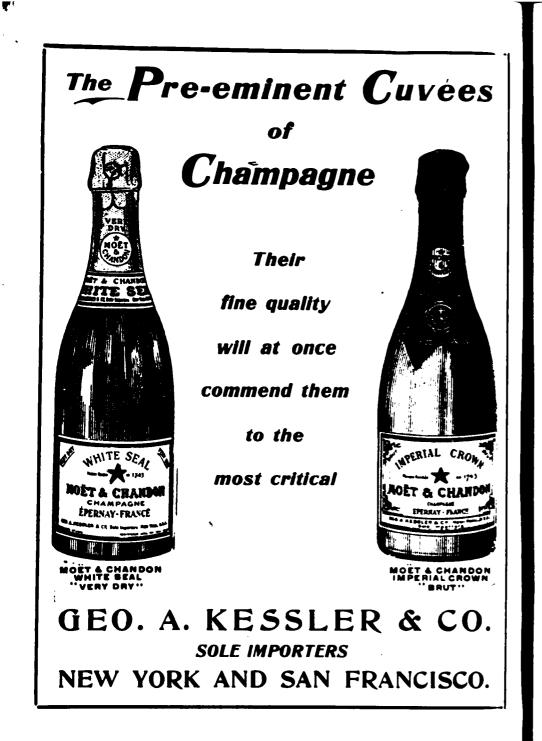
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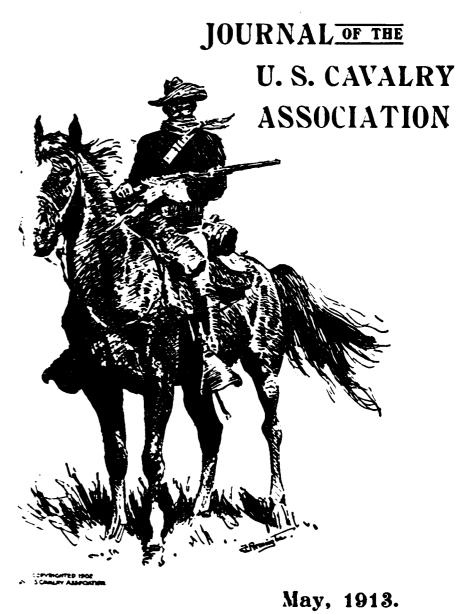
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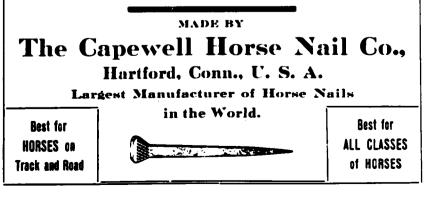
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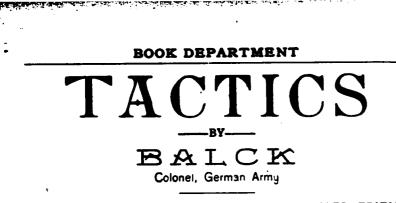
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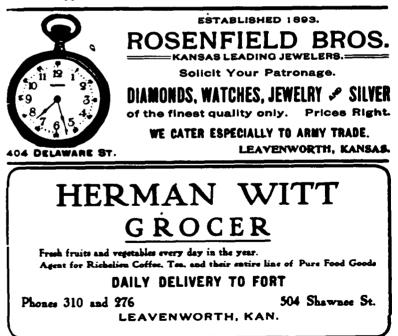
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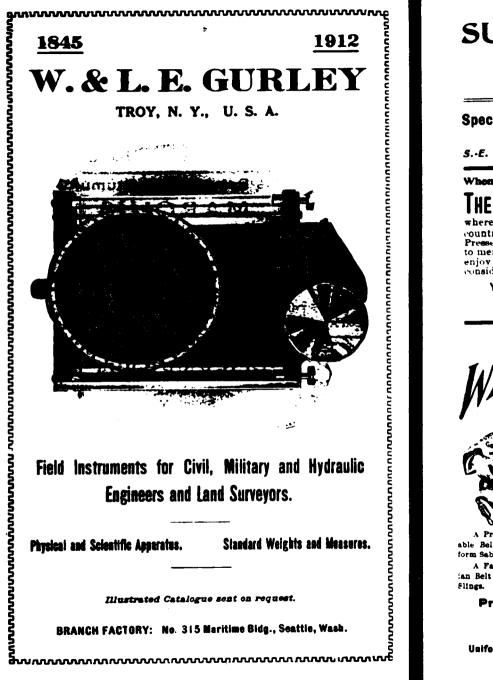
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JOURNAL

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Vol. XXIII.	MAY, 1913.	No. 96
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THE CAVALRY AT THE SIEGE OF HARPER'S FERRY IN 1862.

BY MAJOR GENERAL GEORGE B. DAVIS, U. S. ARMY, RETIRED.

THIS is the story of an operation that was never made the subject of official report, but is worthy of commemoration because of the boldness of the undertaking, the dangers which beset the command, the skill with which it was conducted and the unlooked for success which marked its termination. The post of Harper's Ferry was held during the summer of 1862, by a garrison of about 12,000 men of whom some 1,500 were cavalry. The cavalry consisted of two regiments-the Eighth New York, Colonel Benjamin F. Davis, an officer of the regular army, the Twelfth Illinois, Colonel Arnold Voss, and some separate companies mounted from Rhode Island and Maryland. We are not told why so much cavalry was stationed at Harper's Ferry, unless the administration had it in mind to move the whole garrison to Martinsburg, or elsewhere, where it might have been of use, and where some profitable employment might have been found for so considerable a mounted force; but the garrison was there and the successful efforts of its cavalry component to escape, when the place was invested by the Army of Northern Virginia, during the Antietam Campaign, will constitute the subject of this paper.*

Harper's Ferry lies at the confluence of the Potomac and Shenandoah Rivers. To complicate the topographical situation a portion of the Blue Ridge here crosses the larger stream and passes through Maryland into Pennsylvania. The place is commanded by three considerable heights-Bolivar and Loudoun on the Virginia side and the almost inaccessible Maryland Heights on the opposite shore. The place was as incapable of defense as the bottom of a well. If it was necessary to occupy it, as a matter of information rather than security, a battalion of infantry would have been more than sufficient for the purpose, and its commander should have been instructed to exercise his battalion, at frequent intervals, in the evacuation of the place, in each of the directions in which escape was possible, with a view to enable him to make an expeditious "get away" when the place was invested by a superior force of the enemy. When General Lee determined to cross into Maryland, after the second Bull Run Campaign, he gave Harper's Ferry the go by and pushed on with the main body of his command in the direction of Frederick City, followed at some distance by General McClellan. As 12,000 men was too large a force to leave on one side. General Jackson, with three divisions of infantry, was detached and charged with the reduction of Harper's Ferry. Without

*Notwithstanding its importance, no formal report was ever made of the gallant effort of the cavalry to cut its way out of Harper's Ferry, in September, 1862. The place was already completely invested on the Virginia side and a force considerably superior to the entire garrison stood ready to intercept it should it attempt to cross into Maryland. Captain I. W. Heysinger who is one of the survivors of the desperate undertaking has attempted to remedy this defect by the preparation of an exhaustive study of the movement from its inception in Harper's Ferry to its successful termination at Greensburg, Pennsylvania, all within the compass of a short autumn night. Captain Heysinger is a native of the vicinity of the route traversed and served very creditably in one of the cavalry organizations, and is thus admirably fitted for the difficult study which he has just completed. By his kind permission I have been able to avail myself of the data collected by him, and I desire to offer him my sincere thanks for his great kindness in loaning me his manuscript, which I hope will soon appear, in book form, as a valuable contribution to the professional literature of that eventful period.-G. B. D.

the slightest difficulty the investing forces established themselves on the three considerable heights completely surrounding the place, and waited for it to drop into their hands which it shortly did.

Jackson's command consisted of his own division under J. R. Jones, and those of Ewell and A. P. Hill. Leaving Frederick on the 10th of September his main command crossed the Potomac at Williamsport and marched in the direction of Martinsburg, with a view to the capture of the outlying forces at that place; this was prevented by their retirement to Harper's Ferry on the evening of September 11th. Ewell and Jones occupied Bolivar Heights, on the north bank of the Shenandoah, while Walker possessed himself of Loudoun Heights between that stream and the Potomac, and the lines of investment were closed by A. P. Hill, who connected with Ewell and Walker across the narrow valley of the Shenandoah. McLaws, acting under separate instructions from General Lee, moved with his own division and that of Anderson with orders to take possession of Maryland Heights with a view to prevent McClellan from getting in to Harper's Ferry, and, equally, to prevent its garrison from getting out. This he accomplished by taking post at Weverton, at the southern entrance to the pass in which Harper's Ferry is situated. McLaws was thus able to frustrate any attempt on the part of either the cavalry or infantry contingent of the garrison to make its escape to the south in the direction from which General McClellan was approaching. In the grim list of the Confederate commanders who now surrounded Colonel Miles command the fate of the place could be read with certainty. Colonel Miles, a good soldier, somewhat advanced in years and sadly wanting in the vigor and resolution which the hour and occasion demanded, here crowned a lifetime of faithful service by the sacrifice of his life. He was clearly not in the class with Jackson, Ewell and either of the Hills, and so, sorely stricken by mortal wounds, passed from the weak and purposeless defense to his eternal rest.

From the time the investment was completed, on the 13th of September, it was obviously hopeless for the main

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infantry command to leave the defensive position at the confluence of the rivers; the avenues of entrance and exit were all closed by a superior force of the enemy, with which the smaller command of Colonel Miles could not have coped with any chance of success, even in the open, much less when the question was of dislodging the infantry force from its points of vantage on three sides of the place. Nor could the infantry have succeeded in breaking out by crossing the Potomac to the Maryland shore, for a superior force of infantry awaited them in that direction. The cavalry might still pass out by the road at the foot of Maryland Heights, an unpromising enterprise at the best. If the infantry were to make the attempt, it would be followed into its defensive lines by Jackson's main command; should it succeed in crossing to the eastern bank it would then have encountered McLaws, with his own division and that of Anderson--together aggregating more than the entire strength of the garrison-and posted to the best advantage at the Weverton entrance to the canon through which the Potomac flows as it emerges from the mountains.

The case was otherwise with the cavalry. The infantry could protect its crossing. True it might come to grief before it succeeded in passing the steep flanks of Maryland Heights but, if it was so fortunate as to get beyond them, into the main valley of the Antietam, it would be possible for it to pass around any intercepting infantry that it might chance to meet on its way to Pennsylvania and safety. But the difficulties were great and the outlook most discouraging by any route that gave even the faintest promise of success. If the cavalry turned to the south, after reaching the Maryland shore the well posted infantry of McLaws would be encountered. General Lee who had reached Keedysville, in the upper valley of the Antietam, on the morning of the 14th was very much concerned about the safety of McLaws command, and had sent him the most imperative instructions to abandon his post at Weverton and join him at Sharpsburg, either by the river road through Sandy Hook or, if that was closed by the enemy, to take to the brush, so to speak, and see what could be done in the way of crossing the main portion of Maryland Heights. In point of fact McLaws was in no danger from the command at the Ferry, though it seemed at one time that Franklin, whose command formed the left of the Army of the Potomac in its advance, might have compelled his withdrawal from the east, but no such danger confronted him from the side of Harpers Ferry, even in the very improbable contingency that it might attempt to cut its way out to the southward in the direction of General McClellan's advancing army. But McLaws was safe for the main garrison was held as in a vise by the divisions under Jackson, which closed every approach to the place and rendered escape in any direction impossible.

To sum up the situation, had any force of cavalry or infantry attempted to escape by the south bank of the river it would have walked into the very arms of Jackson's main command, posted with a view to that very contingency; the route by the Maryland shore abounded in dangers, but offered a fighting, or, rather a running chance of escape from the fate that awaited the place itself. General Lee's intentions were not known to the garrison at the Ferry and anything like an exact knowledge of his movements might have acted as a deterrent and extinguished all hope of escape.

During the 14th of September, it was decided, for reasons already stated, that no attempt should be made with a view to the withdrawal of the infantry and artillery, the movement of the cavalry was approved, however, and at lusk the mounted force crossed by the pontoon bridge to the Maryland side of the Potomac and, turning to the north, climbed the precipitous base of Maryland Heights; so soon as the ground permitted it, bore off to the left along the almost impossible slopes of the mountain, encountering no opposition from McLaws whose duty it was—first to prevent the garrison from joining McClellan to the south and, second, to withdraw from his position at Weverton and join the main Confederate army which was fast assembling in the upper reaches of the Antietam. The difficulties encountered by the cavalry during the first hours of its march were entirely topographical, and these to a great extent disappeared when the command debouched into the lower valley of the Antie-

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tam. Here its perils really began and, to realize what they were, it is necessary to say a word as to the contemporaneous movements of General Lee.

The town of Frederick had been Lee's first objective, and he had reached that place safely on September 8th. followed at a reasonable distance by the Army of the Potomac. As the enemy approached General Lee determined to withdraw to the Virginia shore; the purpose for which the invasion had been undertaken had failed of accomplishment and there was no longer any reason for his remaining in territory which had not shown itself favorably disposed to the Confederate cause. On September 10th, Jackson's command of three divisions set.out for Harper's Ferry, via Boonsborough and Williamsport. Longstreet marched to Hagerstown, his purpose being to recross into the Vallev of Virginia at the same point. McLaws with two divisions moved to Weverton at the southern entrance to the Ferry. General McClellan's advance followed so closely upon the retirement of his opponent that D. H. Hill was attacked in the passes of the South Mountain on the afternoon of the 14th, and General Lee, finding that he would not be able to cross into Virginia, without opposition, determined to concentrate his somewhat scattered forces and give battle in front of Sharpsburg in the lower waters of the river. To that end Jackson was recalled from Harper's Ferry, which surrendered on the 15th, and reached the vicinity of Sharpsburg on the morning of the following day, leaving A. P. Hill to conclude the details of surrender. Longstreet moved directly to the Antietam and took position on the right of the Confederate line-his command being passed by Jackson who occupied the left.

From this showing of the movements of the enemy, it will be seen that it was of the very first importance that the cavalry should not march into General Lee's arms as it passed into the valley of the Antietam, a danger which as will shortly appear, it escaped by the skin of its teeth. When the command entered the town of Sharpsburg, at about midnight of the 14th, there was hope of plainer sailing insofar as the conditions of marching were concerned, as Sharpsburg is joined to Hagerstown by an excellent pike. The column had hardly entered upon the enjoyment of the smooth roads. over which it would be possible to make time, when, in the inky darkness of midnight, it encountered a strong Confederate outpost at the eastern end of the town. It was not a mere outlying picket, but a command of sufficient strength to hold its position, in the event of attack, until support could reach it from the main body but a short distance away. Clearly this was not what Colonel Voss had expected; he was not looking for any part of General Lee's army, but for a practicable route to Pennsylvania, or to some nearer point from which General McClellan's whereabouts could be ascertained. Disengaging himself from the embarrasing outpost, which he was fortunate enough to do, he turned the command into the woods and fields on the west side of the Hagerstown bike and pushed on in the direction of Mason and Dixons line. So far as he could see, in the black September night, he was, for the time being, out of danger from the outlying Confederate infantry.

Pushing on, without light, without guides and with an uncertain destination, he made the best use of the remaining hours of darkness in gaining ground to the north and west. In doing this it was not wise to get over too close to the Potomac for Jackson was there, and Williamsport, which was full of the enemy, was an equally unpromising destination; and so he kept on, following so far as was safe, the line of the Hagerstown pike, for along that pike there was promise of safety, provided no more of General Lee's inconvenient outposts were encountered during the night. But there was no longer any danger from this source, for the main body of the Confederate army was at some distance to the east, on the Boonsborough pike, with orders to concentrate on Antietam Creek and Jackson, having compelled the surrender of Harper's Ferry, was on his way to the same point. McLaws was hurrying to Keedysville, in ignorance of the fact that the cavalry had made its escape from the garrison; and A. P. Hill who had been left behind by General Jackson, to carry into execution the details of the surrender, completed his task on the morning of the 17th, and reached the field-where he was very much needed—in the afternoon of the same day.

The cavalry was now making satisfactory headway and had succeeded in getting some eight miles to the good when the sound of many feet reached it as it neared the pike in the vicinity of Jones Cross Roads; this was Benning's Georgia Brigade which was following Longstreet's command on its way to join the main body of the enemy at Sharpsburg. The Cavalry approached the Hagerstown pike just as the rear of Benning was passing; as the dust hung in heavy clouds and the country in this vicinity was sparsely wooded, its approach had not been observed in the darkness. Voss, equally unaware of the close proximity of the enemy, continued on his way, after a brief and unimportant stirring up of the stragglers who were driven away and, sleep being impossible under such disturbing conditions, hastened in the direction of their departing commands. In this way Colonel Voss, favored by the fortune of war, was spared an attack which might have proved disastrous for, had Benning been a little more dilatory or had the cavalry attempted to gain the Hagerstown pike a half an hour earlier, this story would not have been told

The Benning incident over the command, ignorant of the peril which it had so narrowly escaped, continued its march, still keeping to the woods and scrub lest another Confederate outpost might be encountered on its way to Pennsylvania and safety. And just here a new point of danger developed itself. Not far from the Cross Roads General Pendleton, the commander of the Reserve Artillery of the Army of Northern Virginia, with so much of that arm as General Lee was not likely to have occasion to use in the impending battle, was on his way to Williamsport; moving on the dust padded read, he, too, was passed in the impenetrable darkness. The margin of safety this time was extremely small, had he been even partially encountered, both parties would have been to some extent "rumpled," but probably not seriously damaged, such, indeed, was the obscurity of the night.

As is sometimes the case, the light of the stars seemed to gain somewhat in intensity as day approached and, just as it was breaking in the east, Colonel Benjamin F. Davis,

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under whose skillful direction the march, was being conducted, approached the pike to verify another sound which seemed to come in a direction nearly opposite to that in which the column was marching; this was found to have been caused by a long Confederate wagon train which was crawling, in the darkness and dust, in the direction of Williamsport. Colonel Voss, the senior officer present, judging that the occasion was one calling for the trained judgment and skill, of Grimes Davis, wisely committed the formation for attack to his competent hands. The question presented was a simple one, from a tactical point of view-of delivering an attack upon a moving train in such a way that escape on the one hand and a disastrous stampede on the other should be avoided. To accomplish this Davis formed his own regiment-the Eighth New York-in line paralell to the moving train, charged with the capture of the wagons. The troops were told off in squads of six, to each of which the capture of a wagon and its subsequent control was assigned. The Twelfth Illinois and the contingents from Maryland and Rhode Island were formed in column of fours facing in either direction, so as to prevent an attempt to escape in either direction. Davis' skillful plans were carried out without the slightest hitch; of the six troopers assigned to each team, two rode on each side of the driver while two sojourned with the lead mules. As a result there was not the least confusion; each man knew precisely what was expected of him; the wagons were turned, straightened out on the road to Greensburg and, under the gentle suasion exercised by the troopers in the various forms of vigorous Anglo Saxon speech, took the gait of the column which, after beating off such of the scattered escort as seemed disposed to resist, soon moved out of range of the protecting infantry.

The news of the capture reached Longstreet just as Benning was going into position near the Burnside Bridge and he was directed to send back two of his regiments of infantry to see what could be done in the way of recovery. Benning's pursuing column did all that could be expected of a command that had marched all night and the greater part of the day before, but was obliged to return empty handed and report

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that the task was one with which even Stuart himself would have been unable to cope, for the train was safe in Greensburg before that enterprising cavalry leader, with the greatest possible expedition, could have gotten his cavalry straightened out on the road to Pennsylvania, which had been taken by the wagon train, now protected by Grimes Davis with the equivalent of three regiments of cavalry behind him. The command reached Greensburg at about nine o'clock in the morning of the 15th of September, having evaded the enemy in several dangerous situations, and succeeded in bringing in some seventy wagons of General Longstreet's supply train containing the ammunition which was so sorely needed in the course of the battle of Antietam and the operations which followed. As the cavalry, whose journey to safety I have attempted to describe, had drifted into Harpers Ferry from several directions, and did not then, or for some time subsequently, form a part of any brigade command, each of the regimental and battalion commanders, upon arriving at Greensburg, felt at liberty to place such a construction as he saw fit upon Colonel Miles order to proceed to Sharpsburg. and report to Major General McClellan wherever he might be. "Grimes" Davis, with the true soldierly instinct which never failed him, mounted his command and, after a brief rest, joined General McClellan on the Antietam. He was assigned to the command of a brigade and with it participated in the later operations of the Cavalry Division under Pleasanton in northeastern Virginia.

*Biographical note. Benjamin Franklin Davis, the subject of this sketch, was a native of Alabama, and was appointed to the Military Academy, from the adjoining state of Mississippi, in 1850; he was graduated in 1854, and, after a brief period of service as a brevet second lieutenant of infantry, was assigned to the First Dragoons, then serving in the extreme southwest. He participated in the extremely active operations against the hostile Apache Indians that were conducted in the Territories of New Mexico and Arizona, between 1856 and 1858, and was wounded in action with the Apaches on the Gila River on June 27, 1857. In 1858, he accompanied his regiment to California taking station at Fort Tejon.

At the outbreak of the Civil War, he was appointed Colonel of the First California Cavalry but, preferring service in the east, he severed his connection with that organization in November, 1861. He took an active and distinguished part in the Peninsular Campaign of 1862, and, on June 27, 1862, joined the Eighth New York Cavalry of which he had been ap-

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In the spring of the following year, while in command of the brigade to which he had been permanently assigned, he was killed in a brilliant attack upon the enemy at Beverly Ford in an operation in which the cavalry of the Army of the Potomac was permitted to see the mounted employment of that arm under an acknowledged master of its use under all possible circumstances and who, had his life been mercifully spared, would have arisen to high and responsible command in the Cavalry Corps of the Army of the Potomac. But this was not to be, and "Grimes" Davis, beloved of those who knew his sterling worth and abounding soldierly capacity for successful leadership, fell untimely, at the head of his brigade while conducting a mounted attack upon the enemy, at Beverly Ford, Virginia, on June 9, 1863.

pointed Colonel. But little time or opportunity was allowed him to get his new command in order for in less than two months he joined General McClellan in the Antietam Campaign. Before the Army of the Potomac entered Maryland, Davis' regiment was actively employed in the upper Potomac, but was shut up, very much against his will, with other excellent commands in the utterly indefensible position, at Harper's Ferry, which was selected by the administration in which to make a stand against the impending invasion of Maryland. As the inevitable surrender approached, Davis' command, with the Twelfth Illinois Cavalry and some other troops composing the mounted portion of the beleagued force, cut his way out and, after many viciasitudes that are made the subject of the foregoing sketch, succeeded, after a long and dangerous night march, in making its way to Pennsylvania.

Colonel Davis, affectionately known as "Grimes" by his friends and admirers who were many and enthusiastic - was too valuable a man to permit himself to be cooped up again, or to be employed in escorting his own forage and rations from the base of supplies, and was immediately assigned to the command of a brigade of cavalry by General McClellan. Here he was at his best, and Grimes Davis' best was something far beyond the common. The dead cavalrymen which General Hooker declared he had never been able to see in sufficient numbers to satisfy his somewhat extreme taste for the by products of the battlefield, was shortly to be privileged to see many of them during the brief period of his command of the Army of the Potomac. In one of the early combats of cavalry against caralry of which the year 1863, and those following were to see so many, he was killed while leading his brigade-not upon a place-but upon a mounted force of the enemy, of equal if not superior strength; and so the gallant spirit passed, in the tumult of battle, "to where beyond these voices there is peace." A photograph, dating probably from the late summer of 1861, is-or was, one of the cherished possessions of the Army Mess at the Military Academy, which in life, not less than in his untimely death he so much adorned. †

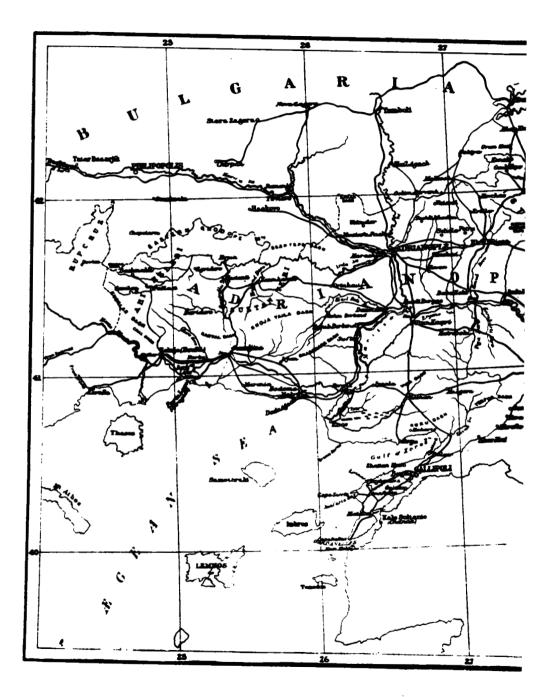
[†]Unfortunately this photograph can not be found or otherwise it would have been reproduced and used to illustrate this article.—EDITOR.

BY MAJOR R. A. BROWN, U. S. CAVALRY GENERAL STAFF.

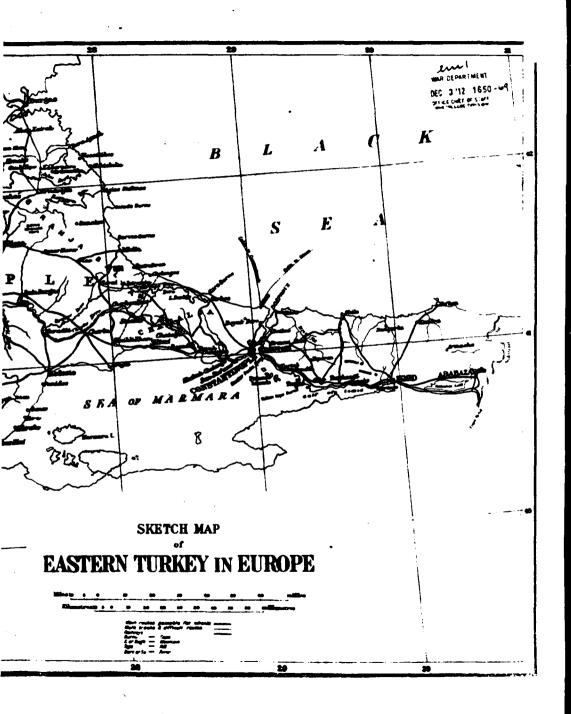
SINCE the declaration of war on October 17th, events have rapidly taken place which have decided the results of the campaign and of the whole war. The details of forces engaged and of the places of minor and even larger engagements are still lacking, but in general the results show the general distribution of forces and the general lines of advance and the objectives of the various columns.

The Bulgarian armies advanced into Turkish territory in four columns or four armies. The Second or principal army of 60,000 to 70,000 men, under command of King Ferdinand, advanced by the valley of the Maritza to Mustapha Pasha and Adrianople. The First Army, about 40,000 men, crossed the frontier west of the Tundja River and advanced south into the country between Adrianople and Kirk-Killesse. After the battles of Kirk-Killesse the First Army, and later a part of the Second (or main) Army, continued the advance via Babi-Esaka--Loule Bourgas towards Constantinople. The Bulgarian East Army, 60,000 to 80,000 men, under General Dimitrief (Third Army), crossed the frontier north of Kirk-Killesse and advanced south to Kirk-Killesse, thence by Viza towards Constantinople. The Bulgarian West Army advanced down the valley of the

*This series of articles, together with the two translations that appeared in the March, 1913, number of the Cavalry Journal, pp. 834-44, ("The Brilliant Rôle of the Turkish Cavalry" and "The Battle of Loule Bourgas"), were furnished by Major R. A. Brown, U. S. Cavalry, General Staff, U. S. A. These two translations referred to as appearing in the last number of this JOURNAL were inadvertently credited to Lieutenant Colonel W. C. Brown, U. S. Cavalry. The spelling of place names has not been changed from those given in the copy although differing in some cases from the spelling on the maps. However, the same place is spelled differently on the maps. In connection with those herewith, see also the sketch maps in last number of the CAVALBY JOURNAL.—EDITOR.



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Struma, with Salonika as the final objective. All the columns crossed the frontier promptly on the 18th, the day following the declaration of war. The Second Army captured Mustapha Pasha on that date and had daily skirmishes until the 23d, when it arrived in front of Adrianople. A number of engagements were fought before Adrianople on that date, and on the Arda side of the city the following days. On the 24th and 25th the investment of Adrianople was complete, except towards the southeast. In the mean time the Third Army advanced with daily skirmishes to Kirk-Killesse, near, which place a battle was fought and the town taken on the 24th.

The Third and First armies then made a half wheel towards the southeast and on the 28th, 29th, 30th and 31st of October, and 1st of November, fought the battle of the Karagatch or Loule-Bourgas. Defeated in this battle the Turks withdrew to the Tchalda lines of defense of Constantinople. Following the Turks the Bulgarian armies reached the Tchalda lines and commenced attacks on the works on November 8th. The attacks were unsuccessful except in some minor particulars; the Bulgarians were checked and it was not until the 17th that the serious attacks were repulsed and the next day, the 19th, the armistice was agreed to, suspending hostilities, with a view to a treaty of peace.

The Bulgarian West Army advanced down the valley of the Struma in three columns and had difficulty situations to overcome. The advance could be made only as the hills on the sides were occupied, and with the head of the column abreast of those of the flanking column. This and the not important but fiercely contested actions at Nehomia, Elesnica, and the defile of Kresna, are the causes that this army could not make in its advance more than an average of about four miles per day. On November 2d, this army was on the line Pechesevo-Kresna-Nevrokop. Its further advance was more ratid and it reached Salonika on the 9th, after the surrender of that city to the Greeks.

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(Comment by an Austrian Field Marshal-Lieutenant.)

"The lines of operation chosen by the Bulgarian General Staff and the battles which took place during the advance of the Bulgarians upon those lines are shown in the foregoing rapid sketch. The chosen lines of operation and the grouping of forces upon them were imposed by the configuration of the terrain. the existing communications, and the situation of the chief towns. It was also natural that the greater part of the army should be placed on the line Philippoplis-Constantinople against the Turkish capital and its smaller part on the line Sofia-Salonika, against the second principal city of Turkey. The division into three armies of the main body directed towards Constantinople, and the advance of all the armies in separated columns every time it was possible, as in the valley of the Struma, seemed to be indispensable or were also natural and fit measures. It would perhaps have been of some advantage if weaker forces had tried from the beginning to advance on the line Pashamakli -Beleu-Buk, in order to occupy the railroad Salonika-Constantinople which is here distant only twenty-seven miles from the frontier, thus preventing or rendering more difficult the transportation of Turkish troops.

"The four Bulgarian armies have completely fulfilled their mission; to advance as rapidly as possible on the prescribed lines. The Bulgarian Second and First armies in the valleys of the Maritza and Tundja fought for the possession of the country immediately around Constantinople from October 18th to 24th, and finally on the 25th succeeded in investing Adrianople, except on the southeast. On October 29th, two of the outer forts were taken, but as it seemed better to try to take the place by the help of artillery and not by mere assault, the bombardment of Adrianople began on the 29th. Adrianople is an intrenched camp with a perimeter of 21 miles defended by works mostly earthen. How long the place could resist depends on the size of the garrison, the amount of their supplies, the state of the works, their armament, and, also on the strength of the besieging army, and the number of its heavy guns. If we assume Turkish conditions, it is more than probable that the works

are not finished, that supplies are deficient, and that the place has only the garrison strictly necessary for the defense. This supposition is undoubtedly correct and the Bulgarians have been able to detach a part of the besieging force without waiting for the fall of the place and have sent this detachment to assist in the attack on the Tchaldja lines.

"The Bulgarian Eastern army (Third Army) under General Dimitrief, reached the terrain before Kirk-Killesse on October 21st. Kirk-Killesse has three permanent works and some earthen entrenchments, which can be used as pivots during the defense; but it is not a fortified place and is not fit as a place of refuge to a large army corps.

"The Bulgarian East Army attacked the Turkish forces of this town-40,000 to 60,000 men. The result, after an action extending over 24 hours, was a complete victory for the attack.

"The Turks fled in disorder to Bunar-Hissar and Baba-Eski. The flying in panic of the Redif battalions and the shooting of each other of some detachments during the combats in the night are said by the Turks to have caused the loss of the battle. Whatever did occur, two facts must be stated: The energetic, resistless attack and advance of the Bulgars animated by the offensive spirit, on one hand, and the want of measures of security, discipline and of any tactical direction by the Turks on the other. The Turks, and the whole world, did know that the first great battles would be fought in the terrain Adrianople, Kirk-Killesse, Loule-Bourgas, Bunar-Hissar, and they had time during many weeks to concentrate here sufficient troops, to equip them with everything necessary, and, by well organized preparations (establishment of communications, of depots, sanitary depots and hospitals, organization of the security and information services, preparation of defensive positions, etc.), to create favorable defensive conditions, in order that the maneuver terrain, which is already fit in every respect might be employed for a defense of long duration.

"If conditions forced the army to remain on the strategical defensive, then everything should have been done to preserve as much as possible the tactical offensive in the

defense of that space, using the existing advantages. Nothing had been done, and the Turks were surprised and beaten like all troops undisciplined and badly led."

On October 26th the Bulgarian cavalry entered Baba-Eski and on the 28th the left division of the Third Army took Bunar-Hissar. On the 28th, 29th, 30th and 31st, the East Army attacked the Turks on the line Loule-Burgas— Viza. The Turks had been reinforced by new troops and had about 140,000 men, a force probably equal if not superior to the attacking Bulgarian armies.

(See account of battle of Loule-Burgas by Alain De Penonnrun attached).*

The Servian armies advanced into Turkish territory in four columns or armies. The following were their respective lines of operation:

First Army, 90,000 to 100,000 men; Vranja—Kumanova-Uskub—Kalkandelan—Veles—Prilip—Mohastir.

Second Servian-Bulgarian Army, with two Bulgarian reserve divisions, two columns; Kustendil—Egripalanka— Kumanova—Uskub and Kotchankana—Isthtip—Veles—Prilip —Monastir.

Third Servian Army, 30,000 to 40,000; Kursumlje—Podejevo—Pristina—Kotchana—Prizren—Djakova—Dibra—Durazzo.

Fourth Servian Army, 20,000 to 30,000; The duty of this army was the military occupation of the district of Novibazar.

(Comments by an Austrian Field Marshal-Lieutenant.)

"The first and most difficult duty of the Servian army was the task of reaching with the utmost rapidity the railway Mitrovitza—Uskub—Veles with the fertile valleys of Uskub, Koumanova and Monastir, in order to interfere with the enemy using the railroad and to create for itself, by the occupation of the towns which form important points of communication, liberty of movement and favorable operative conditions. The second duty of the army was to take

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possession of the Sanjak of Novibazar. These two duties were brilliantly performed in fourteen days. The third and final duty was the disposal of the remainder of the Turkish troops in this section by dispersion or capture. This last duty was fulfilled by the capture of Monastir with the Turkish forces in that vicinity on the 17th of November.

"By the advance of the first Servian army the first battle was fought for the occupation of Koumanova on October 23d, while until then small encounters only were reported. The battle lasted ten hours and was rich in interesting episodes. There were storming attacks over open fields, ambushes, night operations, and many combats around the fortifications. Both sides had about 70,000 men in the battle, and about 7.000 to 8.000 wounded and dead covered the battlefield. This army met little opposition in its occupation of Uskub and many smaller places. Its next action was at the battle of Prilip, on November 7th. This battle seems to have been a severe action with heavy losses on both sides. In fact the battles of Kumanova and Prilip seem to have been the two most important battles fought by the Servian armies; both battles were participated in by the First and Second Servian armies.

"The second Servian Army had hard fights during its advance to Kotchana, Ishtip, and Veles, but the Turks did not engage important forces. From Veles the line of advance of this army seems to have been with the First Army towards Prilip and Monastir. Forces were sent some distance along the railroad towards Saloniki but the advance in this direction does not seem to have gone beyond Demipuri where a small action of some severity was fought.

"The Third Servian Army, whose first aim was the possession of Pristina, was at the beginning of operations delayed for many days because some thousands of Arnauts had forced back the Servian advance guards, had entered Servian territory and advanced as far as Kursumlje spreading great terror. During the remainder of the time this army found little opposition. Prizrend was occupied almost without a combat. A Servian column doubtless from this army was at Dibra on the 10th of November, and a few days later Durazzo was reported to be in the possession of the Servians.

"The Fourth Servian Army advanced into the Sanjak of Novibazar in two columns, one against Sjenica and the other against Novibazar. The latter column was forced back on the 22d, and could take Novibazar on the 23d only after hard assaults. On the 26th the Montenegrins also reached Sjenica and the desired communication of the two armies was realized.

MONTENEGRIN OPERATIONS.

"Montenegro began hostilities on October 9th, but none of her troops have reached more than a day's march from the frontier, except the troops at Sjenica.

"This small country is not prepared for or instructed for large operations, and it seems that the Montenegrins in stepping over their borders, had no other intention but the occupation of the Turkish places near the frontier, to take Scutari, Ipek and Djakova, and to join the Servian troops in the Sanjak of Novibazar.

"But even this intention they were unable to fulfill and they have never succeeded in taking Scutari.

"The Montenegrins succeeded only after long and bloody combats in reaching the Turkish places quite near the frontier; Berana, Gussinje, Plava, Tuzi and Bijelopolje. The occupation of Plevlije in the Sanjak and that of Rozay and Ipek cost but small losses while Sjenica was already occupied by the Servians when the Montenegrins arrived there October 26th. The reason why the Montenegrins could do so little and that with such difficulty in spite of their undoubted courage is that they had to fight against a great number of blockhouses and trenches, and although they had guns of position they could do nothing in this unaccustomed manner of combat. It must also be mentioned that the small Turkish garrisons in this theater of war who were isloated and few in number, have opposed in all the combats to the Montenegrins always superior in numbers, a very hard and heroic resistance. Quite especially in the defense of Scutari, which town the Montenegrins besieged for five weeks without success, the Turks have shown the most admirable courage."

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THE GREEK ARMY.

The Greek Army crossed the frontier on the 19th, the main column from Larissa to Turovo, Elassone-Kozani, Servia, Yenidje, Vardar, Saloniki, with one flank column crossing the frontier from Trikala to Diakata, occupying Grevena, Servia-Kozani, Saloniki; and a smaller column skirting the Gulf of Saloniki. A smaller column, 12,000 against 18,000 Turks, operated north from the Gulf of Arta in Epirus against the Turks in this section with their objective Janina. The configuration of the boundary is such that the Turks possessed in their territory all the mountain passes, and before the war began it was thought more probable that the Greeks would not be able to enter Turkish territory but that the Turks were more likely to invade Greece. The Greeks, however, were able to enter Elassona practically without opposition on the 19th. On the 22d they fought a severe action for the pass of Sarantsporu and their success was largely due to the advance on Servia of the column from Diskata. They occupied Servia the next day and reached Kozani on the 26th. From Kozani the Fifth Division was detached to advance towards Monastir to cover the left flank of the army in its further advance on Saloniki. This flanking force met a larger force of Turks near Florina and were forced back, but they took up a position near Eksisu and fulfilled their mission of securing the left flank of the army. The main army reached Ferria on the 29th and the next action was at Yenidje Vardar, where they fought a severe action on the 4th of November, defeating the Turks. The crossing of the Vardar was weakly contested on the 6th, and on that day and the 7th the Greeks crossed at the railroad bridge which the Turks neglected to destroy. Negotiations for the surrender of Saloniki were begun on the evening of the 7th and the Greek army occupied the city on the morning of the 9th. The Bulgarians from Seres reached Saloniki the same evening and the joint occupation of the city by the armies of the two allies was the cause of considerable friction and some ill feeling, because of the lack of consideration of their Bulgarian allies on the part of the Greeks.

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The Greek column in Epirus was successful in several minor actions until it reached the vicinity of Janina, which the Greeks have not succeeded in capturing to date. Janina, Scutari and Adrianople are the only places still held by the Turks.

The operations of the allies on the western theater of war show a certain coherence and connection in their direction, and this certainly had a great part in the successes won in so short a time.

The causes of the unexpectedly great success of the allies and the crushing defeat of the Turkish Armies have not been unknown in military circles.

Quiet and conscientious working upon all the problems involved carried on for so many years by Army Headquarters, fundamental preparations and equipment of the army for a war, extensive plans for the mobilization, well thought out plans of operations, good tactical leading and, finally the enthusiasm of all classes of the population for the war—these were the factors which led the Bulgarian and Servian armies to the victory.

On the Turkish side we find on the contrary oriental carelessness, neglect of war preparations, political quarrels among the officers, corruption among the authorities, many faults in the newly begun re-organization of the army which rendered negative the well known qualities of the Turkish soldier. The old, uninstructed but courageous officers were put away before a new and well instructed generation arrived; the spirit of the army was injured by the enrollment of the Christians, and the troops lacked all things necessary for life. How could an army which suffered want, which was badly equipped, which was composed of elements that had different ways of thinking, which was badly conducted, overcome superiority of forces by prodigies.

It seems that the Turkish Army Headquarters was greatly undeceived by the mobilization; the troops coming from Asia did not give the result hoped for. And if one takes into consideration that in Turkey in Europe of the whole population of six millions, there are only one and a half millions of Turks, it is surprising that with the disastrous indolence of the Turkish authorities, and the neglects in the Turkish army dislocation and disaster did not come earlier.

THE SIEGE OF ADRIANOPLE.

A rough tracing is attached showing the distribution of the troops that are investing Adrianople. The information is not official but is derived from officers who have been on the spot. The detail of the artillery in the various sectors is as follows:

I. Arda (left bank) to Maritza.

1 regiment of field artillery, Q. F.

1 group, heavy artillery, Krupp, firing black powder. *Positions*: Heavy artillery at Kuyunli. Field Artillery at Yurush.

II. Maritza to Tunia (right bank).

One group of Bulgarian artillery composed of:

2 batteries of 12 cm Krupp guns, not Q. F.

1 battery of 15 cm Krupp guns, not Q. F.

Servian artillery:

1 battery of 12 cm Krupp guns.

1 battery of 12 cm Krupp howitzers.

1 battery of 7.5 em Q. F., guns.

1 regiment of 8 batteries of 7.5 cm guns, Q. F.

Positions: Bulgarian group, Kemal. Servian group, Anirkeui.

III. Tunja (left bank) to Maritza.

1 battery of 12 cm Krupp guns, not Q. F.

3 batteries of howitzers, 2 of 12 cm and 1 of 15 cm.

1 regiment of 7.5 Schneider Q. F., field artillery.

1 regiment of 7.5 Krupp, not Q. F., field artillery.

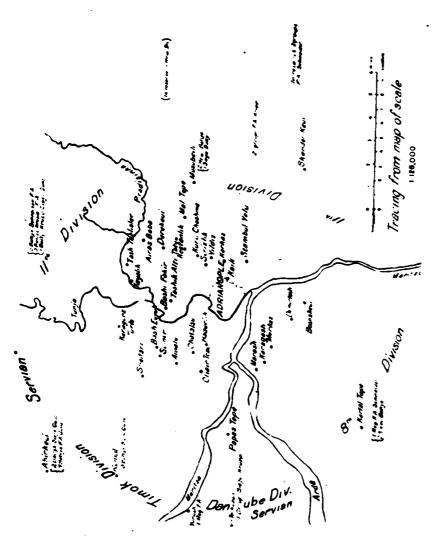
Positions: On right between Tunja and Pradisinka

3 batteries of Schneider Q. F., field artillery.

1 battery of 12 cm Krupp guns.

1 group of 3 batteries of Krupp field artillery.





DISPOSITION OF TROOPS ABOUT ADRAINOPLE.

In center, at Musubeili.

1 battery of 12 cm Krupp howitzers.

1 battery of 15 cm Krupp howitzers. One kilometer south of Musubeili.

1 battery of 12 cm Krupp guns. In reserve.

1 battery of 12 cm Krupp howitzers.

On left, between Musubeili and the road near Skender keui.

2 groups of Krupp field artillery. In reserve.

2 groups of Schneider Q. F., field artillery.

IV. Maritza to Arda (right bank).

1 regiment of Q. F., field artillery.

1 group of 2 batteries of 12 cm Krupp guns. (The third battery is at Musubeili).

Positions: At Kartal Tepe.

2. The successive events which led up to the present situation are as follows: On the 18th of October when war was declared, the Second Army, under General Ivanoff, was concentrated in the triangle Haskovo—Hermanli—Tirnovo-Semenli. It was composed of the Third, Ninth and Eighth Divisions and one brigade of the Second Division. It had, also a brigade of cavalry, composed of the Third and Sixth regiments.

3. The Brigade of the Second Division was on the right flank. It had an independent task and marched over the mountains to Kirjali. The rest of the Second Division was charged with the protection of Philippopolis. Later on it marched to Kavalla under General Kovatcheff.

4. The Second Army moved along the railway line towards Adrianople, and on the night of the 18th a portion of the Eighth Division under General Kiroff, slept at Mustapha Pasha. The Turks were taken by suprise and their plans of blowing up the bridge over the Maritza were frustrated. The explosion of the charge that they had prepared only inflicted slight damage.

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5. On the 19th of October, the Eighth Division defeated the Turks at Chermen, on the 22d at Hadikeui, and on the 23d at Yurush. In the latter fight the guns of the fortress were able to take part. After the fight at Yurush the Turks retired in great confusion into Adrianople, and General Ivanoff considered that he could then take the fortress, but he was not allowed to make the attempt. The Third and Ninth Divisions appear to have been in rear and to have taken no part in the above operations.

6. On the 23d of October the Cavalry Brigade crossed the Arda and got into touch with the enemy between the right bank of that river and the Maritza. The following day the investment of the fortress commenced and engagements were frequent. These were not sorties but encounters with the Turkish advanced posts, particularly at Kemal and Musubeili, and attempts to drive the enemy back in rear of the line of forts.

7. The Eighth Division occupied the sector between the left bank of the Arda and the Maritza, the Ninth Division between the Maritza and the right bank of the Tunja. the Third Division between the left bank of the Tunja and the Maritza and the Cavalry remained between the Maritza and the right bank of the Arda. I believe that it took more than one month from the 24th of October, to completely invest the fortress. The last portion to be closed was that which lies southeast of the town, between the left bank of the Maritza and the road to Loule-Bourgas.

8. Towards the end of October the Third Division left to join the Third Army. They did not take part in the battle at Bunar-Hissar, so probably they did not leave Adrianople before the 30th.

9. Cn the 27th of October the Eleventh Division was formed out of one Brigade of the Ninth Division and two brigades of Oplchenie troops, who were then arriving from Bulgaria to take place of younger men in the investing line. The Eleventh Division replaced the Ninth Division, which crossed the Tunja and took the place of the Third. On the 2d of November the Servian Timok Division of three regiments arrived from Kustendil and took over the positions of the Eleventh Division, which crossed the Tunja and relieved the Ninth Division. The Ninth Division, less one brigade (Granscharoff's), given to Eleventh Disision, then left to join the Third Army.

10. On the 11th and 12th of November the Servian Danube Division replaced the Eighth Division, which took the place of the Cavalry Brigade between the Arda, right bank, and the Maritza. The Third and Sixth regiments of Cavalry, which formed this cavalry brigade, were placed under the orders of General Taneff. They took part in the operations which culminated in the capture of Yanvor Pasha and 12,000 men northeast of Dede-Aghatch on the 27th of November.

11. The defense of Adrianople has not been a passive one and the Turks have made many sorties.

12. It does not appear that the Bulgarians have ever made a serious attack on any of the permanent works of the fortress. The artillery of the allies is too weak and is kept at too great a distance to make any impression on the forts. It has been able to bring fire to bear on the town from the north, but only at long range.

13. Two outlying works have been taken—"Papas Tepe," to the west of Marash, between the left bank of the Arda and the Maritza, and "Kartal Tepe," between the right bank of the Arda and the Maritza. The former was found to be untenable, and has been evacuated by both belligerents, but Kartal Tepe remains in the hands of the Bulgarians.

14. The object of attacking these works was to seize points from which the town could be bombarded. From Kartal Tepe, however, this cannot be done, although shells can be thrown into Karagatch, the outlying suburb, in which the railroad station is situated.

15. Bulgarian officers have always said that Adrianople might fall at any time, owing to want of provisions. I have, however, recently heard from a fairly reliable source that there were three and one-half months' supplies in the town

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at the commencement of the siege. An officer of the Bavarian General Staff, who has been attached to the headquarters of the besieging Army since the 1st of November, tells me that he thinks the place could be taken at a heavy cost. The investing force is chiefly composed of Servian troops, and Bulgarian second-line troops, and in order to make a serious attack, they would have to be reinforced.

16. The Bulgarian line of communications around the south of the fortress is about forty miles long and is by motor cars and trucks along a metalled road from Dimotika, via Ortakeui to Semenli. From Semenli there is a bad road to Hadikeui and Karagatch stations. This road traverses a lot of marshy ground and is corduroyed at intervals for about five kilometers. It is not open to motor traffic. There are pontoon bridges over the Arda at Semenli (125 yards) and over the Maritza at Hadikeui. There is also a trestle bridge over the Maritza at Chermen.

BULGARIAN OPERATIONS ENDING WITH BATTLE OF TCHATALDJA NOVEMBER 17 AND 18, 1912.

The Bulgarian forces crossed the frontier upon declaration of war in three main armies. The Second Army on Adrianople, the Third Army on Kirk-Killesse and the First Army between the Second and Third Armies.

The Second Army was successful in all its minor operations and began the investment of Adrianople on October 24th. The Third Army fought the decisive actions for the possession of Kirk-Killisse at Petra and Celiolou on October 23d and as a result of the Turkish defeat the Turks abandoned Kirk-Killisse without any defense of the latter place.

The Bulgarians have given out practically no information about the actions at Celiolou and Petra.

Le Journal of Paris, of December 25th, publishes an account of these actions given by Ludovic Naudeau. This account is of special interest because it gives what might be termed a Turkish estimate of the situation and shows how the Turks were deceived in regard to the military situation and supposed Bulgarian plans of operation.

The article is as follows:

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Translation from "Le Journal" Paris, 25th, Dec. 1912. Battles of which one never heard.

At the beginning of the war against the Turks while all the newspapers of Europe received a profusion of details on all operations of secondary order (and even for some of them the adjective is too strong) events of immense importance took place in secret; the world knew nothing of them, it knows nothing of them now, it knows only their results.

All military men have known for some time that the disasters of the Ottomans and their precipitate retreat toward Constantinople had as original cause the abandoment of Kirk-Killisse (Lozengrad) which the Bulgarians entered as conquerors on October 25th.

The capture of Lozengrad (Kirk-Killisse) (for the two names apply to the same town) was the decisive event of the Balkan war. So far nothing has been said about the causes which led to the fall of that place. Since Adrianople still resists the efforts of the assailants, how does it happen that the other fortress Kirk-Killisse, was conquered during the first hours of the war. It is time to say, there was no siege of Lozengrad, no battle of Lozengrad. The Bulgarians did not take the place by assault; they entered it only because the Turks saw fit to leave it. But thanks to what machiavelism and how did the Bulgarians succeed in getting their antagonists out of their entrenchments? That is what I shall explain. The fall of Lozengrad-Kirk-Killisse was the con--equence of two great battles of which nothing had been said, the battle of Petra and that of Celiolou. But above all it was the consequence of an extraordinary stratagem of war.

It was well known from the beginning of mobilization the principal Bulgarian forces were composed of three armies. In addition the Bulgarian Great General Staff, by all sorts of colorable declarations, by apparent precaution, by secret orders which were nevertheless allowed to leak out and which reached some foreign officers, strengthened the assumption that at the beginning of the war all maneuvers would be pivoted upon Adrianople. General Savoff, commander-in-chief, stated in public that he would sacrifice 50,000 men in the Japanese

fashion to immediately gain possession of that strong place. And this statement was plausible for Adrianople commands the railroad and the road to Constantinople.

When war was declared the Bulgarian plan seemed so evident that many foreign journalists were not at all surprised when the censors with infinite kindness let them publish it in advance. Besides this the orders given to the three armies did not permit any hesitation on the part of a man competent to form an opinion. The 1st and 2d armies were to invest Adrianople while the 3d, to the west of the place, was to move first from north to south, then, having seized the railroad, was to take a resolute offensive toward the east, that is to say toward the principal army of the enemy. This was the famous Bulgarian plan.

All the officers of the Third Army received orders conforming with what I have just stated; all of them thought they were to be sent in the direction of Mustafa-Pasha and for a long time after their departure their families thought they were operating in that direction. But while the Third army thus began its movement toward the bridge of Mustafa-Pasha the higher officers of the General Staff were seceretly carrying out an extraordinary plan. By its orders in all Eastern Bulgaria all postal and telegraphic communication was suspended, all suspicious individuals were arrested, even the roads were guarded; all the civil population was kept away from the railroads and the newspapers limited their publication to official communications (this is the time when the foreign correspondents were parked in a safe place). The most influental politicians, even former heads of the cabinet, were kept in ignorance of what was being prepared for. Suddenly the Third army, without leaving Bulgaria, made a sudden about face move, no longer south but straight east and was concentrated upon Jamboli, that is in the southeast corner of the kingdom. A great part of its artillery had already, seceretly, long before the declaration of war. been moved into that district. Then the Third army moved forward still southeast through the very rough and theoretically impracticable country which forms the frontier of Turkey north of Lozengrad-Kirk-Killisse.

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When hostilities began the Bulgarians after capture of Musta-Pasha ordered only their Second army (Gen. Ivanoff) to proceed to invest Adrianople. Their First army (Gen. Koutincheff) moved almost immediately from north to south by the valley of the Toundja and appeared between Adrianople and Lozengrad. As for the Third army (Gen. Ratchko Dimitrieff) we have just seen where it was hidden.

There was a Turkish army corps in Adrianople (Gen. Shukri Pasha) and another in Lozengrad (Gen. Mahmud Mukhtar Pasha), and in addition an army under General Abdullah Pasha and composed of the best corps, those of Constantinople and Rodosto, was moving from south to north toward the line Adrianople—Kirk-Killisse.

There was undoubtedly communication between Abdullah and Mahmud Mukhtar. The latter toward October 20th, reported that there was a Bulgarian force at Petra, a place about seventy-seven miles to the northwest. The two Turkish generals thought it was the left of the army charged with the duty of investing Adrianople. It was decided that Mahmud should attack it and that Abdullah moving to the rescue should execute a great enveloping movement.

But suddenly two utterly unexpected things happened: 1. Abdullah who was moving from the south at Celiolou a village midway between Adrianople and Lozengrad) was furiously attacked by the advance guard of Koutincheff First army). 2. Mahmud Mukhtar who had moved toward Petra to attack the Bulgarian force of which I have spoken found there not a wing of the First army but the advance guard of the third. That army was emerging with a furious onslaught from the mountains which had concealed its presence and was advancing like a cyclone.

The Third Army. Up to that fatal moment the Turkish generals had been persuaded that the Third Bulgarian army was moving in a district some seventy miles from Lozengrad and was painfully trying to cross the Maritza to the southwest of Adrianople.

The Turks were convinced that a real army would have found it impossible to cross the mountains which form the Turkish-Bulgarian frontier north of Lozengrad; the opinion

had become a classic. No one discussed it. Their security on the northern frontier was complete. The north simply could not conceal any danger; it was an empty zone and in a sense neutralized. With a light heart Mahmud Mukhtar had ordered the greater part of his army out of Lozengrad. Mahmud Mukhtar and Abdullah had every reason to expect that they would be able to close in a triangle that Bulgarian army with which they had just come in contact and force it back on the forts of Adrianople. It was for this reason that Mahmud, after he had obtained contact many times, ordered on October 23d, with great cleverness a night attack on the Bulgarians at Petra.

Things went badly. The whole army of Ratchko Dimitrieff which had just made an enormous physical effort to cross the foothills of the Istrandja Dagh, all the Third army was about to emerge eager for glory, for vengeance and for carnage. The Ottomans had hardly begun their movement when they were themselves swept by shrapnel, counter attacked, beaten, swept back and pursued with bayonets at their backs. Two Turkish divisions in panic, throwing away their arms, abandoning their guns, fled in disorder pursued by the Bulgarians who struck without pity giving their terrible hurrahs. Already in the railroad station of Kirk-Killisse bands of fugitives were seizing the engines, and, without any authority, were making up trains which left at full speed. The roads were covered with lost men who were no longer soldiers.

At dawn on the 24th, the situation of Mahmud Mukhtar was already desperate, his troops were scattered, and the Bulgarian army, the third army, was coming out of all the valleys at the same time occupying the crests and to the east its columns were moving upon the town. It was then that the commander in Lozengrad heard of the disaster at Celiolou.

Ah, if Abdullah as a conqueror had been able at that tragic instant to appear at the head of his army what hope would have still remained. But Abdullah was himself in flight. His troops had just been cut to pieces at Celiolou by Koutincheff as the corps which left Lozengrad had been by Ratchko Dimitrieff.

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At the beginning, at Celilou, a Bulgarian advance guard still separated from the rest of the first army had rashly engaged and had been almost annihilated, but soon the Bulgarian shrapnel began to burst and the furious bravery of the Slav soldiers rushing forward in a bayonet charge had routed the Ottomans. All was lost. The corps of Mahmud and the army of Abdullah were no longer anything but a bloody and panting crowd, a crowd of unfortunates who now thought only of saving their lives. The commander of the city had no means of defending himself. He was without troops. His army which had set forth gaily had not returned because the Bulgarians had driven, pushed, and forced his men before them. If Mahmud Mukhtar wanted to avoid falling into the hands of the enemy he had to flee. And this is what he did, abandoning all his baggage, all his paperseverything.

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At the headquarters of the First Bulgarian army there was general stupefaction when they heard that the Third army had just entered Lozcngrad—Kirk-Killisse. Victory had been expected, but not so promptly. How could a place defended by two great forts (which I have seen), by batteries and entrenchments, have been carried so rapidly. It had been because its commander had wanted to "maneuver" and because he had sent his army to be destroyed in the open field by one of whose proximity he was ignorant.

This explains in general lines the fall of Lozengrad— Kirk-Killisse. How does it happen nothing was known of it before? For one reason: a conquered army is usually not anxious to tell the details of its defeats. And another reason is that the Bulgarians, as I have seen many times, have desired to keep the methods of their preparation for this magnificent result hidden. Their official bulletins said nothing of the battles of Petra and Celiolou where, however, Bulgarian brood flowed in torrents. Bulgarian officers have often spoken before me of "the capture of Kirk-Killisse" as if that fortress had really been taken by assault. It is the nature of the Bulgarians to always dissimulate, and besides as they had to continue the siege of Adrianople they perhaps thought it to their advantage to not tell the complete truth

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immediately concerning this memorable event. It seems extraordinary but on my return from Tchataldja I dined at Kadikeuy before Adrianople with some officers of the Servian divisions which was taking part in the blockade of the place. Now on December 10th, my amiable hosts did not know the names of Celiolou and Petra and the story I told them of what happened there was news to them.

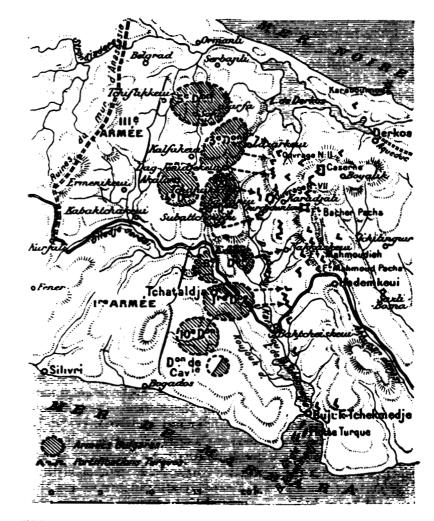
However this may be, it was owing to the absolute secrecy kept in Bulgaria about the concentration of the third army that the force of Mahmud Mukhtar was drawn into the open field and dispersed. Thanks to this secrecy the Bulgarians succeeded in seizing at the beginning of the campaign a fortified city which, though not as large as Adrianople, might, if rationally defended, have interfered with their offensive for a long time and cost them great sacrifices.

After Petra and after Celiolou the First and Third Bulgarian armies united and marched south toward Loule-Burgas.

While the second army continued the investment of Adrianople the third and first armies advanced and fought the battle of Karaguch, or Loule-Bourgas on the last days of October. Defeated in this battle the Turks withdrew behind the defensive lines of Tchataldja. No attempt was made to delay the advance of the Bulgarian troops and the first of the latter reached these lines on November 7th and 8th. But it was ten days later before their armies were up in force and they were able to deliver a serious attack on the Turkish defenses.

Up to this time the Bulgarians had been successful in every action and all accounts go to show that they entered upon these later attacks with great gayety of spirits in the belief that the lines were weak, the Turks demoralized and that the task of carrying the lines and marching on Constantinople would be an easy matter.

Just before the Bulgarians made their attacks on the Tchataldja lines all the writers, newspaper and military men, who had the best information bearing on the Turkish army were of the opinion that Turkish resistance would be in-



KETCH OF THE BATTLEFIELD OF TCHATALDJA. NOVEMBER 17, 18, 19, 1912.

effective, and that the Bulgarians would be able to continue their advance on Constantinople.

But the Bulgarians failed in their attacks on the Tchataldja lines and right after their failure signed the armistice.

The best account of the battle is by Alain de Penennrun published in L'Illustration. The first part of his letter gives the position of the Bulgarian Divisions as shown in the sketch. (Tchataldja lines). The third army is along the northern section and the first army along the southern section. Erminkieu is headquarters of third army.

The 5th Division is in reserve on the left rear, the 3d Division on left of line. 9th Division on right of 3d, and 4th Division in reserve behind the 9th and 3d. The battle took place in front of the 3d and 9th Divisions as no serious effort was made in the southern section by the 1st army. The marshy valley of the Katarchi and the lagoon of Tchekmedie Gulf renders attack on this part of the line the least practicable. The most practicable section is at the water shed between the streams falling into the Black Sea and the Sea of Marmosa and in the sketch this place is opposite to the 3d Division. On this section the heights on the Bulgarian side are about 100 meters higher than the Turkish heights and defenses. Alain de Penennrun describes the splendid view from a point on these heights as seen by him on November 14th, three days before the battle. The Turkish works, camps and movements of troops were spread out before him like a map. Men could be seen digging trenches, tents of large camps were plainly visible and numerous bodies of troops on the extreme plains in rear of the works. These troops were moving and in various directions and were evidently being drilled and instructed.

This part of his letter is omitted and the following extract begins with the first day's battle, on November 17th:

The day is at hand: Yesterday after dinner we got the order to be ready this morning at half-past seven; and at the hour named we are all equipped and in saddle behind General Dimitrief, who, with his staff, reaches the post of command he has selected. It is exactly the same point to the east of Akalan which I visited two days ago.

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I learn on the way that the entire artillery, the objectives of which were carefully determined the night before, should have begun the engagement at daybreak, but that, for various reasons, this was impossible. Meantime, while we are passing Akalan and regaining the other side of the slopes, some isolated cannon shots are fired; and then, as if it were a signal, other shots reply to the first from all directions. The noise spreads, surging wavelike from the north to the center, filling the air with a booming, which, at last, resolves itself into a continuous rolling as of a hundred thunder claps at once.

Arriving on the ridge. I try to make out some order in the tableau spread out before me, but at first I see nothing but a veritable ocean of bluish smoke, somewhat similar to vapors rising from a pond, which marks the mingled bursting points of the Turkish and Bulgarian shrapnel. However, little by little. I make out some of the buttresses which underlie the trenches and works of the enemy, like a continuous semi-circle of smoke, constantly renewed by the explosion of shell after shell. I discover that these circles represent as many fronts of attack of different Bulgarian units, and count five different subdivisions, which are apparently five zones of attack, all side by side. My surmise is thus confirmed: The Bulgarians, enclosed right and left by the sea, cannot contemplate outflanking the enemy. Their proper course is to attack the whole front with equal force and when some weakness, some gap or other, eventuates in the enemy's line, to such thither their reserves, enlarge the breach and push on to Constantinople.

I follow with interest the progressive march of the shrapnel, especially visible towards our right, from the side of the first army. It seems that over there they are attacking with vigor, for the intensity of the cannonading clearly increases towards the south, and in the valley of the Kara-Sou, as well as to the west of Hademkeui, the line of white becomes more dense.

All of us have our field-glasses fixed upon the right, absorbed in the contemplation of this slowly progressing sheet of flame and smoke, when over all the turmoil a mightier

roaring of a greater sonorousness surges in great waves from the valley below. It comes from the sea, or rather from the Bay of Tchekmedje, where a dense black smoke discloses the presence of warships. I am not able with the spy-glass to perceive but one of them, a large crusier, or perhaps a small armored vessel. Whatever it may be, this vessel is equipped with powerful artillery, for since its arrival the formidable and continuous rolling of its broadside dominates the more modest concert of the field pieces. I cannot tell what influence this fire has had on the march of the first army, but always from this moment the combat of this side seems to me to decrease, whereas it is carried on with unbated vigor opposite me and further to the north towards the left.

Directly before us, rise a series of works and trenches facing the village of Tchanaktcha, which is occupied by the Bulgarians, who, crouching in the ravines and the smaller recesses descending from the heights of Akalan, where we are stationed, make an effort to progress; some fractions of infantry succeed in getting a foothold on the left bank of the Katarchi. But the movement is soon arrested, and within the range of my field-glass I can distinctly see the Bulgarian soldiers in the middle of a terrain of ochre-like yellow, where a perfect hail of shells is plowing the ground on all sides. In the interval of two cannon shots, a sound of musketry comes from the valley, and mingling with it the characteristic cracking of the machine guns. Not only does the Bulgarian infantry not progress further, but it seems to me indeed that the units, especially some of the sections scattered over the yellow field, are not receiving any reenforcement, that they have been abandoned in their lamentable situation. It is apparent that the Bulgarians do not desire to continue the engagement here and that the bulk of the divisions, carefully sheltered from the hurly-burly of the fight, are pushing to the front only certain portions to establish contact

In the meantime, the Bulgarian artillery, which is relatively near us, opposes that of the Turks and endeavors, but in vain, to prevent the latter from annihilating the daring infantrymen. On the Bulgarian side, there are two entire groups of six batteries and, a little farther, all the heavy

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groups of the 120 mm. installed on the brows of the hills to the west of Kastania. The Turkish artillery, visible only by its flashes of fire, seems masked by the variations of the ground to the west of Karadjali. It fires without ceasing partly on the infantry, partly on the artillery of the Ninth division about Kastania. Soon this last village is the prey of the flames; a thick smoke rises almost vertically to the gray heavens which are made yet more somber by the never-ceasing rain. In vain the heavy group attacks the artillery and evenfires on it with explosive shells. When the black smoke of the melinite is dissipated, the brilliant flashes of the Turkish batteries reappear, scarcely interrupted, and the shrapnel again plunges into the valley. At length, everything in this corner gradually dies down; the firing is renewed only at intervals and as if unwillingly.

At this time, about two in the afternoon, interest is centered elsewhere,-to the north, on the outskirts of the village of Lazarkeui. I had already figured it out that it was from this side that the great attempt must be made, for everywhere else access to the enemy's position is difficult because of the swampy course of the Katarchi. Here, quite on the contrary, at the point of separation of the waters flowing to the Black Sea and the Sea of Marmosa, the progression is easy and is further facilitated by the short, valley-like depressions covered with brush. It is there of all places that we expect the Bulgarian forces to attack. A long chain of infantry coming out of the village of Lazarkeui, which has been occupied since nine in the morning, advances by small squads and takes as objective point the large fortified elevation about three kilometers to the southeast. This eminence is crowned by a barracks, which is sorrounded by the vast maneuvers field, where two days ago I witnessed the Turkish exercises. On the occupation of this point, it seems to me will depend the issue of the struggle; for the assailant, being master of the variation of terrain, may from there take in reverse and enfilade the whole of the lines of Tchataldia, which it completely dominates.

In the meantime, the Ottoman troops are not caught unawares, for a series of flashes illumines the gray sky every-

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where in the vicinity of the barracks, and the shrapnel rains in the valley from Lazarkeui eastward. There again the Bulgarian infantry is arrested, although their artillery strives to locate the exact emplacement of the enemy's batteries of the barracks and to arrest their fire, but without success.

Soon the night comes on. It is five o'clock. The first day of the Battle of Tchataldia is finished. The Bulgarian infantry has gone forward, pushing small portions to the front and holding its masses in shelter at the rear. Almost everywhere, meantime, the chains of skirmishers have reached the foot of the eastern slopes, where they are entrenched within some hundreds of meters of the Turkish trenches The artillery, which has seemed to me to give but timid support to the infantry, and which effected not a single one of those redoubtable fires known as "tirs d'efficacite" (fire after the range has been found), made possible by the modern rapid fire gun, has long since ceased, satisfied no doubt with having forced the enemy's artillery to uncover its batteries. To summarize, this first day has not impressed me as an aggressive offensive (offensive mordante), such as that which hitherto seems to have marked the Bulgarian tactics, but rather is one reminded of a series of pin pricks made with the purpose of aggravating the enemy and of feeling for his weak point so as to renew the combat with better chance of success the succeeding day.

. I allow myself but one word of criticism; it is that this method of procedure does not appear to me to be without its faults, and the most serious of them is, in my opinion, that it leads the assailant to engage in a combat which makes no claim to being such, although it is desired to bring results. But the only result to be aimed at is the annihilation of the enemy; the only means to employ is to strike with full force at the front, whatever the opposing strength, until he demands quarter. The other way is nothing more than a sort of byplay, expensive in men and ammunition and unable to ensure a decisive solution.

As I think it all over, I turn for a last look before descending upon Akalan and Ermenikeui, and in front in the yellowish field where the Bulgarians foot-soldiers are imprisoned, I see two men running then fall; while over yonder a horseman rolls with his mount in a cloud of dust and smoke, never again to rise; and in the distance the shrapnel continues to stud with brilliant flashes a sky ever grayer and more depressing.

THE SECOND DAY.

When leaving for the front this morning. I learn that the Bulgarians have succeeded in taking by night attack three forts at the left of the enemy's line and, of special significance, the fort called "Fort No. 7." This one is situated almost across from the post of General Dimitrief and is the one which I discerned so clearly yesterday beyond the famous yellow field where the soldiers were buried under such a terrible artillery fire. Here, after all, I said to myself turning towards Akalan, is an infantry which has aggressiveness du mordant), that aggressiveness the absence of which, intentional perhaps yesterday, had filled me with such pessimism.

Going forward. I meet a long column of wounded coming from the front, two and three at a time; they get along with great difficulty, some supporting themselves on a stick or rifle, some on the shoulder of a comrade less severely smitten. They are not complaining, but their febrile looks and drawn features betray their suffering. Some of them drop and can go no farther. One of them has died on the way, for he lies prostrate and motionless, eyes wide open and head turned towards the sky. Nearly all of them wear caps with violet bands, the shoulder straps of the same color being marked with the letter B, which is the Russian V. It is the 17th regiment of the Grand Duke Vladimir of Russia. I come across more than three hundred of them, a sad and unfortunate cortege, their desolation a heartbreaking evidence of the misery and bereavement that follow the battlefield.

It is raining incessantly, and the mist is so thick that it is difficult to see a hundred meters. And all the time, the cannon roars; it has scarcely stopped the whole night, they tell me. But I cannot help wondering how the gunners could effectively use their projectiles, whatever the exactitude of the fire, which at nightfall yesterday seemed to be more

than approximate. Lost in the depths of the cloud which folds its impenetrable curtain about me, I hearken to the thousand sounds from the valley. Not only is the cannon booming, but over all can be heard a violent and increasing musketry fusilade. What can it all be? Despearte at being able to see nothing, I slip away from headquarters and proceed haphazard in the fog at least to make an effort to observe something. I wander for a long time completely lost, sometimes near and sometimes distant from the echoes of battle and after a while a new column of wounded appears on the path I am following at the base of a "thalweg," and these latter present as melancholy an appearance as the first. These men belong to the regiment of Prince Boris and wear caps with yellow bands. I hurriedly consult my note-book, where I have written down the battle order of the Bulgarian divisions, and I find that this regiment, the fourth, forms with the 17th a brigade in the ninth division. But it is this division, they tell me, that attacked and captured Fort No. 7. But, seeing the firing redoubled and distinctly coming nearer to me, and watching these men who apparently had just emerged from the turmoil of battle, I begin to doubt the affirmations of Bulgarian success.

The rain now lets up and the clouds clear away. I return to the post of command, where the view is clearer and more extensive, and the first thing that strikes me is the persistence of the Turkish shrapnel in tearing up the ground between Fort No. 7, and the heights which separate us from it. Then the swarms of bursting shells clear these crests and in regular progression cover the ground beyond, descending into the little run (thalweg) where I had been just now, and climbing towards us. I must admit that there was some agitation around us. Serenity did not, at this moment, appear to me to be the dominant quality of the staff of the Third army. An ambulance stationed in a small depression in front of us received a couple of shrapnel, which threw its personnel into alarm. At the same time, a number of men of the Fourth regiment, all of them more or less wounded, passed on our flank and made their way behind. Exceedingly curious to know the cause of these different

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movements. I betake myself to one of the staff officers who has always been very obliging in giving me information, and this is what I learn. The first brigade of the Ninth division had been given the day before as objective of attack Fort No. 7, which is on a hill to the east of Tchanaktcha. Upon its debouch from beyond Katarchi, it was compelled to stop, sharply checked in its advance by a terrible fire of artillery and infantry combined. It was there that I saw it yesterday, huddled in the great yellow field at the mercy of the shells. In the evening, about 10:30, it went to the attack and succeeded at fearful cost in entering the fortress and the neighboring trenches. Towards 2:30 in the morning, a first Turkish counter-attack endeavors to drive out the valiant Bulgarian regiments. The Turks are not successful in their attempt, but they remain until daybreak within about fifty meters of their opponents. At that time, the fog did not permit them to push further and they confined themselves on both sides to exchanging fire at close range. It was this lively fusillade that I heard just now in the mist.

When the fog lifts, the Fourth regiment suddenly finds itself in the following position, which it had unconsciously taken in the thick of the dense cloud that surrounded it, it is in front of the Turkish infantry and, furthermore, has on its left an entirely exposed valley which permits an unhampered oblique fire from the hostile artillery. This unfortunate regiment had already lost a part of its officers; the head of it, Colonel Kinakof, whose hand I had shaken two days before, is killed as I write; the men retreat in disorder and many of them remain upon the field. A part of the 17th is dragged along in this flight. The Turkish shells pursue them, go beyond the crest extending in front of us, cover the ambulance wagons which were in the shelter of a ravine with their splinters and encroach upon the slopes up to our station. It is evidently a critical time. But a brigade of the Fourth division, until then held in reserve, is immediately thrown in front and again establishes the equilibrium, pressing afresh upon fortification number seven. From that time, the battle goes on haltingly and indecisively, as slowly as yesterday; and the rain again spreads its gray veil over

objects and men, while the incessant flashes of the Bulgarian and Turkish pieces continue to punctuate the gloom with their luminous discharge. I leave the post of command without a great deal of regret but henceforth skeptical as to the substantiality of Bulgarian success and with the impression that, for this time at least, the Turks hold their own and hold it well.

A long conversation with Colonel Jostof during the repast at Ermenikeui leaves me with an even accentuated feeling of pessimism. Colonel Jostof, speaking to the four representatives of the French press, officially confirms the repulse of the regiment of Prince Boris. He then informs us of a fact we have long suspected and have even been able to report authentically but which the censorship had always prevented us from stating in our letters. I now inform you of it, trusting to a special and uncensored delivery. The dysentory is progressing with frightful rapidity, weakening the effective of the Bulgarian army and reducing it to an enormous extent. "So what are we to do?" asks the chief of staff of the Third Army inconclusively. He adds that, in all probability, the attack will be suspended tomorrow. which statement struck me as so surprising that I ventured to make him repeat it. It appears that the action will not be resumed for some days.

THE THIRD DAY: THE BULGARIAN OFFENSIVE BROKEN.

The cannon continues to boom in the distance, with such insistence, indeed, that I begin to think that, in spite of what the chief of staff told us yesterday, the battle is being carried on more energetically, that the endeavor must be more decisive. I am consumed with impatience at not being able to take my horse and get down there; but it is impossible to stir; we are under surveillance or practically so. The cannonade swells in the distance; we can also distinguish the duller but more prolonged shots of the men-of-war dominating the dry detonations of the field pieces. I master my impatience when to my great amazement I see General Dimitrief pass before the staff bureaux, and I believed him long since at the post of command. Had they by chance told

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us the truth yesterday, and was this cannonade, despite its violence, only a make-believe, a kind of stratgeic fire across from the Turkish lines to keep the Ottoman troops continually on the qui vive, under the constant menace of an attack, so as to enable the Bulgarian soldiers to strengthen their dearly bought positions. Am I right? But how find out when one is held a prisioner. Meantime, all around headquarters, the wounded gathered from the front are arriving. They belong to the Third division which yesterday looked out on the northern forts. I manage with their aid to reconstruct what has taken place; and, having also talked with the chief of staff. I am able to give you the following version, which appears to me the most probable one:

The Third division had for objectives of attack the villages of Lazarkeui and Dag-Jenidjekeui, as well as the forts situated to the eastward. During the day of the 17th, the Bulgarian infantry progressed with comparative ease to said villages, which were taken at 10 a.m., but they had much difficulty debouching therefrom under a rather strong artillerv fire. All this part of the fight, however, I had observed day before yesterday and have told you of it above. I was indeed astonished to see this infantry take its place on the ground so quickly, opposite an edge of woods beyond which the zigzag of Turkish trenches could be seen. Yesterday I was even more surprised to see these troops at exactly the same spot, although the battle had then been in progress thirty hours, when they had announced to us with much gusto in the morning the capture of the enemy's forts in this zone, particularly of Fort No. 2, which is at the end (debouche) of Lazarkeui. But this is what had happened. Like the Ninth division at the right, the Third had attempted some attacks at night and again at daybreak, in the midst of the fog; and had gained possession of the trenches in the middle of wood. A battalion of the twenty-ninth had even penetrated into Fort No. 2, an infantry work surrounded by wire. A bayonet fight then ensued between the two Turkish companies occupying it and this battalion. But because of insufficient support, and I cannot understand why this should have been the case, this battalion after a

time found itself without ammunition. At this juncture, threatened with a strong Turkish counter-attack, it was obliged to retreat at precisely the moment the fog cleared away. There was a blunder,—and on the whole a natural one,—on the part of the Bulgarian gunners, who fired upon their own retreating infantry. I was not explicitly informed of this fact, but the deduction was not difficult. This was followed by some confusion in the Third division, which reoccupied its position of the previous day, and I discovered it once more in the same place, as if it had never stirred.

But this setback coincided with that of Prince Boris' regiment in the center. The losses were terrible: I was told by one of the wounded that certain companies had lost all their officers, non-commissioned officers and nearly the whole of their effective. They told me of a company of the twenty-ninth which was reduced to thirteen men. So it is easy enough to understand the hesitation on the part of the authorities, who, seemingly assured the day before the fight of a mediocre resistance on the part of the Turks, found themselves face to face with a repetition of Plevna.

THE BULGARIAN REPULSE

This last attempt, over which they had almost made merry two days ago, so easy did it seem in comparison with the tremendous engagements of Kirk-Killisse and Bounar-Hissar, was such as to cripple the offensive strength of two armies until then victorious and to leave the Bulgarians panting, breathless, spent. And yet I still maintain that this repulse could have been,-indeed, should have been,avoided. At no time during the battle of Tchataldja did I see one attack,-a genuine attack preceded by a concentration of artillery fire and followed by a steady pressure of infantry. And why? Because, leaving out of the question of sickness, epidemic and the menace of cholera, from all of which the Turks were undoubtedly the worse'sufferers, the Bulgarians have lost the "punch," the elan which up to this time has made them victorious. These men are played out. The impulse which had urged them on to Tchataldja might at a pinch have enabled them to reach Constantinople, on

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condition that no barrier was interposed; but the Turks, constantly re-enforced by fresh contingents from the hinterland of Asia, seem to recover themselves in the face of the grave danger that threatens Islam. Yesterday not only did they hold their own (fait front), but they drove the Bulgarian regiments from the positions they had captured, and this performance in itself showed their true strength,—the veto which closes the gate of Stamboul to the exhausted Slavs.

* * *

The Bulgarians have lost the Battle of Tchataldja.

The Turkish accounts of these actions are unsatisfactory and do not well agree with the foregoing.

There is one short account of the Turkish counterattacks after the successful Bulgarian night attack that is interesting. I will read it as follows:

"According to a Turkish officer who was present at these attacks on what have been referred to as Forts 2 and 7, these were infantry redoubts or else trenches manned by Redifs. During the night the Bulgarians took them by a bayonet attack without alarming the Turks on the second line. Very early in the morning of November 18th, the major of the battalion garrisoning the next work thought he saw more men in that trench than had been there the night before. He thought that the position had been reinforced during the night, but as there was a thick mist he was not sure even of the increase in number and rode forward to find out. He was accompanied by two adjutants. One of them fell from his saddle, but the firing was becoming general and the major attributed it to a chance shot. The fact that the trenches were occupied by the enemy did not enter his head. He rode on until he heard men speaking Bulgarian. At the same time he was wounded too. He and his adjutant immediately galloped back to give the alarm. At once all the guns that could be brought to bear were turned upon these trenches and the ground back of them; this soon included the warships off Derkos. After sufficient artillery preparation the Bulgarians

were attacked and driven out with heavy losses on both sides, one Turkish battalion losing fifty per cent. The men who took part in this action saw a massed Bulgarian force ready to advance over the trenches and through the Turkish lines. If the major had not been of an inquiring turn of mind and had not gone forward the Turkish line would have been pierced and it is not in the least improbable that this officer saved Constantinople."

Some additional information is on hand in regard to the Bulgarian supply lines.

The Second Army of course depends on the railroad. As the latter runs through Adrianople a line of supply has been organized around the town for the troops sent forward. This line leaves the railroad at Kadikioj, runs south to the Arda River which it crosses at Semenli, follows up the Arda and crosses the hills to Ortakeui thence by a good road to Demotika. Motor trucks and automobiles are used on this latter sector. Carts drawn by bullocks are used between Ortakeui and the railroad. Much of the section was a bad road but it has been corduroyed in the marshy sections in the valleys. It will be noted that the loop around Adrianople is about forty miles long. Mountains south of the Arda make a short route impossible.

The First and Third armies were and still are largely based on Jamboli. The line from Jamboli to Kizil Azac is operated by motor trucks. From Kizil Azac to Kirk-Killisse by bull or carabao carts. From Kirk-Killisse to Tchataldja the railroad is used, supplemented by bull carts.

From all accounts these bull carts have given splendid service. They are four wheeled country vehicles drawn by two bullocks or carabaos. The latter are much like the Philippine carabaos, but are less dependent on water.

Each cart carries about 1,000 pounds and they have been used in great numbers.

The following seems to be the situation at the present date:

The Second Army now composed of the eighth and eleventh divisions and two Servian divisions are besieging Adrianople. The Turkish garrison seems to be some 30,000 to 40,000 men.

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Originally it is believed they had supplies for about three and one-half months. An added source of supply has been suggested by the fact that the town is the center of a great cheese making and export industry and that there was present at the beginning of operations a large quantity of cheese that had been made but not yet sent away. Be that as it may, it would seem that all such supplies would have been necessary for the civilian population (80,000) and that the garrison must be approaching the end of its supplies.

The Bulgarians have never made any serious effort to take the place, but a Bulgarian general officer has been quoted as of the opinion that the place could be taken in short order at a sacrifice of from 5,000 to 10,000 men.

At the Tchataldja line the Turks now have about 350 guns in position and about 140,000 to 150,000 troops. Work strengthening the position has continued since the last of November.

On the Bulgarian side the force is probably as great in men and there are two divisions, the Second and Seventh, available to reinforce this line or the Adrianople beseiging force. Defensive works have no doubt been constructed and the work of strengthening them has continued to date.

The Turks still hold Scutari on the Montenegrin frontier with a force of about 7,000 men.

At Janina and vicinity the Turks are supossed to have 30,000 to 40,000 men and to the present date the Greeks have been unable to accomplish anything effective against them. This is explained by the difficult nature of the country covering the approaches to Janina. These approaches are strongly fortified and are in the hands of the Turks, who still hold enough of the surrounding country to keep themselves supplied.

Now that the war has been renewed it would seem reasonable to expect the early capture of Adrianople and Scutari while Janina would eventually also be taken.

At Tchataldja it would seem that any operation would result in a checkmate for either side.

A solution giving effective results would then necessarily be sought elsewhere. With the Greeks commanding the sea

this would seem to point to operations to capture the forts of the Dardanelles. Operations on the European side would seem simple enough but on the Asiatic side the Turks have already some 50,000 men ready to defend the ground south of the Dardanelles.

The next available point for operations would be Alexandretta Bay. Successful operations from this point as a base might have very pronounced effect both military and politically and any attempt to forecast what might happen would be a rash performance.

LAVA.

(The Famous Cossack Attack. As adopted in 1912, for the first time, by the regular Russian Cavalry.)

BY CAPTAIN N. K. AVERILL, U. S. CAVALRY, MILITARY ATTACHÉ.

A DISCUSSION of the Lava, the old and famous national attack of the Cossacks, should be of the greatest interest to our service for two reasons: First, it can be compared to the extended order work as used by us; secondly, this method of attack has been deemed of such value by the largest cavalry force in the world that it is now adopted, for the first time, by the regular cavalry of Russia.

Based on the experience obtained in the Russian-Japanese War, and as the result of experiments covering several years, the cavalry of the Russian Army adopted in 1912, a new drill which contains several new features, none of which are more marked than the Lava.

The adaptation of this Cossack method of attack to the Regular Cavalry proved to be rather difficult, for the Lava was originally but little more than a disorderly, savage, mad rush, easy perhaps for irregular troops, but a problem to be carefully solved for the Cavalry of the Line. This has been done in the new system of tactics in what appears to be a most satisfactory manner.

The original Lava, the national tactics of the Cossacks, consisted in a variety of formations, in line, in column, in close or extended order, and mounted or dismounted; the action was either mounted, on foot, or both. These, the general features of the irregular attack, have been described in the new drill as general rules or principles only, no hard or fast rules are prescribed; simplicity is the keynote of the drill, and independence and initiative the keynotes of the action.

The chief elements of success in the Lava action are the careful training of the single man and horse, and of the

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platoon—the basic unit of all Russian drill. A firm conviction must be impressed on all; that there is but one action in a fight—the offensive; to always close with the enemy with but one aim—to kill and destroy as many as possible, with the rifle, the lance, or the saber as the case may be; but always to strike, to disable, or to capture the foe.

The platoon is under a chief who must train his men to obey all signals and signs, whistles, whispered commands, flashes from an electric pocket lamp at night, etc. They must be able to follow him in all formations, close or extended, and must have a mobile and rapid power of change to any column or to any line at all gaits. The good training of a platoon requires constant hard work on varied ground, by night as well as by day.

Once the platoon is trained, the work of the squadron (troop) in Lava is easy. The only means of success however are constant practice, frequent operations on open ground, and continual use of signals, signs, etc. The same remarks apply for the work of regiments and larger units.

Having thus outlined what is meant by the action called Lava and the training incidental thereto we can take up the system of tactics as now adopted for this action in the new Russian Cavalry Drill of 1912.

LAVA ACTION.

Lava does not represent a formation. but a tactical action of cavalry without definite forms or construction. The troops engaged in Lava take the order most promising of success on that especial occasion. The success of the action depends almost entirely on the presence of mind and the shrewdness of the chief, and of all the men of whatever rank engaged therein.

Lava requires a certain independence on the part of each man, the actions of whom are united by all seeking to achieve the *common aim*, which must be distinctly clear to each. All must pay the strictest attention to the leader, to his signals or commands.

For a successful Lava action the following are required: excellent individual training of the man in the management of the horse and in the use of his arms; the development of shrewdness, a willingess to take responsibility; the proper means to the end must be chosen by the chief and the men so well trained that the meaning of each signal will be clear to all.

Any tendency to carry out Lava on the line of regular formations or to bind it by distances or intervals is fatal; for such would kill the independence of the groups and would destroy the very meaning of Lava, which will only be successful when confusing to, and unexpected by the enemy.

Lava can be applied in the following cases:

a. To disorganize, prior to attack, the enemy's troops when they are in close formation.

b. To lure the enemy to a position or a line favorable for attacking him.

c. To prevent the enemy's scouting.

d. As a screen to cover the movements of its own troops.

e. To reconnoiter the enemy's position.

f. To delay the enemy's advance.

g. To entice the enemy in range of a sudden fire from its own hidden forces.

h. To carry out special scouting.

i. To pursue and outflank a retreating enemy.

j. To break through the sentry lines and harass the enemy at rest.

The use of Lava against infantry is generally limited to scouting.

For the final result of the Lava, shock action in close order is essential, for which reason the chief using Lava must always have a section in close order at his disposal, ready at any moment to charge the enemy and complete the disorder already caused in his ranks. All sections of Lava must always remember to strike strongly in close order, and therefore in advancing to the charge all close by platoons and squadrons, A victory can only be expected when the blow is struck with all power in close order.

Firing mounted is permissible only in extended order, at a halt, and is only useful when directed against large

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cavalry bodies; to fire from horseback against infantry is not permitted. In Lava the use of machine guns may be of the greatest benefit, enabling it to occupy and fire from places best suited to defeat the enemy.

Lava by Squadrons (Troops).

The Lava of a squadron consists of the Advance Forces and the Support. In exceptional cases all four platoons may be moved out as the advanced force, but a squadron acting alone must have a platoon as support. If all platoons should be used as advanced forces then in place of the support a "vedette" is left, consisting of the $_{1}5$ or 6 men of the first section of the third platoon. The standard remains with the support or the vedette.

The platoons of the advance forces disperse into two groups under command of the right and left flank N. C. O's, according to the battle conditions; communication between the groups must however be maintained. As long as the order for deployment has not been given, the groups march in the most convenient manner. On the command for deployment the groups extend in single rank, the intervals between the men depend on the object of the action and on the ground.

The support is posted, in any formation as desired, where most useful, the distance from the advance forces depends on the conditions of the battle and of the terrain, but must be such as to guarantee the rendering of timely assistance. The vedette, if there be one, is posted according to the orders of the squadron commander, and if no place be designated then behind the center of the squadron at 100-200 paces from the advance forces.

Posts of Officers.

The post of the squadron commander may be anywhere as most convenient; he may be in front or in rear of the line of groups, but for the charge he must always move to the front and collecting his squadron he leads it in person.

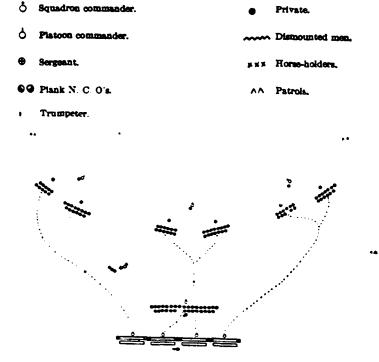
The extra N. C. O's and the second trumpeter ride up to the Captain to receive and transmit his orders.

LAVA.

Platoon commanders remain with their platoons and move forward to a place where they can best superintend their groups. A selected private is attached to each platoon commander to act as his messenger.

Group leaders take such places as are best suited for them to command; usually at the first formation they are

CONVENTIONAL SIGNS.



CUT No. 1.

THE FIRST FORMATION IN LAVA-BEFORE THE GROUPS ARE EXTENDED.

two paces ahead of their group, if in close order, and ten paces, if extended.

The sergeant major (1st sergeant) is with the support, or if none then with the vedette; one trumpeter always remains with him.

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The accompanying drawings will indicate the formation and posts in the initial dispersion of the Lava. the groups being not yet extended.

The movements of Lava and the first ordering out of the same.

Lava can be ordered from line or column, to the front or to the flank; to order it out with a change of direction the squadron in close order will previously take the required direction and will then disperse into Lava.

Lava is generally formed by moving the groups forward; if necessary to form it on the line occupied, the command "On the Line" is added, in which case the platoons appointed for the advance forces move to the right or left from base platoon, and the platoon designated as the support moves to the rear. Should no base platoon be designated the 2d platoon from the right acts as such. To determine the direction a certain object is named.

To form the Lava but one command is given as follows:

- 1. Squadron to Lava.
- 2. Such Platoon the Base.
- 3. Gait.
- 4. March.

If no gait be indicated then from the halt the Lava is formed at a trot, or at an increased gait if moving.

At the command of execution the base platoon moves forward, whether from line or column; the other platoons of the advance forces extend to the right or left, after gaining their intervals they disperse into groups and move forward until the signal halt is given.

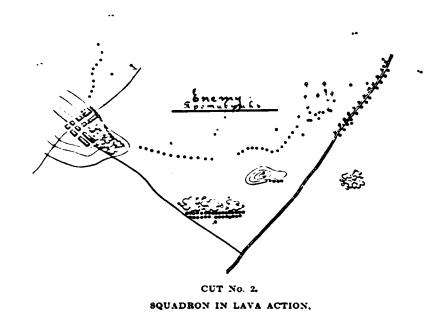
After the groups have taken their places on the line they are deployed at the signal or command of the squadron commander: "Extend;" if necessary they can extend on the order of the platoon or group commander. If no gait is indicated the deployment is at a trot from the halt or at an increased gait if moving.

No dressing in the groups nor any keeping of exact intervals is required. The leaders watch that the squadron keeps the direction as ordered, which is facilitated by the appointing of a base platoon and in this of a base group. The wings of the Lava generally move somewhat in advance, to enable them to outflank the enemy.

If, owing to battle conditions or lack of time, it is necessary to deploy the groups at once the command: "Extend" may be added to the command for forming Lava. In this case the groups of the platoons ordered to the advance forces deploy while marching.

At all movements in Lava the groups may extend or close independently according to the circumstances and as desired for more successful action. In general the groups are free in all their actions and in the use of the ground; they may be: one group in extended order; the next, mounted in close order; the third, dismounted to fight on foot, either in whole or in part.

Cut 2 shows the action of a squadron in Lava.



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In this illustration three platoons are ordered as advance forces. On the right flank is the first platoon, some trees permit several men to approach quite close to the enemy and harras them with rifle fire while remaining mounted. In the center is the 2d platoon deployed. On the left flank is the 3d platoon, one of the groups has dismounted and occupied the edge of the village, the other group is extended, mounted, still further to the left. The support is stationed under cover of the woods in rear of the center. The squadron commander takes post on the hill from where he can superintend the action of the entire squadron. Should the enemy move to attack the center, the 1st and 3d platoons will close and attack his flanks and rear; the support and the 2d platoon will attack his front.

Patrols are sent out from the flank platoons of the advance forces and from the support by the commanders of the same without waiting for special orders therefor.

Lata Fire.

Fire is opened in the Lava on the command of the platoon commanders. Fire action should usually be dismounted, if used mounted the best individual shots are selected; firing by groups or platoons is only used dismounted. A corporal or a selected private commands the horse holders. The trumpeters do not dismount. Dismounted action is used against an undecided enemy and when there happens to be suitable cover at hand as for example: houses, outskirts of a village, edge of a forest, etc.

The commander of the squadren, platoon or group designates which section is to dismount. The signal or command being given the men dismount and run forward to the position indicated.

Use of Lata.

No exact instructions on how to act with Lava on each occasion can be given. Some movements only can be indicated, the using of which under the varying conditions of battle is a matter of skill, presence of mind and correct military judgment on the part of the commanders. As the success of the Lava action depends on the independent action of each man, all, even the private soldier, must know the object and the proposed means of accomplishing the same. To succeed the Lava must act not only daringly and impetuously, but even rashly and insistently; it must seize the enemy's flanks and rear, even if this requires a considerable separation from the main forces.

Lava may fire mounted from an extended line, it may dismount and open fire on an approaching enemy, or if the latter be extended it may close by groups or platoons and charge in close order. The enemy may be lured to approach, he may be drawn away from his forces, his advance obstructed or delayed. If weaker than the enemy the Lava may avoid his attack. While hovering around the enemy the Lava tries to destroy all his convoys, the protection for his flank and rear, and his scouts. All communication between the enemy's forces must be intercepted by the capture of his messengers. The Lava forces must worry and harass the enemy incessantly, they must stir up his columns and bring disorder in his bivouacs; by their bold acts they will thereby benefit their own forces.

For a simultaneous attack against the front and flanks of the enemy, if he be in closed order, the method used is called: "Closing by the Wings," and is executed as indicated in Drawing 2. The platoons of the advance force in order to gain space and to confuse the enemy begin to retreat on divergent lines." On having thus uncovered the support they quickly turn and rush to the attack of the advancing enemy, always closing on their march. On such occasions the flank platoons attack on the flanks and the center platoon joins either the support or one of the flank platoons.

This movement may be executed on some occasions without any previous retreat, either on the line of groups or by a movement forward.

To lure the enemy on, part of the Lava approaches as near as possible to his forces in close order; if he be provoked to attack the Lava immediately turns and hurries off at an always increasing gait, trying to bring him into range of fire of its own forces or machine guns lying con-

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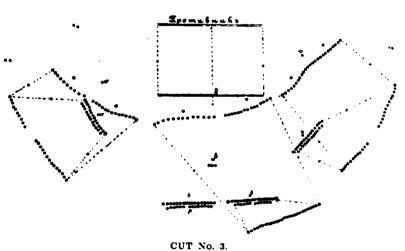
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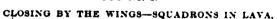
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cealed, or within striking distance of a portion of the Lava rapidly rallied on a flank. Should these contingencies happen the fleeing Lava quickly turns, closes and rushes to the attack.

In reconnaissance the utmost stress is laid on the quick delivery of all reports.

The whole idea of the Lava is based on the offensive. It must miss no opportunity to fall upon the enemy either with part or all its forces, and it must try to hit him in the most vulnerable spot. The entire squadron on the signal





or command of its commander, or the separate platoons or groups on the command of their leaders charge with the cry "Hurrah" Quickness and impetuosity for such sudden attacks are the only pledge of success.

Rallying of Lava.

The Lava is rallied in three ways: (a) on the squadron commander, in column of platoons, on the signal: "Rally;" (b) on the squadron commander, in line, on the signal: "On the Front Echelon;" (c) on the support or vedette, in line, on the signal: "Recall." The gait for all rallying is the field gallop unless otherwise specified. In cases where the enemy is numerically stronger, or it is wished to deceive him, the forces in the Lava may retreat separately and rally at some other and more distant place as previously agreed upon.

Use of Lava by a Regiment.

From a regiment one or several squadrons are sent out for Lava action; the others remain in close order and form the reserve. The number of squadrons sent out for Lava depends on the battle conditions. The squadrons so sent out acts independently in Lava according to the rules given for the squadron. The reserve takes position, according to conditions and the ground, where it can best support the advance forces, or suddenly charge the enemy; it may be at a considerable distance from the advance squadrons, in rear of the center, of one or both flanks, or even beyond the flanks.

The manner of using the Lava by the squadron will apply when it is used by the regiment with the following supplementary instructions:

1. Each of the squadrons ordered out to Lava has its own special section or zone, and must keep up communications among themselves.

2. The regimental commander directs the action of the regiment, and takes post where he finds it best. On ordering part of the regiment out to Lava, the adjutant, two trumpeters, an officer and an orderly from the reserve, and two picked privates from each squadron in the advance forces report to the Colonel as messengers.

3. One of the field officers commands the reserve and the others are given tasks as desired by the regimental commander. If they are assigned to command the squadrons in Lava, then, besides the trumpeter, one private from each of their respective squadrons is attached to them.

4. The common task of the regiment is explained to each field officer and to each squadron commander. In accordance with it they act independently, watch the enemy

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and maintain continuous communication with the regimental commander, for which purpose special men are designated.

5. The machine guns may be attached by the regimental commander to the parts engaged in Lava.

6. The regimental commander directs the Lava by means of orders. The right to give the trumpet signals belongs to him alone, these calls must reach the advance squadrons and are repeated by all the trumpeters.

7. As the Lava of several squadrons may extend over a considerable space and as it is impossible for the regimental commander to watch all that takes place, it is the special duty of the squadron commanders to keep him informed of all changes in the battle conditions and of all new information regarding the enemy.

8. The charge of the entire regiment is ordered by the commander thereof when he finds the conditions favorable.

9. On having decided to attack with the whole regiment, the regimental commander sends the necessary orders to the squadrons engaged in Lava and leads himself the reserve to the charge. On receiving the order, or on seeing the reserve advance to the attack, the parts engaged in Lava uncover the front and at a full gallop rally on the flanks, closing during movement by platoons and squadrons, and aim to hit the enemy's flank and rear at the same moment the reserve strikes. Platoons which see that they will not be in time to reach the enemy's flank join the nearest flank of the advancing reserve.

10. If the attack be a sudden one from ambush on the enemy's flank, then the parts of the Lava do not rally on the wings but by squadrons and charge on the points deemed best, taking care however not to block the front of the reserve moving to the attack.

- 11. The Lava either to the front or to the flanks can be called from all formations by the one command of the regimental commander:

1. Direction so and so; Such Squadron the Base; Such Squadrons to Lava.

2. Gait.

3. MARCH.

On this command the squadrons indicated move out to Lava, take intervals and disperse basing their movements on the base squadron. The squadrons for the reserve move toward the place indicated by the shortest route.

Prior to ordering the Lava the regimental commander mass indicate to the squadron commanders the width of iront that the Lava is to occupy. Three squadrons in Lava occupy a front up to three or four versts and four squadrons up to five versts (one verst equals two-thirds of a mile).

The Lava of a regiment rallies on the reserve on the orders of the regimental commander which are delivered by orderlies; or in case he orders the trumpeters to sound the "rally," all those that hear the same must obey at once and all trumpeters repeat the call.

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LONG MARCHES.

LONG MARCHES OF INFANTRY AND CAVALRY IN FRANCE.

BY AN OFFICER ABROAD.

THIS is the season when French troops begin to show results from the progressive training which begins with the arrival of recruits in October® and ends with the maneuvers in the summer and fall. A regiment of infantry, the Seventh, has just shown what it can do. The first "test marches" took place February 14th, 15th, 16th and 17th. These are made under campaign conditions and all available recruits (who joined last October) must make these marches. The regiment marched with an effective strength of 1,376 men. On March 8th and 9th, in the space of twentyfour hours, the regiment, with 1,347 men, marched thirtyseven miles. On April 5th, 6th and 7th, in the space of 48 hours, the regiment with 1,380 men marched sixty-two miles.

For this last march the regiment was detrained at Barle-Duc under the supposition that it was to make a rapid march to Nomedy, escorting the corps artillery, to enter in a battle already commenced, distance to go sixty-two miles. The regiment left Bar-le-Duc at noon, April 5th, and reached Nomedy before noon April 7th.

Major General Bruneau, commanding the division to which the Seventh Infantry belongs, decided to show that he was not unworthy of his troops in the matter of physical endurance. He rode from his headquarters to the camp of the Seventh infantry, arriving at 7:00 p. m., April 7th, the day the infantry made its last march. He started at 1:00 p. m. and reached the infantry camp at 7:00 p. m., when a call to arms was made and the regiment assembled ready to march. The men were then dismissed. The next day General Bruneau supervised field maneuvers of the regiment at 6:00 a. m., after which he returned to his headquarters, reaching them at 1:00 p. m., He had ridden seventy-eight miles in the twenty-four hours.

The general was accompanied by his chief of staff, a sergeant and two privates of his escort.

Cavalry reconnaissances have also taken place, in both the regular, active cavalry and in the reserve.

Orders were issued from the war department for officer's patrols from twenty-seven regular cavalry regiments located not more than 200 miles from Paris, to send out of each regiment a patrol consisting of one officer, one sergeant, and four other men, who were to reach Paris in three days time, by various routes. The distance to be covered by each patrol each day was fixed at sixty-two miles. Every man was to ride his own horse, in campaign uniform with saddle packed as in campaign, but no ammunition, rations, carbines, lances or cuirasses were to be carried.

All classes of cavalry were represented: cuirassiers, dragoons and light cavalry.

The conditions required all the men constituting a patrol to arrive, otherwise they would not be classified.

The following list^{*} gives the names of the officers commanding patrols, their regiments and the remount depot from which the horses came when assigned to the regiments (several years ago, of course). This last item is watched with interest as there is great rivalry between the various remount depots and the districts which furnish horses to them.

No horse under 8 years was allowed to be used, and each horse must have taken part at least once in the grand maneuvers.

Patrol commanders were allowed complete liberty as to the conduct of their reconnaissances, halting places, etc. All patrols were to start at 9:00 a. m., April 8th, and at or before 9:00 a. m., April 11th, they were to report at the horseshow building in Paris, where they would be inspected and then passed in review and examined at the three gaits in the ring.

*List of officers, etc., omitted as being of no particular interest to our readers.—EDITOR.

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Twenty-five of the twenty-seven patrols arrived on time and intact. There was no race. After arrival, the first and second prizes were awarded those two patrols having their horses in the best condition; other honorary prizes were distributed.

One patrol had a horse go lame and did not finish the 186 miles; the patrol of the First cuirassiers had a horse fall sick of colic the second day; the patrol remained with him and lost nearly a day. Finally they left the sick horse and in order to make up lost time and arrive at the hour designated, this patrol rode during the last twenty-four hours of the contest eighty-eight miles. Men and horses arrived in good condition.

A detailed account of the ride of this patrol is given in the "Revue de Cavalerie" for June, 1911, and is worth reading.

In the first two days, ninety-eight miles had been covered before the sick horse caused a halt.

The itinerary for the third day is as follows: Left camp at 8:30 a. m. Gait of twenty minutes at the trot slightly slower than the regulation gait,—the horses given their heads, reins long; then ten minutes at the walk, the men on foot at their horses' heads. Going up and down hills, the men on foot.

At 11:15 a. m., halt for ten minutes, horses watered and the men ate a sandwich. They doubtless started after the usual French custom, having had only a cup of coffee and no food.

From 11:25 a. m., to 2:00 p. m., same gait and method as above.

From 2:00 to 2:45 p. m., rested. Horses watered and fed. Men fed.

From 2:45 to 6:00 p. m., marched the same as before —walk and trot.

At 6:00 p. m., halted for ten minutes, horses watered and the men ate a bit of bread.

From 6:10 to 9:00 p. m., marched as before.

At 9:00 p. m., arrived at cantonment. Horses groomed, watered and fed.

At 10:00 p. m., we get supper and at 11:00 p. m., went to bed.

Reveille at 3:00 a.m. Horses watered, groomed and fed lightly.

At 4:00 a. m., the march was resumed.

At 8:10 a. m., halted for twenty minutes at St. Cloud; men clean up their uniforms and boots.

At 8:30 a. m., start for Paris and arrive at the Inspecting Station at 8:45 a. m., where the horses and men were inspected and passed.

I saw this patrol, as well as the other twenty-five, in the afternoon in the horse show ring at the walk, trot and gallop, and they gave no particular signs of fatigue.

The following are the weights lost in the three days: Officer—eight and one-half pounds; sergeant—three pounds; the four men—from one to four and one-half pounds; officer's horse—thirty-five pounds; mens' horses—from thirty-four to fifty-seven pounds.

The horses were all from nine to eleven years old and stood from fifteen hands and two inches to fifteen hands and three and one-half inches. Each horse had one grand parent a thoroughbred. Four were mares and one a gelding. All were Normans. There were no sore backs. Of the eightyeight miles, twenty-five were made at a walk, the men on foot, the rest at the trot.

I saw all of these twenty-five patrols the day of their arrival, and the condition of both men and animals appeared to me to vary from satisfactory to excellent. They moved around the horse-show ring at the three gaits for an hour, and one could readily form an opinion of the physical condition. Many of the horses seemed as fresh and eager as if they had not done a hard journey. All were excellently groomed and the leather and equipments perfectly clean. During the reconnaissance the men of course had cared for their horses and for themselves more or less as on service. Not a horse was missing and not one was lame or in any way unserviceable.

As stated above, this was not a race. No patrol arriving at the gates of Paris was allowed to enter before 8:00

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a. m., April 11th; the sole requirement was to do sixty-two and one-third miles each day for three days, and arrive with all the men and all the horses in thoroughly good condition ready for a further effort. This was accomplished, and the French cavalry has once more shown that its horsemanship, its ability to make long distances without hurting man or beast, is of a high order.

The following are the official rules published by the War Department governing these reconnaissances:

The War Minister is having the following notice, regulating the conditions of the endurance ride in question, reach the cavalry corps.

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Composition of parties.--Each regiment will furnish a detail composed like one which constitutes an officer's reconnaissance in the field, being as follows: 1 officer, 1 non-commissioned officer, 4 scouts (or 1 corporal and 3 scouts).

Selection of horses.--The horses should not be less than 8 years old and have at least once taken part in the autumn maneuvers. Each regiment should be stocked from the same remount depot, exception being made in the case of officers, who can ride their army horses.

Equipment.—It shall be the field equipment without ammunition, nor rations and without breastplates, carbines and lances. Cuirassier regiments will take such measures with their outfits so that they may be able to find their armors at the Grand Palais, for the exhibition to take place on the evening of arrival.

General condition of test.—The test is not to be a race. It will consist in covering a distance of 300 km. in three days, or more exactly, in 72 hours, at a free gait. Patrols arriving within the stipulated time and whose effective strength will be complete and intact shall have a right to prizes.

Itineraries.—The routes shall be laid out for all parties by the committee on organization and communicated to them at least 15 days before the start. They must be strictly followed under pain of disqualification and will allow several points of obligatory control.

The start.—The start is to be made by all the regiments on April 8th, at 9:00 a. m. (Railroad time), at the responsibility of regimental commanders. The officers will regulate in their judgment the length of the stops, they will select the halting places and will have to provide in their own way for quarters and subsistence of their command. Patrols abandoning the test during the ride and commands not arriving at the terminal point in their entirety must be disqualified; every accident preventing the rider or a horse from continuing the test will force the abandonment of the trial by the whole squad, which must return to its garrison. Officers in charge of the patrol must report by telegraph to the president general of the commission (Horse Show, Grand Palais). Arrisol.—The committee checking up arrivals will be placed at the fortifications, at "La Muette entrance" (at the extreme west of Avenue Henri-Martin). Patrols will go from there to the Grand Palais. The march through Paris shall be made indifferently. No party is to present itself at the board of control of arrivals before nine o'clock in the morning of April 11th. Commands arriving in the afternoon will proceed directly to the Grand Palais.

Examination of horses and disqualification of patrols.—Directly after arrival at the Grand Palais, all horses will be examined by a delegation of the commission. Every horse that is broken-kneed, lame, or has a serious sore on its back, in one word, is not in a state to continue its service, will involve the disqualification of the command to which it belongs.

Stabling of horses.—All horses will be kept at the stables of the Horse Show, where the feed will be prepared in advance by the attendants of the commission.

Public exhibition of patrols not disqualified.—On April 11th, at 4:30 p. m., every party that has been favorably judged will pass in review at three gaits over the tracking of the riding school.

Prizes.—The "Matin" has placed at the disposal of the commission the sum of 10,000 francs intended for prizes to be awarded to the patrols admitted. To these that have arrived at "La Muette" checking station between nine and ten o'clock, will be given a prize of the first class. Those arriving between ten and eleven o'clock, will receive a prize of the second class. All others coming after eleven o'clock, but before four o'clock, will be given a diploma as a souvenir of the effort. The first and second class prizes will consist, for officers and non-commissioned officers, of objects of art, or of medals modeled after those of the French Horse Association, bearing the motto: "Endurance Test of 1911," Prize offered by "Le Matin." The corporals and troopers will receive a savings bank book and a medal.

Allowances.—There shall be prepared for every patrol, in the name of its regiment, a voucher giving the right to regulation allowances, for the entire journey; these allowances shall be paid from credits alloted for expeditions of a long distance.

Return to the garrisons.—Patrols having to cover more than sixty kilometers to reach their station shall be carried by railroads. The same provision shall apply, if needs be, to commands having been obliged to abandon the test while en route.

Composition of committee of organization and examination.—The committee will be made up of General de Lagarenne, commanding Sixth Brigade of Cuirassiers, president; Lieutenant Colonel Ferte, First Cuirassiers, and Veterinary Surgeon Sandrin, director of Second veterinary jurisdiction, members.

Reports to be submitted.—The regimental commander will send directly to the president general of the commission before March 20th, a list of the officer, non-commissioned officer and of the troopers (or of the corporal and horseman) that are to take part in the ride, as well as of the horses; in the case of the latter, there will be furnished a statement of the precise uge, a pedigree (giving as well as possible two generations back).

Until the eve of departure, it shall be possible to change the formation of the patrols; it will be especially possible to substitute one or several of the horses entered on the list, with the reserve that those which shall be placed in stead must fill the requirements exacted.

Modification must be reported as urgent to the president general of the commission.

MAURICE BERTAEUX, The Minister of War.

Another riding test for officers of the second line, corresponding to our National Guard officers, was gotten up by the newspaper "Le Matin" with the consent and authority of the War Department. The "Matin" offered prizes, established control stations and made all arrangements for the ride. It was open to all officers of the reserve, and 203 took part. They were of all ages, all grades, all professions and trades, and rode every imaginable kind of horse. from first-class hunters to the sorriest nags.

The conditions required contestants to ride in uniform, but with little baggage on the saddles and no arms. Each man had to make thirty-nine miles a day during eight days. After the fifth day, one day's rest was prescribed. The total distance was 310 miles. It was required that when at any examining station a horse was found lame, suffering or too fatigued to continue, he must be dropped at once from the contest.

Of the 203 officers who started, 180 made the distance and arrived in good condition as to man and horse.

The riding was done on the ordinary roads, and itineraries were prescribed and necessary arrangements made for verification.

The horses ridden were owned, borrowed or hired by the contestants, as would be the case in war, when these officers would be mounted on requisitioned horses. The results were really unexpected and showed both pluck and physical condition on the part of men entirely out of training. There were doctors, veterinarians, lawyers, farmers, merchants and barbers, infantrymen as well as mounted branches represented in the contestants.

THE INDIVIDUAL TRAINING OF THE RUSSIAN TROOPER.

(Notes on the new drill of 1912, for individual training.)

BY CAPTAIN N. K. AVERILL, U. S. CAVALRY, MILITARY ATTACHÉ.

THE new Russian Cavalry Drill Regulations of 1912, is divided into two parts; the one, the drill proper, beginning with the platoon as the smallest unit, the other, the individual training; the latter is called Part I, and the former Part II. of the Regulations.

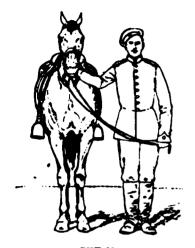
The Russians consider the individual training to be the basis of all preparation for battle action; that modern warfare demands a large independence of action on the part of each man; and that men properly trained as individuals will very soon become accustomed to common action in close order. Particular emphasis, in all drill by squads, is laid on sustaining the interest of the men by various exercises and movements calling for individual execution; to this end special importance is laid on each man riding separately, and no one man is ever long in the lead in squad work.

CHAPTER I.-RULE FOR RIDING.

The manner of holding and leading the horse is shown in Cuts 1 and 2.

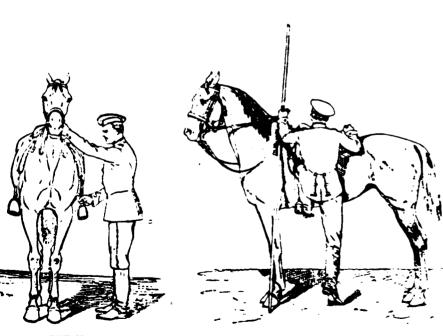
If armed with the saber, the scabbard is carried in the left hand, if with the lance the same is carried on the shoulder left point up.

The first point of special interest is the the use of the curb bit without chain in the beginning of the training and even when training young horses. The use of the snaffle alone is permitted only during the first two or three lessons. The chain is only used after the riders acquire a certain assurance, cease to use the reins as a means of support, and





CUT No. 1.

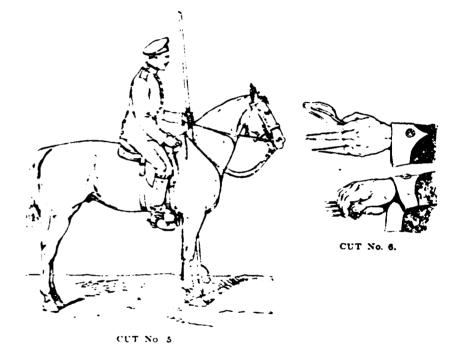


CUT No. 3.

TRAINING OF THE RUSSIAN TROOPER. 967

know how to apply the elementary rules for the management of the horses.

Mounting. The Russian method of mounting is in three counts or motions. The first is taking the position shown in Cut 3, the second is the actual mounting as shown in Cuts 4 and 5, and the third is the placing of the right foot in the stirrup and the taking up of the reins and lance. The method



is sufficiently indicated by the attached drawings, the only point of special interest being the placing of the right hand on the cantel in the second motion.

The manner of taking up the reins is indicated in Cut 6, the position of the bridle-hand, being nearly horizontal, thumb slightly elevated and wrist flexible.

The manner of adjusting the lance in mounting is shown in Cut 7, from this position it is lowered into the lance bucket.

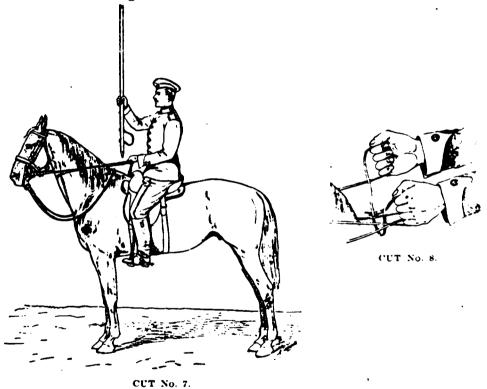
CUT No. 4

TRAINING OF THE RUSSIAN TROOPER. 969

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During the preliminary training great use is made of another method of holding the reins called the "Snaffle in both Hands," as indicated in Cut 8.

The dismounting has no special features, it should be noted however, that both in mounting and dismounitng, the snaffle reins alone are used; the curb reins hang loosely on the horse's neck. The trooper is required to mount and dismount from the right as well as from the left.



THE SEAT.

While the question of the seat is treated at some length, we find a few special points. For purposes of explanations the body of the rider is divided into three parts as follows: two mobile parts, an upper and a lower, the one from the head to the waist and the other from the knees to the heels; and one less mobile part, a middle one, from the waist to the knees. The arm is likewise divided into three parts, the upper arm, the fore arm and the hand, the proper use and the position of each is described.

The firmness of the seat is ascribed to two factors, the strength of the contact, called the "Schluss," and the balance or equilibrium; each of these factors is described.

The lower legs hang naturally, the calves touching the side of the horse; the boot is inserted up to the tread in the stirrup, the heel being slightly lower than the toe; the toes are turned slightly out.

Two methods are given for determining the proper length of the stirrup. In one the rider, standing in the stirrups with legs straight and sole and boot horizontal, must have a hand's breath between his buttocks and the saddle. In the other the foot hangs naturally and is not inserted in the stirrup; in this case the tread of the stirrup must be two fingers higher than the top of the boot heel.

MANAGEMENT OF THE HORSE.

Under this heading many pages are devoted to the general rules of equitation corresponding to the new system adopted in 1910, for training young horses which can be found in the "Manual for training Cavalry Horses." The idea being that the young horse is trained for the first year in the remount depot, during the second winter and till spring he is trained by the same system in the regiments; at the end of the second year he is a finished horse and can be ridden by the new conscripts who have the same system of equitation simplified in their drill book. Such a system is, of course, almost ideal, and would make any American cavalryman envious.

While the subject of equitation is too large to be taken up again; it may be remarked that the entire subject is simple and well thought out; while based on the general principles as taught at Saumur and by Fillis, it has been greatly simplified to meet the needs of the trooper. It is recognized that the rider is not a finished horseman and no strain is put on his intelligence.

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For this paper it will suffice to say that emphasis is laid on the three means or aids for the management of the horse in the order of their importance; first, the legs and calves, second—the balance or inclination of the body, third—the reins; besides these three principal aids two others are authorized, the spur and the whip.

GAITS.

The Russians use the following gaits: the walk, the trot, the gallop, the field gallop, and the full gallop; and for riding hall work three others are used, the increased trot, the short trot, and the manège gallop.

The walk is from 15 to 18 miles an hour. For the increased trot the horse is sent forward as fast as possible, not allowing him to bear on the bit. For the slow trot the horse must be fully assembled.

The gallop is five and three-fifth minutes to the mile. The manège gallop is seven and one-half minutes to the mile, and at this gait the horse must be kept fully assembled. The field gallop is three and three-fourth minutes to the mile; the horse is extended, the seat deep and the feet home in the stirrups. The full gallop is the utmost speed of the horse and the rider inclines slightly forward.

To move from a halt or to increase the gait the command of execution "March" is given, and for the full gallop a double command—"March-March" is used. To decrease the gait or to halt no command of execution is given, the command for the slower gait being pronounced slowly.

The men are taught to rise to the trot, and to rise on either foot; they are required to alternate the foot so as not to unduly fatigue one leg of the horse. A well trained rider must be able to rise to the trot without stirrups. The rising to the trot is called here the "Easy" seat, and while the men are taught to use this seat yet during the training period habitual use is made of the firm seat.

In change of gaits or in halting emphasis is laid on the necessity for assembling the horse and the use of half halts.

The command "Halt" must be given from 5 to 50 paces from the place the horse is to stop, depending on the gait;

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a halt in place is not permitted except from a walk. In executing the halt emphasis is laid on the proper use of the legs, the balance and the reins.

THE RIDING HALL WORK.

The work in the riding hall is described at length and is in reality a continuation of the general system of equitation mentioned above. It is divided into sections and covers the following subjects:

- 1. Work on a straight line.
- 2. Turns while moving and wheels.
- 3. Change of direction.
- 4. Volts.
- 5. Abouts.
- 6. Turning on haunches.
- 7. Backing.
- 8. Two track work.

With this work the first chapter ends, and as can be seen this, the first portion of the new drill, is largely devoted to handling the horse.

CHAPTER II .--- WORK BY SQUADS.

Under the Russian system a squad is a unit for training purposes, and as it is very difficult to carefully observe more than 15 men, the squads are, if possible, limited to this size. Special importance is laid on the fact that this riding by squads leads to but a passive execution of the command on the head number; and that for this reason the leader must constantly change; the men ride as much as possible separately and each one is individually watched and instructed Part of the troopers must ride in another direction and at different gaits from the rest of the squad; all possible means are used to make each man a bold independent rider.

While the position of "stand to horse" is as indicated in cut 1, yet the alignment is executed much differently from ours. On the command "dress" each trooper steps in

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front of and facing his horse's head, takes the right snaffle rein in his left hand, and the left snaffle rein in his right hand, both seven inches from the bit, keeps the horses' head in the proper position and so aligns him. At the command "front" the trooper resumes his place.

The system of counting before mounting for this squad work is also different. The command is "By Twos,"— "Count," at the preliminary command the right flank man turns his head to the left; all the other turn their heads to the right; at the second command "Count" the right man sounds off "One" and turns his head to the front, the second man turns his head to the left and says—Two—and then turns his head to the front, the third man acts in a similar manner counting "One" again, and so on. This turning of the heads and then snapping them toward the next number and then to the front is followed in all Russian counting.

The mounting is similar to ours except on forming ranks each man is required to align himself and the command is different being "Mount"—"Dress"—"Front," the command "Dress" taking the place of our "Form Rank;" similar commands are given for dismounting and are executed on the same lines.

The rest of the work by squads presents no points of special interest.

· CHAPTER III.-JUMPING.

A separate chapter is devoted to jumping which differs in no essential from our work at Fort Riley. Special importance is laid on the firmness of the seat, the "Schluss," the use of the legs and, if necessary, the spurs. The body is held erect, the feet are home in the stirrups, the hands are held low and somewhat forward. The gallop is the gait used and the one noticeable feature of all the Russian work over jumps in the hall is that when taking the high jumps the horses are brought up well in hand and at a collected gait; rushing at the jumps is never allowed. This manner of training to always take the jumps at a collected gait proved the undoing of the Russian officers at the Olympic Games at Stockholm last summer, for when a good hunting gait was prescribed as one of the conditions they were unable to meet the requirements. It may be of interest to learn that the position of the Russian officers in taking the jumps is one which we might call the jockey seat, the body well bent forward. The following drawings are samples of the type of the usual jumps; they are used either singly or in combination one with another.

CHAPTER IV .- RIDING IN THE OPEN.

Riding out of doors is the last stage in the preliminary training, and must be practiced by all men during their subsequent years of service. This riding is carried out by the men separately, each trooper rides his own line and takes the obstacles independently of the others. If the men are in ranks they must move at different intervals and distances. Certain rules for guidance are laid down which are based on common sense and need not be taken up.

SWIMMING WITH THE HORSE.

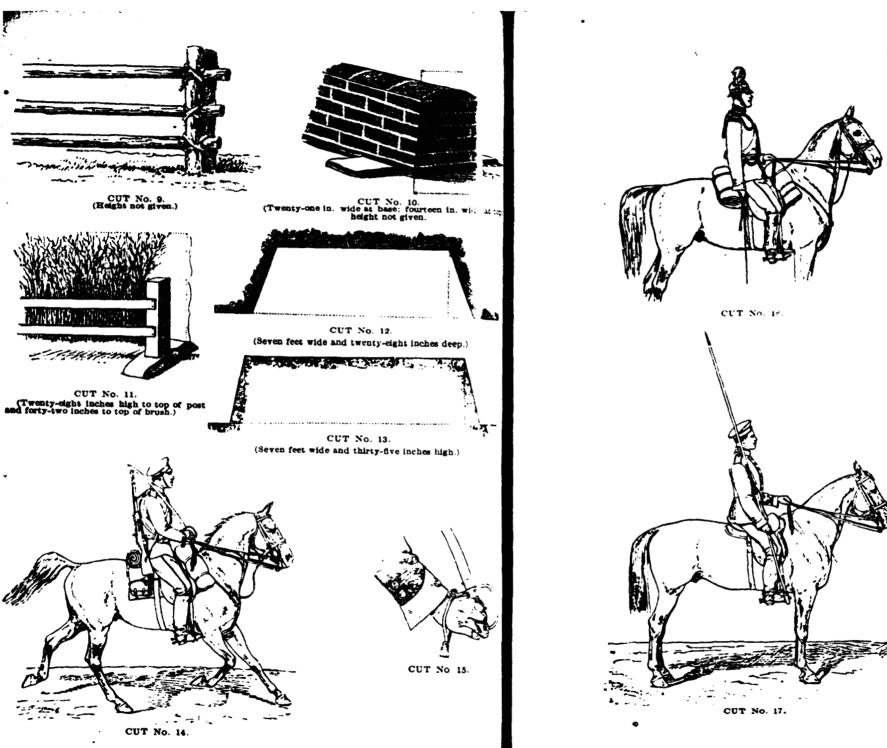
While I have not as yet seen the Russian cavalry swim their horses, the following are the instructions which govern in such a case.

1. To cross a river mounted, the curb bit must be taken off, the stirrups raised on the straps, the rear girth loosened.

2. To swim the horse across the river, the trooper rides the horse into the water, slackens the reins and grasps a tuft of the mane not more than two hand breaths above the withers.

3. When the horse loses ground, the rider must slip off on the down stream side and swim beside the horse. Should the current flow from the right he holds the mane with the right hand and with the left, if necessary, he guides the horse by the reins. If the current flows from the left, the hands are reversed. As soon as the horse touches ground on the opposite side, the trooper mounts.

With this chapter ends the first part or section of the new drill book and as can be seen it is devoted entirely to work with the horse. We now come to the second part of the individual training under which is taken up by successive



chapters the different manuals of arms. Only so much of these will be described as differ from our way.

MANUAL OF THE SABER.

When mounted the saber hand is placed on the left as shown in Cut 15, the third and little fingers as shown in Cut 14, being free to help the bridle hand. When riding by at the salute, the saber is held as with us.

For officers the salute is executed in two motions, when passing the reviewing officer or at the command—"Gentlemen Officers." In the first motion the saber is raised, the hand at the height of the collar, and is held nearly vertical, but the point somewhat to the rear; on passing the officer saluted the sword is lowered, as shown in Cut No. 16, and this is the second motion.

MANUAL OF THE LANCE.

While we affect to regard the lance as not worthy of serious consideration and to give it no place in our cavalry, yet, in view of the fact that the largest cavalry in the world has now adopted the lance, and that the entire German cavalry, and fifty per cent. of the French is so armed, the manner of handling the same by the Russian trooper may at least be of some interest.

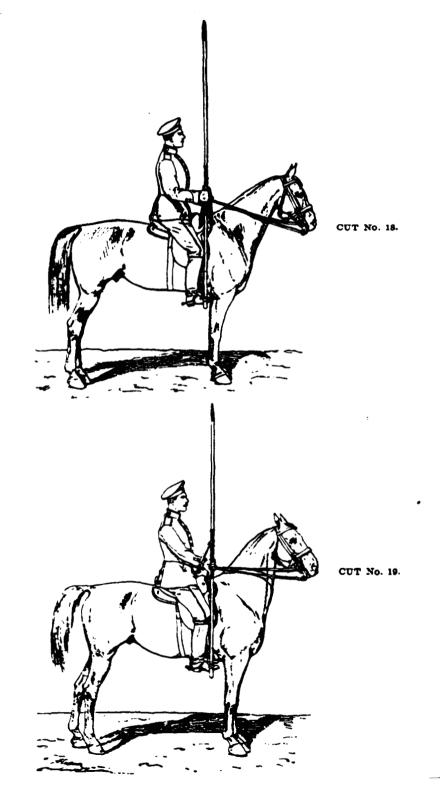
No description of the manual is given as the drawings indicate the same perfectly well. Lance to Shoulder—Cut 17.

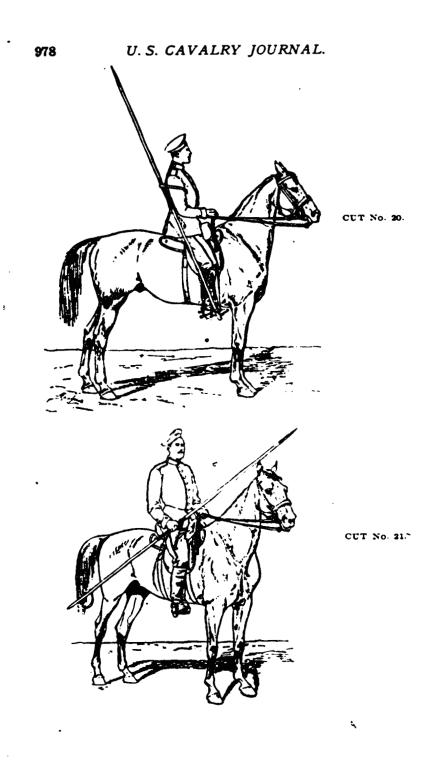
Lance in Hand-Cut 18, Lance behind Shoulder, Cuts 19 and 20.

This method of carrying the lance is the usual one in campaign. The loop at the blunt end of the lance is for putting it on the foot when marching. In dismounted action the men to fight on foot pass their lances to the horse holder who places his right foot through the loops, passes his right arm through the knots and throws all the lances behind his shoulder.

Lances on the Hip, Cut 21.

The lances are held in this manner when approaching the enemy.



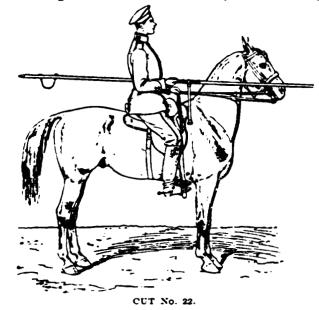


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Lances in Battle Order, Cut 22. This position is used for the charge and the hand grasps the lance as shown in Cut 23.

MANUAL OF THE CARBINE, TRUMPET, PRAYER, ETC.

The manual of the carbine mounted is very simple, it is simply taken off or put on the shoulder, no commands are specified, for it is seldom used mounted. The carbine is carried hung from the left shoulder by the rifle strap and

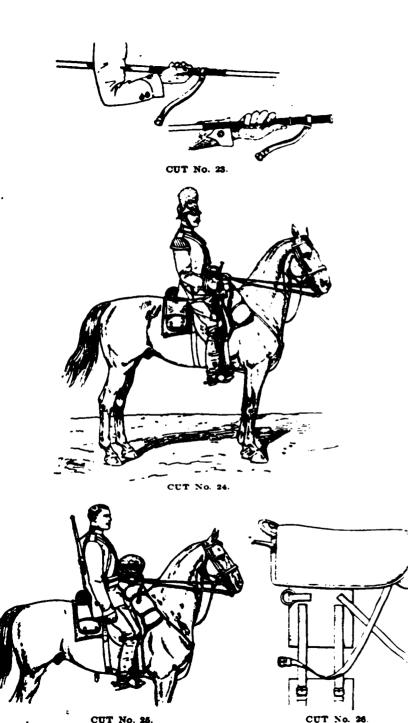


no carrier is used, its position, when mounted, is indicated in the Cut 36 (see below).

The trumpet preparatory to use and when passing at the salute is carried as shown in Cut 24.

The great use of religious ceremonies in the Russian service necessitates a corresponding command as follows: "To Prayer," "Caps (Helmets or Shakos) Off;" which is executed as shown in Cut 25.

The next section of the new drill book is devoted to gymnastics, and under this head nothing of special interest is found till we come to the subject of vaulting.



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VAULTING.

The principal gymnastic training of the Russian trooper is devoted to vaulting and for this purpose the work is divided into two classes; the first, the exercises on the wooden horse; the second on the live horse.

For both classes of work a special saddle is used which is worthy of notice. Each squadron (troop) has two of these saddles. The saddle itself is shown in cut 26, and its manner of use on the wooden horse in Cut 27.

For work on the live horse, he is led out with a bridle with four set reins and two hand reins and saddled with the vaulting saddle. The four set reins are attached to the saddle in the manner shown in the next drawing and serve to hold the horse's head in a correct set.

The position of the trooper in vaulting on the horse is shown in Cut 29, and the position of his hands in this and Cut 30.

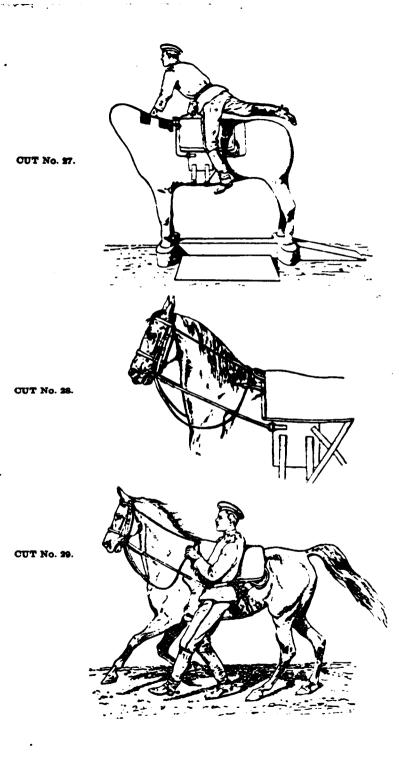
The later training is with the regulation saddle and the final work is had fully equipped as shown in the annexed Cuts 31 to 34, inclusive. The regular cavalry either of the guard or line do not however go in much for this last sort of work. The Cossack work of this nature is interesting to watch and some of them do it very well, probably because they have done these exercises since boyhood and further because their saddle is particularly well adapted to fancy stunts and their horses are smaller.

With these three sections that portion of the individual training which has to do with the horse is brought to an end, the last section takes up the dismounted work and different appendices; instructions for saddling are to appear as a supplement.

DISMOUNTED WORK.

In the dismounted work we find four things that are of interest as differing from our practice; first, the use of the bayonet; second, the use of a carbine and the lack of all special manual therefor; third, the easy manner of carrying the saber; fourth, the salute.

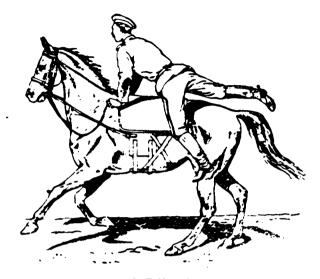
CUT No. 25



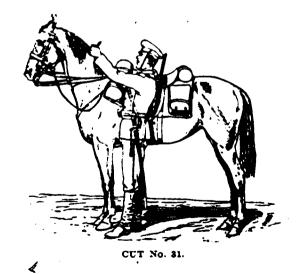
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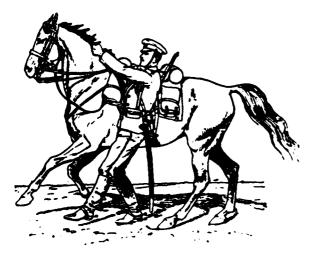
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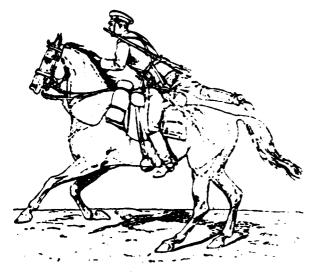


CUT No. 30.





CUT No. 32.



CUT No. 83

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While the bayonet is prescribed for the Russian cavalry and is carried by all except the Cossacks, yet no word regarding its use is to be found in these regulations, and in the time I have been here I have never seen any use made of it, except on sentinel duty. The bayonet is attached to the outer part of the saber scabbard which is carried by the trooper. When dismounting for action on foot, the rifle, the saber, scabbard and bayonet all go with the trooper, a combination not well adapted to quick work on foot. Other than sentinels I have yet to see a dismounted cavalryman use the bayonet. In the infantry on the other hand the bayonet is *always* attached to the rifle.



The Russian cavalry is armed with the same rifle as the infantry, but cut down and lighter, the weight and length of the two being as follows:

Infantry.	Cavalry.
Weight8.80 lbs.	8.35 lbs.
Length4.23 ft.	3.9375 ft.

The advantage of such a carbine in place of the longer and heavier infantry rifle will be appreciated by all cavalrymen.

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A special point of interest is the lack of all manual of arms for the carbine, but two positions are mentioned,; the order arms and the position of charge bayonets called "in hand," as shown in Cuts 36 to 38. For executing all movements the rifle is slightly elevated muzzle near the right shoulder. The idea being that the cavalryman is not an infantryman and no attempt is made to drill him as one.

For all formations on foot, for example, mounting the guard, the carbine is carried behind the back swung from the left shoulder by means of the strap as shown in Cut 62, and the saber only is used.

The use of the saber alone for dismounted formations and particularly its use when the cavalry is formed together with the infantry necessitates a more detailed description of the manual than with us. Of this manual note may be taken of the "present arms" of the trooper as shown in Cut 35, this drawing illustrates as well the position of the carbine dismounted.

The most interesting feature in the Russian use of the saber when dismounted is the carrying of the same "at ease" when marching, when on sentry duty, or on other occasions when the saber must be held for some time. Being at the carry saber the saber is taken "at ease" in two motions: in the first the two hands are brought together a little below the waist and the end of the hilt placed in the palm of the left hand, the right hand then grasps the guard near its junction with the blade, the thumb and first finger are above the guard and the other three below it, at the same time the back of the blade is placed in the hollow of the right elbow; in the second motion both hands drop to the side. This manner of holding the saber by the guard instead of the grip, leaves the right hand in a perfectly normal unconstrained position which can be maintained indefinitely.

When marching with the saber at ease the men are required to swing both arms freely, for which purpose the back of the blade is held, not on the shoulder, but in the hollow of the right elbow. When passing an officer to be saluted, both hands are held rigidly at the side.





CUT No. 35.

CUT No. 36.





The salute of the Russian soldier is about the smartest in Europe. The first noticeable and the salient feature is the fixing of the officer to be saluted with the eye, for which purpose the head is turned and the chin slightly uplifted while the eyes look straight at the officer and follow him. the head turning, till out of saluting distance. The second feature is the rigidity of the soldier. Uncovered no other salute is given, the hands held rigidly at the side. When covered the head and eyes are turned as before, but the right hand is raised slightly bent, fingers together, above the right ear and the tips of the fingers touch the lower band of the cap behind the right temple until the salute is returned; the right elbow is raised as high as the shoulder. When a general officer is met or an officer of the soldier's own regiment, then the soldier must halt and face toward the officer and remain at the salute as described. The morning salutation of all officers and the greeting of the reviewing officers to their men, and the answering good wishes of all the soldiers shouted in chorus is very impressive.

CONCLUSION.

In the above I have attempted to outline in a general way only what, in the individual training of the Russian trooper, might be of interest to our cavalrymen. There are a few points worthy of special emphasis.

1. The use of one simple system of equitation in training the horse for nearly two years before he is admitted to the ranks, and the use of the same system by all conscripts in their training. An ideal to be dreamed of by us.

2. The rising to the trot on either foot, and the use of three gallops.

3. The use of the lance, a weapon requiring but litt'e training. The sight of a mobile unit such as a Russian Cavalry Regiment, charging with the lance as a cohesive solid unit in double rank would, I am sure, make any American cavalryman quickly change his mind as to the value of this weapon. He could not help realizing that our trooper poorly trained with the saber, in long attenuated single

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rank, would stand absolutely no chance mounted, and that all our orders as to the value of mounted action would be but dead letters.

4. The use of a special vaulting saddle both for the wooden and the live horse.

5. The fact that no attempt is made to make the trooper, a cavalryman, into an infantryman with his manual of arms and his marchings.

6. The square look in the eye of the soldier saluting and the smartness of the salute.

In conclusion it is well to think once more of the underlying purpose of this new drill on individual training the development of initiative and independence on the part, of each man—or, as underscored in the original Russian text, "to place the center of gravity of the drill on each individual man."

COMMUNICATIONS AND RECONNAISSANCE ON THE BATTLEFIELD.

BY CAPTAIN G. W. MOSES, FIFTEENTH CAVALRY.

INTRODUCTORY REMARKS.

A LITTLE over a year ago the service was startled by the appearance of a little book which for conciseness and efficiency rivals, if it does not surpass, anything of the sort which has ever before appeared in any language. I refer, of course, to the Infantry Drill Regulations.

Officers who have made a study of tactics are enthusiastic in their approval of it and those who have not done so, either from lack of time or from ignorance of the necessity of doing so, have found that at last something more is expected from a regular officer than a mere knowledge of how to drill a company or a platoon on the drill ground. They must learn the correct principles of troop leading and even the handling of the fighting arms of the service in large bodies in order that they may properly play the game which they are expected to play, whether they be called upon to command armies in the field or to lead patrols efficiently.

"The comparatively wide fronts of deployed units increase the difficulties of control. Subordinates must therefore be given great latitude in the execution of their tasks. The success of the whole depends largely upon how well each subordinate coordinates his work with the general plan" (Paragraph 371, I. D. R.)

"Every subordinate must therefore work for the general result. He does all in his power to insure cooperation between the subdivisions under his command. He transmits important information to adjoining units or to superiors in rear and, with the assistance of information received, keeps

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himself, and his subordinates duly posted as to the situation." (Paragraph 373, I. D. R.)

The duty of keeping in touch with adjoining units and keeping his immediate superior informed of every bit of information which he may himself obtain is here made the duty of every officer, regardless of rank or the strength of his command, as is also that of keeping his subordinates oriented. Incidently it both involves the duty of securing information and disseminating this information. Not only must each officer orient his subordinates when he issues orders starting a maneuver but he must keep them oriented and not only must each subordinate make the necessary dispositions for fullfilling his part of the mission of his superior but he must keep that superior and all neighboring officers advised of all information which he may obtain from any source. The means employed for obtaining information in the immediate presence of the enemy is referred to in the Drill Regulation as Combat Reconnaissance, and the manner of disseminating that information is known as Communications.

Battlefield reconnaissance is a separate study in itsef for each of the branches of the mobile army, but battlefield communications are maintained by so nearly similar means that the subject can be broadly treated in such a manner as to apply to all. There is no difference in principle between the Information Officer of the cavalry and infantry and the agent of communication of the field artillery.

COMMUNICATION.

"Communication is maintained by means of staff officers messengers, relay systems, connecting files, visual signals, telegraph or telephone.

"The signal corps troops of the division establish lines of information from division to brigade headquarters. The further extension of lines of information by the signal troops is exceptional." (Paragraphs 384-385, I. D. R.)

During a battle each staff officer should have his work prescribed and each will, beyond doubt, be kept reasonably busy in performing that work. All of the other means of communication mentioned above require some originating brain and that brain must be found in one of the staff officers,

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except in the matter of orders which will originate with the commander. Since the work to be performed must be proportioned among various staff officers and the important work of maintaining communication cannot be left to chance, it follows that an officer must be detailed at each headquarters whose business it will be to maintain communication with neighboring forces and the next higher headquarters. This will apply to all organizations down to and including the brigade. The method used by this officer for transmitting information will be one of those referred to in the quotation above.

For similar reasons to those just given, subordinate commanders cannot afford to trust this busy staff officer to remember them at all times and to keep them informed of every phase of the action of which they should be advised so they should detail officers to superior headquarters whose duty it is to communicate to their immediate superiors everything which transpires at their headquarters. Such information officers should also be sent to the headquarters of all neighboring troops which are not within the personal observation of the commander. This method should be used down to include regiments, regimental supply officers may be used for this purpose. Similiar means must be adopted by smaller commands when acting more or less independently. As to methods of conveying the information we shall again quote from the Drill Regulations:

"Each regiment employing its own personnel, is responsible for the maintainance of communication from the colonel back to the brigade and forward to the battalions. For this purpose the regiment uses the various means which may be furnished it. The staff and orderlies, regimental and battalion are practiced in the use of these means and in messenger service. Orderlies carrying signal flags.

"Communications between the firing line and the major and colonel are practically limited to the prescribed flag. arm and bugle signals. Other means can only be supplemental. Company musicians carry company flags and are practiced in signalling." (Paragraphs 386 and 387.)

Important messages should be transmitted by more than one means in order that mistakes will be less liable to occur and and in order to insure delivery. In defensive positions, the installation of a more complete system of field telephones will often be practicable, but there is always danger that the commander, if connected by telephone, will not be able to resist the temptation of depriving his subordinates of all initiative.

Whatever the means of communication resorted to, the method of employing Information Officers as outlined above, is the only one which has as yet been devised which offers any promise of success. Any other method demands more of individuals than can be hoped for under the severe strain of battle. Of course, in some instances, non-commissioned officers of superior intelligence and initiative may be employed to replace some of the officers.

COMBAT RECONAISSANCE.

The •Infantry Drill Regulations emphasize the value of proper combat reconnaissance. "Combat reconnaissance is of vital importance and must not be neglected." (Paragraph 389 I. D. R.)

"It will frequently be impossible to obtain satisfactory information after the action has begun." (Paragraph 394 I. D. R.)

"Before an attack a reconnaissance must be made to determine the enemy's position, the location of the flanks, the character of the terrain, etc., in order to prevent premature deployment and the resulting fatigue and loss of time."

(I. D. R. 393.) "Reconnaissance continues throughout the action." (I. D. R. 396.)

Battlefield reconnaissance is usually begun by the cavalry. The reconnaissance of cavalry has passed from the realm of distant reconnaissance into that of nearby reconnaissance. The army cavalry gradually concentrates toward a flank of the army and the reconnaissance against the enemy's front is either taken over by the divisional cavalry or by special cavalry detailed for the purpose. All of this cavalry should be placed under one leader in order to prevent frittering away of the strength of the cavalry by an excess of patrolling in any one locality or an entire neglect of other localities. This leader must seek, above

all things, an idea of the grouping of the hostile forces and with that purpose in view he must send forward patrols varying in force from two selected scouts to entire troops with specific orders as to the sector in which they are expected to operate and when practicable, the length of time they are to stay out and when and how they are to be relieved. In some sections where the terrain is favorable and weather conditions suitable this work can be valuably supplemented by aeroplanes. In the meantime, the more valuable work should be in the process of accomplishment by the army cavalry which has withdrawn to the flank. That cavalry, if it has not already done so, must first of all seek to defeat the enemy's cavalry in order to pave the way for the patrols. In my article in the November, 1912, number of the Cavalry Journal, on Cavalry in Maneuvers 'I touched on the method which I believe should then be pursued. The cavalry on the flank should never be contented with a position in rear of the flank but should endeavor to echelon itself to the front in order that it may prevent the enemy from obtaining an insight into the movements of the reserves of its friendly infantry and, at the same time, be in the best position for observing the enemy's dispositions and either joining in the battle, operating against the enemy's flanks and rear, beginning the pursuit, or covering the retreat.

On the battlefield itself, patrol service is a matter for the infantry and can be carried out by no other troops, except such as can and should be carried on toward the flanks and rear of the enemy. In order that the cavalry commander inform himself as to the arrival of an opportunity for the cavalry to take part in the fight, officers should be stationed, if practicable, in secure, commanding positions from which they can observe the progress of the action by means of high power field glasses. Bernhardi says: "observation carried out by patrols from the front during the battle of the measures taken by the enemy is unpractical and only possible in peace, and is a procedure that is the outcome fo requirements of leaders lacking in determination, who wish to be continually informed down to the smallest details about the enemy, instead of trusting with self confidence to the

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compelling force of their own measures" (Cavalry in War and Peace, Bridge's translation, page 72.)

The cavalry on the side of the defensive should be even more energetic in its endeavors to get well out in advance of the flanks of its own infantry, for the initiative rests with the offense and the cavalry of the defense must discover the movements of the enemy's reserves in time to permit of counter measures being promptly adopted by the army commander.

ARTILLERY.

The artillery depends largely upon the other arms for the location of the enemy and information concerning its strength and movements. It is, however, necessary for the artillery to supplement this work of the other arms by specially appointed reconnaissance officers and trained artillery scouts. It requires special technical knowledge of the capabilities and requirements of artillery in order that the guns may be promptly posted and that peculiarly favorable targets may be selected. Much time may also be saved by an artillery reconnaissance officer if he examines the terrain, locates the enemy and, after selecting a suitable position for the guns, prepares firing data so that the guns will be able to begin firing as soon as unlimbered and in position.

The artillery commander himself should accompany the commander of the troops, secure from him the general tactical situation, and decide upon the employment of the guns so that they will best carry out the general scheme. The further details of securing information and watching for changes in the positions of our own troops and those of the enemy should be left to the reconnaissance officers and scouts. Any one, who has ever seen troops in action or at maneuvers, knows the difficulty of distinguishing friend from foe even at the shorter ranges and will be able to appreciate the absolute necessity of the most active battlefield reconnaissance to the artillery. The artillery reconnaissance officers and scouts must accompany the most advanced troops and keep the commander constantly advised of all changes in the dispositions of friendly troops as well as the enemy

and this in addition to the work of the Information Officers or Agents of Communication which have already been referred to.

Reconnaissance officers usually have charge of the sector assigned to their immediate commanders while the scouts are sometimes assigned that duty but more frequently are given some more specific mission which is intended to supplement the work of the reconnaissance officers. Paragraphs 703, 704 and 705, Artillery Drill Regulations specifically prescribe the duties of reconnaissance which should fall to the (a) Artillery Commander, (b) Battalion Commander, (c) Battery Commander, (d) Reconnaissance Officer. It is so carefully and completely summarized that no explanation is necessary, while the duties are so comprehensive as to make it inadvisable to increase the volume of this article by quoting from a book which is accessible to all.

Recent experiments at Fort Riley indicate that the aeroplane has become an exceedingly important auxiliary to the artillery for battlefield reconnaissance. Just how much will be accomplished by them in actual warfare against an active and resourceful enemy is unknown to the writer. Perhaps when we obtain more detailed accounts of their use in Turkey some light may be shed on this important experiment. Several articles have appeared in the daily press but they have either been so meager as to be unsatisfactory or so manifestly the result of a reporter's imagination as to be untrustworthy.

The captive baloon will continue to be used at times, perhaps more as an observation station when no other means is available than as a general means of reconnaissance. Its appearance always attracts the attention of the enemy and we must be careful that the information so conveyed is valueless to the enemy.

INFANTRY ON THE OFFENSIVE.

Upon nearing the battlefield, the general position of the enemy having been previously reported by the cavalry, dirigibles, or areoplanes, the commander should seek a commanding position from which he can obtain the best

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possible view and make a personal reconnaissance of the ground over which he will probably maneuver.

He will, if he has not already done so from the map, then direct the subordinates into their respective preparatory positions and give them instructions as to what information he may consider of special importance which he desires them to secure and transmit to him.

You will please pardon me if I emphasize the statement that his personal reconnaissance in the case of larger commands will seldom extend to the enemy's lines. It is very difficult nowadays for the commander of a large force to get far enough to the front to observe the enemy without losing control of his reserve. He must, however, be kept fully informed as to the movements of the enemy and, he should personally observe as many of them as possible for subordinate commanders are liable to overemphasize the imwrtance of occurrences which are transpiring in their immediate front. For this reason commanders of divisions and smaller units should make it an invariable rule to get where they can personally observe the enemy whenever the ground permits. Commanders of the larger units have more time for reflection and can weigh the information received from the front more carefully and conduct the fight more successfully from information so received

Having given directions for the movements of the sublivisions to their various preparatory positions the commander should issue any orders which he may consider necessary for the protection of his flanks and send patrols to commanding points in the immediate vicinity with orders to remain in observation of a certain sector or to observe the enemy in a certain locality. Many of these flank and observation patrols will remain in position during the battle. Special men should be told off whose duty it is to watch the more important patrols for signals as messenger service is apt to be so slow as to prove valueless. Trained topographers should be caused to reconnoiter the terrain over which an advance is probable and submit sketches.

Each subordinate commander must charge himself with the duty of patrolling his immediate front and watching

his flanks either for protection from the enemy or for the purpose of retaining contact with supporting troops. Under all conditions these flank patrols must continue their observations throughout the action.

If at any time, any part of the front appears to be free from the enemy, patrols must be pushed out into that sector, whose mission it will be to determine the extent of the gap both laterally and in depth.

As to the size of these reconnoitering parties, nothing can be laid down. "Reconnaissances in force are dangerous and should only be resorted to when ordered by the superior commander." There can, however, be no doubt that they are sometimes necessary, and they will be resorted to frequently in the future as they have been in the past. The general rule concerning detachments, "Never send out any which are not required and never make them any stronger than the situation demands" applies to battlefield reconnaissance parties with perhaps more emphasis than to any other detachments, for it is certainly desirable to have every available rifle ready for use on the firing line.

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The outpost line will remain in position as long as it can do so without compromising the action. From this line vigorous patrolling should be resorted to in all directions for the purpose of making an early report on any hostile advance in force and of preventing effective patrolling on the part of the enemy. Well concealed observation patrols may be left out for the purpose of obtaining valuable information of the enemy's dispositions and intentions, depending upon their superior knowledge of the country to successfully return with the information.

In conclusion I wish to say that I know my treatment of this important subject has been but superficial. I have merely scratched the ground here and there but if it will attract the attention of any of the younger officers to the fertility of the ground which is available in the province of troop leading in general and in battlefield reconnaissance in particular my object will have been accomplished. I

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commend especially to your attention that splendid book of Von Kiesling which has been translated by Spaulding under the name of Battle Orders. No subaltern without practical experience is competent to lead his platoon into action until he has made a careful study of that or some similar work. No amount of enthusiasm, patriotism, bravery or even common sense can quite serve as a substitute for a technical knowledge of the principles of troop leading.

The value of the saber has never been fully tested in our service. One cause has been that it was nearly always supplemented by the carbine, and the choice in use of the two weapons has been with the latter-for it offered ever a tempting excuse, a passive choice against the energy of violent action and the shock of the charge.

The other cause was that the saber was seldom sharpened or kept sharp. As issued to the new troops, it is little better than a club.

An English officer, after his first combat in India, observed with astonishment among the slain by some allied native cavalry, many heads and limbs dissevered, and evidently by single strokes. He inquired into the secret of such execution, expecting to find sabers of fabulous excellence. But it was all done with condemned British sabers; the natives had sharpened them like razors, and to preserve the edge had changed the metallic for leather scabbards: they had also attached longer wooden handles.

It is said that the cases are rare of the actual crossing of sabers or of bayonets. But the argument, from sedentary sources, is that the medical records show few wounds inflicted by those weapons. Of all the wounds of our Civil War that "have been analyzed and recorded," only nine hundred and six have been inflicted by saber cuts and bayonet stabs. But there is no record of the wounds of the slain; and thrusts or points are far more fatal than cuts (although the writer has known one to cleave in twain and Indian's head who had a rifle in hand.)

It should be remembered, too, that cavalry are celebrated for making many prisoners-by the thousands at the battle of Winchester. They dominate disordered infantry; the saber and its point is upon them, and who may flee from a horse!

If, in a charge or mélée, one trooper, saber in hand, meet another with pistol or carbine, the violent motion will, as a rule, cause the latter to miss his opponent whilst about to meet his saber point; but if the shot be effective, in many cases to one it will not disable his adversary for an immediate thrust or cut. A man in a charge who encounters the point of a passive saber will be deeply wounded. "My knife never

OUR CAVALRY.

Reprints and Cranslations

(Reprinted from the United Service for July, 1879.)

BY MAJOR GENERAL P. ST. GEORGE COOK, U. S. A.

UR cavalry is in danger. It has enemies of its own household (of its saber): enemies among its "familiar friends." some of whom need well to look to it that their own famous weapon be not turned into a shovel It looks u_{f} in vain for an intelligent friend. Some would throw away the saber; some would give them long rifles; one would equip them as brigands, pure and simple, with rifle, pistol, and a bowieknife. It has savage enemies, mounted and armed with firearms and with the lance, which, with its better rival, the saber, has in all ages crested the waves of victories, and holds a place among civilized and savage to this day. But the Indian thus equipped rarely faces the "long knives," but retreats to the natural fortifications of his land-lava-beds, etc., so strong and near-and there, with the best fire-arms of long range, defies our best infantry. There the saber is of little use, the horse of none. But the Indians are at desperate bay, as in a big "drive;" they are surrounded now, and see and feel the daily contraction of the ruthless bounds and their approaching fate.

Thus the saber is temporarily greatly depreciated, and, by a curious coincidence, the cavalry has been burdened by tactics, the fatal defects of which are overlooked in this exceptional Indian warfare, but which would, eventually deprive us not only of the saber, but of this great force deemed essential in all modern armies.

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snaps," said an old frontiersman. A dragoon expressed a similar idea, "My saber is always loaded."

But in truth the argument is decisive in favor of saber and bayonet. All know that it is not a rare thing to make cavalry and infantry charges—is ever a victory without one. The reason that they are seldom fully encountered is that they are so fearful; one side generally gives way, shrinking from so imposing, so dreaded, an onset.

By the saber and by the bayonet the bravest and best commanded troops gain nearly bloodless successes.

Cavalry never had just appreciation in our country Its first introduction into our army after the old wars was a single regiment in 1833. Before 1861 it had not acquired the numerical importance to attract interest or to be well known by many officers of the army. A consequence was that at the beginning of the civil war our chief commanding generals were ignorant of its tactics, its management, and its value. They took up prejudices, too, which arose from the length of time ever necessary for its instruction and discipline; disappointed at its premature inefficiency, in the hands, too, of a multitude of inexperienced officers. But, besides, the forests and other natural difficulties of the scenes of several campaigns gave excuse for continued indifference and ignorance. All this was a great damper to an arm requiring a peculiar talent, much experience, and a wise but stimulating appreciation. Added to all, it was trained, by a strange fatality, under two far differing systems of tactics.

The results were, with a few brilliant and suggestive exceptions, notably at Winchester, under a very young but thoroughbred cavalry general—that, exclusive of services, important, indeed, but of which actual fighting was not a prominent element, it became in battles and serious combats little better than a poor substitute for infantry.

The carbine became the arm on which it relied. When used on horseback it was especially inefficient. The cavalry was consequently generally dismounted for action.

This neutralized one-fourth, to hold and guard the horse. Their carbines were inferior to the musket. They were less mobile than infantry, unless with extraordinary risk of loosing the horses.

The horses were sometimes lost.

They cost as much as the very best cavalry.

* * * *

There must always remain a cavalry to carry by a destructive momentum cold steel into the hearts of masses, columns, lines, which the dire exigencies of war enable it to strike; to surprise in irregular charges of great velocity smoke-enveloped batteries—a service often of capital importance; to push, to follow up, and give abiding value to victories.

The speed of a line of charging cavalry, the aggregate of life, motion, noise, and power gives a spiritual momentum to both rider and horse. From clouds of dust and smoke, with cannon roar and a great shout, it comes! There is a rumbling thunder of hoof-strokes shaking the ground, and a lightning gleam of steel.

The nerves of many expectants must be shaken. Thus, if it carry home fragments through random volleys, there shall be confusion to shield the line following, and some gaps to let its torrents in.

We shall have such a cavalry, or, for a time, a hybrid force, begot of the new tactics; a sort of mounted infantry, best mounted on mules or ponies; it will be useful for a time against Indians; even in war, for scouting and some rare case of surprisal; but it will not pay; it will be too costly to use as infantry; and when war shall come we shall begin, as in 1833, to build slowly upon tradition, with no written system that can be used.

The writer is convinced that in many exigencies of war improved fire-arms play an important part; that the battle of Rossback would have been such a case. Soubise, with sixty thousand men, seven thousand cavalry in front—marched with a long sweep to reach the flank or rear of Frederick's twentytwo thousand men camped in order of battle. Frederick, who detected the design, marched at the proper time, with four thousand cavalry under Seidlitz in front, and covered by a broad hill, met and surprised his enemy marching,—took him in flank. Seidlitz had time to put himself in order, and then,

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without awaiting orders, charged upon the vast column of cavalry, only two or three regiments of which could manage to deploy; he "slashed through them" over and over again, and in not many minutes drove them on their infantry and from the field in hopeless flight. Then the Prussians—only seven battalions engaged, or visible to the enemy, and with twenty-two pieces of artillery-smote the disordered and undeployed column of infantry. But Seidlitz had rallied and got in good order in a hollow; until, observing the proper moment of the enemy's confusion, he charged upon their rear, and in twenty-five minutes drove in utter route the fifty thousand infantry. taking five thousand prisoners, etc., etc. Those that escaped were fifty-five miles from the field of battle the second day.

The writer would arm a portion of our cavalry with carbines, but undoubtedly in such a battle as Rossbach they would prove a mere incumbrance.

•The first step towards a permanent cavalry was taken in 1832, when eight companies of mounted rangers were legalized and raised. Their name and character were a concession to a prejudice, better founded then than now, in favor of Western frontier material for Indian fighting.

The following year, 1833, the regiment of dragoons replaced the rangers and became a permanent army organization.

Its first year was passed under miserable, and indeed calamitous conditions. Allowing for an inexperienced but profound ignorance in the War Department of the new arm, its treatment that year would serve as an extreme illustration of the "little wisdom" of cavalry government.

The folly was tragic; it deserves a monunfent of warning.

Good stables were built at Jefferson Barracks. Missouri, for the six troops first organized, and they occupied the fine quarters there, in the autumn. They were very busy with the first lessons of a new art, when, before all their horses had been received, without premonition, there came an edict for a march to Fort Gibson, upper Arkansas. Before they were all clothed —and some without instruction—wretchedly armed, they were put upon horses, and started upon a five-hundred mile march in snow. Arrived in the last days of December, they found no quarters, stables, or forage; this last was not attainable. The mercury sank to 10°.

Emerging from a canebrake in the spring, they were joined in June by the other troops, and all, still without proper arms, marched, with the mercury at 105°, due southwest, with no particular object, unless in the mind (!) of the War Department, to flatter Congress that it could make a flat cavalry that would circulate.

Whether from seeds of disease implanted by their wretched winter exposure or the terrible heats of the nearly waterless plains (which were persistently invaded, as if in defiance of nature, the only enemy), they lost that summer one-fourth of their number—officers and men—including the hair-brained brevet brigadier-general commanding, and his aide-de-camp.

Of the rise, progress, and decline of our systems of cavalry tactics I shall here give a sketch, with a criticism; if this last prove to be technical and dull, nevertheless it shall closely touch matters of much public interest.

At Fort Gibson there were in the regiment but two copies of some forgotten cavalry tactics. All the troop officers were drilled as privates by the major, who had a book; in afternoons these officers imparted to squads of the rank and file the instruction of the mornings.

The regiment was divided to two other posts, on the Missouri, and upper Mississippi, and in 1836 a second regiment was added to the army for southern service. Six years were passed with little tactical progress. Only the Seminole Indians of Florida were pushed to a war, in which, of all the army, the Second Dragoons alone was a constant factor. In the north there was a long lull of territorial encroachment; a very quiet and friendly supervision of the tribes was maintained by summer marches of the First Dragoons.

Three of its young officers had been sent to a cavalry school in France to observe and practice their system, and to make a translation of their tactics. It was made, and in February, 1841, it had been approved, printed, and published. It had been adopted in France in 1826, and was for that portion of their cavalry which was armed with carbines, pistols, and sabers (or with lances).

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It was one of the old European systems, restricted of any elasticity by formal conservatism. Much was sacrificed to a strict consideration of which flank of a force should happen to be in front; an inversion was an exigency which must receive special treatment, or must be avoided by maneuvers dangerous for cavalry, and with no other motive or excuse; such were the countermarch, and the formation of long lines by movements of one, two or four files. Any change of face or formation, during which cavalry cannot make an attack, makes it helpless for so long; and its chief enemy, other cavalry, is watchful, prompt, and of great velocity of motion.

In that system the "open column" of platoons was used for regimental evolutions; their column of fours was, in consequence of double ranks impracticable, and its depth was double the front in line.

It was the result of the old theories and formation, that in the tactics of 1841 were to be found such puzzling commands as, "On the rear of column—by inversion—into line faced to the rear."

Right or left in front then made a great difference of action and result; and a mistake of one troop, perhaps under fire, would produce general confusion.

In December of 1858 the colonel of the Second Dragoons was ordered by General Scott to revise this French system. At the beginning he was not opposed to cavalry formation in two ranks. After a time he became convinced that the single rank—called in the British Army, "rank entire"—was far preferable. He burnt what he had written, and began again.

This formation has now reached so strong a footing that it is scarcely necessary to discuss it; as, however, the double rank formation is still to be found in the tactics now prescribed, it may be well to touch briefly on some facts and arguments which condemn it.

It was found that single rank cleared the way in troop instruction of all the most difficult and puzzling movements, which probably doubled the time with beginners; that it could greatly simplify all maneuvers, even of brigade Much seems to result from the fact that four troopers abreast practically cover a square of ground, and thus a column of fours becomes an "open column," has the depth of its front in line. It could be used in all evolutions, and, in connection with another logical improvement or two, would dispense with the most difficult and complex ones. It was considered, too, that these facts had greatly increased significance in view of the economical national policy of a very small standing army, and the consequent necessity of creating cavalry for war in a minimum of time. It used to be considered impossible to create good cavalry in time of a war of moderate duration, and, from evident causes, that grows less and less.

But above all he was convinced that the new formation made cavalry far more effective in war—in battle, probably, almost doubled each trooper's value.

It adapted itself to the rather modern theory, and practice, that cavalry should be disposed in many lines, and should depend upon striking blows. Colonel Napier, the great military historian, thus sums his observations in the Peninsular War: "That cavalry that had the last reserve was victorious."

It was a change called for in view of improvements in artillery and small arms.

The Duke of Wellington favored the change, decidedly; he thought it would "render the use of cavalry much more general than it is at present." (1833.)

The single rank was proved very effective by the British Legion, in Spain (under Sir Hugh Evans; and in Portugal, 1833-34, under General Bacon).

Colonel Macdougall, superintendent of the British Royal Military College, in his "Theory of War," (1858), concludes by strongly recommending for "both light and heavy cavalry:

"The abolition of two ranks.

"The substitution of a good revolver pistol for the heavy, cumbrous, and useless carbine."

But a great obstacle was found to the success of the new system in the legal cavalry organization of ten troops. The Duke of Wellington considered this a matter of so much importance that he recommended the change of tactics in England to be suspended, to await action of Parliament for a suitable organization.

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The colonel, however, persevered, and with limited experience then, elaborated a new system, embracing evolutions for brigade and division (the tactics of 1841 stopped with the regiment.) He worked very quietly and unquestioned in Washington for eighteen months, with an interval of the summer of 1859, when he went to Italy to witness a campaign in the war of Sardinia and France against Austria.

In the spring of 1860 the Secretary of War deputed a distinguished officer to examine and report upon his work. He and the author together went over every word of it with careful scrutiny, making very few and slight changes; the report was favorable.

The following is extracted from its "Introduction": "Adopting, then, the single rank formation, my work of revision became one of construction; and I have chosen what I judged to be the best points in the systems of France, Russia, Austria and England. I have added to all. The work will be found to amplify the old range of movements, whilst its simplicity renders it less voluminous.

"In the decisive action of cavalry the rear rank, under another name, will be screened from much of the enemy's force; will be reserved from the confusion which even successes throws into the front rank; but that rank defeated, it not only escapes being involved, but is close at hand to profit by the impression which may have been made on the enemy."

But the author did not find favor with Secretary Floyd; he delayed final action, and assigned him to a distant command.

He was only able to return from this in October, 1861, and then he found the new work had been approved by the new administration, and it was printed and published with all form and sanction of the War Department.

The characteristics and improvements on the old European system were chiefly the following:

1. Single rank formation.

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- 2. A very slight recognition of "inversions."
- 3. An habitual use of columns of fours.
- 4. A double facility of oblique deployments.
- 5. Marches in line of troop columns of fours.
- 6. Dropping the use of the carbine.

The author, promoted, and placed in command of the cavalry of the Army of the Potomac, a few days after received a letter from the very powerful young general commanding that army, forbidding the change of tactics as dangerous "in the presence of the enemy;" and soon after he armed the cavalry with carbines. And be it noted, that commanding a division, the new system, embracing instruction for its movements, thus gave place to that of 1841, which contained no tactics even for the brigade.

But the newly adopted system had better fortune elsewhere in spite of the increased difficulty of adaptation to the twelve troop organization of volunteer cavalry. A lieutenant colonel commanding a regiment of volunteers, wrote to the author: "In two months of bad weather in a Kentucky rainy winter, we were able to execute every evolution in your tactics at a gallop." The tactics of 1841 prescribed that the trooper "after one hundred and eighty lessons or days of instruction should be able to enter the school of the squadron."

Afterwards, from stupidity or design, when books of cavalry tactics were called for, both systems were sent out indiscriminately from the store-room at Washington, where they were deposited. Then Mr. Stanton gave a *verbal* order to discontinue the printing and issuing of the new adopted system.

But as late as 1872 the War Department furnished the Third Cavalry with the new work at the urgent request of its colonel, approved by the lieutenant general, and the regiment was instructed accordingly.

After the war, General Upton wrote a new infantry tactics, founded on the innovations of the cavalry system of 1861. Especially he adopted the use of fours, the chief similarity of the proper movements of the two arms, and only rendered possible by single rank in cavalry.

The Board of General Officers, which approved Upton's tactics, struck with the great improvements originating in the cavalry tactics of 1861, but probably ignorant of that fact, as of cavalry tactics generally, recommended the assimilation of the tactics of cavalry and artillery to Upton's for infantry.

Thence arose an unreasoning cry for assimilation, which has been carried as a new fashion, to extremes.

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In 1867 the writer, considering the possibilities of the new organization of the cavalry regiment changed to twelve troops, resolved to employ all his leisure in re-writing the system of 1861.

This large organization suggested the idea, which he thinks turned out happily, of forming the regiment habitually in two lines, and treating it in some degree as a brigade; and this was much favored by an extra number of field officers.

(The national legislature may well bear in mind that a change of organization is no light thing; that it may render impracticable any existing system of tactics.)

The writer had then gained the advantage of experience on a large scale, and not writing under orders. felt relieved of the restraints of precedent and conservatism. Guided always by practical knowledge, he resolved to follow the suggestions of a deeper study to their logical and ultimate results.

To illustrate, he will explain the origin of the regiment and brigade double column of fours, perhaps the most important invention, which will enable him to credit with a share in it an old friend long on his staff, John Buford, a man of cavalry instincts. General B. was obeying, in the Army of the Potomac, the system of 1841, but having in mind the double column of platoons in that of 1861, marched regiments side by side, each in column of fours; he told the writer that the roads were wide enough (although too narrow for platoons). and that he found this formation in marches gave him great advantages, great facility and rapidity to sudden deployments.

The writer found that this double column of fours had the happiest adaptation to single rank; and an especial one to the regimental formation in two lines.

In the new work, which shall be conveniently referred to as the MS., simple provision is made to allow all mention or thought of right or left in front, or of inversions to be discarded; and, of course, there are no formations of lines by increments less than a troop, or marching from one flank past the other.

There is instruction as to the application of movements—a thorough system of mounted revolver target practice, the result of a winter's practice in a mountain valley of Utah—an especial study and instruction as to the methods and circumstances of all charges, and of rallying.

In July, 1868, a board of three cavalry colonels was ordered to revise or examine and report a cavalry system of tactics, "conformed as near as possible to the infantry system."

Several manuscripts were submitted, but the MS. of the writer was thoroughly studied. One member hesitated on the single rank; but they were about to adopt it unanimously,* when the Acting Secretary of War, professing the same doubts, defeated a system he had not read, by recommending the board to try to devise a *double* system. The board was dissolved perhaps six months later, and no report was published.

In August, 1869, a mixed board, with the late Acting Secretary of War, president, and only one cavalry member, was assembled to "practically test the systems of tactics heretofore adopted for the artillery, cavalry, and infantry arms of service, to reconcile all differences, to select the best forms of command, and of drum and bugle signals."

The MS. was sent to this board. Near a month after a member wrote to the writer, "I think I may safely say that your system, with few changes, and they perhaps only verbal, will be adopted for mounted troops." In January of the following year he wrote, "The changes have not been made in the matter of the text, but in the arrangement. I have fought against the change, and am sure the original arrangement will finally obtain. I can still say that yours are the *caralry* tactics that will be adopted, with fewer changes than have been made in Upton's infantry tactics."

General I. N. Palmer: "I think that your system, after it had been made either a double or single formation, was as near perfect as any we could have."

General S. D. Sturgis: "I consider your revised tactics as incomparably the best, and I would rejoice to see them adopted."

An assistant adjutant-general from the cavalry, and who had himself written on the subject, being recorder of the board, was even more warmly in favor of the MS. than either of the above members.

Thus much may be pardoned to strengthen the faith of the reader in a work which has not yet had the fortune to be printed.

[&]quot;General Emery wrote the author: "I did say to you, and I am quite willing you should make any use of it you choose, 'That if single rank in cavalry was to be adopted, I considered your tactics unique." You have greatly simplified words of command, etc."

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After more than a year the board reported in print.

But in cavalry the new arrangements remained unaltered; and the MS. plan, beginning with what the recruit, or volunteer, must first learn, and everything in orderly sequence, was altered to give first place to sixty-four pages of infantry tactics; and the duties of the "interior service," the care of the horse, arms, camp duties, were relegated to an appendix.

The board did substantially adopt the MS. (without a word of credit); all its novelties—single rank (presumably the exacting Secretary now approved it), regimental formation and evolutions in two lines, double columns of fours most used in regiment and brigade—no word of right or left in front—the formation by troop of all lines from columns of fours—columns and double columns of attack; these changed in name to "divisions" and "double column of divisions" (to "reconcile" the powers.)

By some fatality the board spoiled some and added a few evolutions, so that the writer wrote an official criticism, and proved, by diagrams, that six regimental and two brigade evolutions involved impossibilities. This was referred to the inspector general and an assistant, who reported the objections to be substantial. As the system was not published, the inference seemed irresistible to the innocent critic that it was disapproved. But no such thing; it will appear that it was approved a year or two after.

But the infantry system reported was less fortunate. It appears that about a year after, all the reports of the Schofield board were sent to Lieutenant-Colonel Upton, and he was informed that the "Secretary approved his system of infantry tactics substantially; ... and the systems reported by the board for the artillery and cavalry are also by him approved, only modified so that all three may be in perfect harmony each with the other The responsibility will rest on you and when you approach completion, please advise me fully of the state of the work, and I will endeavor to procure the order of the Secretary for its publication."

It is always difficult to express an awkward idea, or the idea of another plainly, or even in the best English (and this was again verified in the order adopting Upton's works.) Let it be considered: a board of five officers selected from the generals and from the three arms had so far changed the infantry tactics that its report, if adopted, would put an end to an old copyright; but is sent without approval or disapproval, to the author of the old work, to be used for improving it by revision; and the tactics for cavalry and artillery, the former approved, or substantially adopted by a cavalry board, and that mixed board and even by the Secretary, are submitted to an infantry officer to be made over to fit his old infantry system, and not even to be read before an order was to be procured "for its publication."

July 17. 1873, an order of approval was issued for "The revision of Upton's infantry tactics, by the author, and the tactics for artillery and cavalry (including the proceedings of the board, Major-General Schofield, president), assimilated to the tactics for infantry."

It would certainly weary past endurance any but professional readers to attempt to specify all the faults to this Upton cavalry tactics now in use. So there is great difficulty to decide where to begin and where to make an end. As a cavalry commander who had tried to teach it, and also to use it against Indians, writes that this experience of it "has increased my contempt for it to a degree that leaves me with no patience to criticise it. How any set of men who pretend to know anything of either the English language, or of the principles of tactics, could be other than ashamed of such crude errors and exhibitions of ignorance as are shown wherever one looks into it, passes my comprehension. . . . The skirmish drill is as bad as possible, and this with us is vital."

The critic must then endeavor to select some salient; points and as mere specimens.

It is well and just to make here a considerable quotation, as it envolves several tests of the work, and is one of the few real "harmonies;" (and the writer here makes his acknowledgement for the convenience of numbered paragraphs, especially as the author makes no use of them for the benefit of himself or students.)

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"School of the battalion, 783. Being in column of fours, right in front, and at a halt, to form close column of companies to the right, the Major commands:

"1. ^z To the right, close column of companies. 2. MARCH. "(Pl. 8.) At the first command the captain of the first commands: 1. Forward. 2. Column right; the other captains command: Forward.

"At the command march, the first company changes direction to the right; the captain, after advancing thirty yards in the new direction, halts and allows his company to march past him; and when his rear four approaches him, he commands: 1. Fours left. 2. MARCH. 3. Company. 4. HALT. 5. Left. 6. DRESS. •7. FRONT. The other companies move forward and successively change direction, so as to enter the column in rear of the first, and are formed in line and dressed to the left by the same commands and means as the first.

"784. To form on the right, the major commands:

"1. On the right, close column of companies. 2. MARCH.

"The first company executes the movement as prescribed for forming to the right; the other companies move forward and successively enter the column beyond the point where the first changed direction, form line to the left, and are dressed to the left as before.

"785. To form to the left, the major commands: 1. To the left, close column of companies. 2. MARCH.

"The first company changes direction to the left at the command march, and having cleared the flank of the column by thirty yards, forms in line to the left, and is dressed to the left. The other companies enter the column in front of the first and are formed in line to the left, and dressed to the left in a similar manner.

"786. To form on the left, the major commands: 1. On the left, close column of companies. 2. MARCH.

"The rear companies pass beyond and enter the column in rear of the first, each company, as before, being dressed to the left.

"789. The battalion being in column of fours, left in front, the movements to the left, to the right, and on the right are

executed the same as when right in front, except that the companies, after entering the column, form line to the right and are dressed to the right."

Which last means that the new column, which faced in two cases to the front, and in two to the rear, when right was in front, now with *left in* front, does the same, but in each case exactly reversed. (The plates misrepresent the formations showing an *open* column.)

Now, 784 makes exactly the same formation as 783, some part of it in each case on the same ground; but it is more difficult to perform, and is open to the serious criticism of disabling every part formed from any action until the last formation by a flank march—is completed.

It is observed that these commands give no indication as to right or left being in front after the execution, and that changes every time; nor the direction to which the new column shall face, but indicates a wrong one, for in all other like commands, "on the right," there results a change of face to the right.

Then comes in 789, which, with *left in front*, reverses all the above formations.

Essential differences in the movements depend upon a right hearing by cavalry in motion, probably in a high wind, the difference of on and to; making a regiment face or turn its back upon an enemy by no other indication. And these puzzling differences are to avoid inversions.

Now in the formation of this same column (right or left), *jront into line*, the book ignores which flank may be in front, and in half the cases makes extreme inversions—of fours in troop, and the left company to the right—and all ignored.

Suppose this *done*, and the next change to be a march to the *right*, followed by a necessity for any one of the above movements. Will that column be "right" or "left" in front? Any uncertainties, mistakes, diverse decisions of this question, would lead to confusion or an extreme difference from the result required. What "system" is there in ignoring right and left in front in some maneuvers, and not in others? (It originated in copying the tactics of 1861 only in part.)

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This is the preparation of a small "battalion" for regimental exercises; but in the regiment are found, in 957 and 958, only two of the eight movements mentioned or hinted at; no word of right or left in front. Then, how shall the majors decide as to the meaning of the colonel? How shall they use their painful studies and practice of those phenomenal puzzles, which have bewildered and taken up so much of the time of the volunteer battalions? There is no explanation; confusion would result.

With a view to "perfect harmony," and to make the cavalry and infantry "as near alike as possible," this work introduces into company and into regimental exercises the formation of the company in double columns of fours, and also two double columns in a troop, which are not in the infantry; but not content with useless work, it disposes the regiment into lines of these columns, and with closed intervals. Such formations can only be intended for the field of battle; but to give effective force to cavalry, the closed intervals make necessary to a deployment preliminary and dangerous long flank marches.

Contrast the vagueness and even misleading nature of the commands in paragraphs 783-9 with one in the next paragraph, 790: to reform in column of fours, the major commands: 1. Column of fours. 2. First company. 3. Right forward. 4. Fours right. 5. MARCH. If he should command, 1. Column of fours, right forward. 2. MARCH, he would escape exhaustion of his voice and the futile transfer of the instruction of his "first captain" from the recitation room to the noisy and troubled field of action.

In paragraph 717, the battalion in line, the major commands: 1. Fours right-about. 2. MARCH. 3. Guide right; and the line is supposed instinctively, to march to the rear. Now, in 718, he commands to a motionless line. 1. Continue the march 2. Platoons right-about. 3. MARCH. 4. Forward. 5. MARCH. 6. Guide center.

These commands contrast as if they belonged to different systems, and one is short to uncertainty, the other prolix to repetition. But as to "perfect harmony," the last movement is not found in the MS., nor in Schofield proceedings, nor in the infantry tactics; exactly the same can be said of "by right of

platoons rear into column" (507), which in addition is impracticoble (pardonable ignorance for an infantry author?) But in this last, "dressing" of platoons is introduced-"to be as near alike as possible"-"in harmony" with the staid and methodical slowness of infantry, but never heard or read of before by any cavalry officer. And the platoon itself, which first and last enormously swells the amount to be learned by volunteers, is useless, is not found in the MS., nor in the Schofield board proceedings (only in the old 1841 tactics, where the column of fours of a different nature could be little used, and where the squadron consisted of two troops); and which has mention but in a single paragraph of the infantry battalion as a possibility.

Cavalry is made "near alike" in two evolutions, which, however, they may possibly suit the infantry, are as dangerous to cavalry, useless, and absurd. The first is the breaking a regiment of eight hundred or a thousand yards front, to march by fours from one flank close in front of the other; the object could be attained in ten seconds by "Fours, right or left, march."

The other, 905, "on right into line" for the formation of a line of equal extent by fours. Should a regiment of cavalry or infantry attempt this formation-and there is no other way laid down-on arriving in an opening, to oppose cavalry, a single enemy's troop could easily sweep away all the first fours-facing in two directions-and most likely the whole regiment in flank march behind them.

The author assimilates infantry to cavalry, by forming a "double column" of infantry, pages 221-24, in the same manner of Schofield proceedings (following the column of attack of the MS.); this, notwithstanding he has the same formation, made in a different manner, under the name of "column of divisions".

If any one decidedly worst feature and vital fault of Upton's cavalry tactics could be selected, it would probably be its omission of this formation,-and the "double column of divisions,"-properly of "attack," this name truly indicating their essential character; this palpable result of ignorance is enough for any cavalry mind to condemn the work. As to assimilation, "harmony," it is simply its opposite; it steals a cavalry jewel, leaving it poor indeed!

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The marches and evolutions of double columns of fours, for regiment and brigade—perhaps the happiest of late improvements—are harmonized out of the Schofield board's proceedings.

The work omits orders of battle, formations for and methods of attack, which is the sum of all cavalry action,—the passage of lines, collections or summaries of general rules and of definitions; rallies—merely alluded to; pistol target practice, save five lines; picketing of horses in camp (campaign). The writer, after twenty years' study and experiment of this last, and observations in an European campaign, gave the concise result in the MS., and it was copied in the Schofield board proceedings.

No exercise for brigade, or only seven pages (there are seventy-two for the infantry); it takes up the brigades in a column of fours, say three thousand yards deep, and keeps that as the basis of supposed evolutions, without any commands, through five of the pages; one evolution is the formation by fours of a single line about a mile and a half long, which, at a walk, would consume half an hour. No same cavalry commander ever conceived in idea such a monstrosity.

The importance which this new tactics attaches to the different subjects of instruction must be pretty well indicated by the space severally allotted, thus:

To dismounted instruction is allotted	132 pages.
About platoons, and company double colum	nns
of fours (useless)	64 pages.
The charge, in battalion	1 page.
The regimental charge	2 lines.
Pistol target practice	5 lines.
Evolutions of brigade	7 pages.
Ceremonies	48 pages.
Seventy-five cavalry trumpet signals, with	• -
music	30 pages.

With the confusion of seventy-five musical signals, the average soldier would not learn above a dozen in a year.

Colonel Upton was instructed to make the infantry "school of the soldier" identically the same for the three arms. (1) Unable quite to do this, he has, *en revanche*, given the cavalry

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the task of the "school of the company" with some formations added; this, and a division into four, instead of two platoons, in despite of harmony even for troopers afoot.

Then follows the "battalion dismounted" in vague and careless shape; but not failing to include "columns in mass," echelons, single and double rank. (!)

After the instruction of the cavalryman in the company and battalion drills in two ranks, we find that the regiment, dismounted to "fight on foot," forms in single rank. Contrary to precedent and convenience, shirmishing is first taught on horseback.

What dismounted movements were ever made in the war by the cavalry other than the advacncing, retiring, and the flank marches of lines? (They *were* very apt at charging.)

Shall cavalry volunteers in time of war be set to acquire the exactitude of drill—the peculiar formations of infantry essential to *their* part —a sturdy resistance of all sorts of attac. ?

Let the first one hundred and thiry-two pages of this tactics for cavalry answer! Then follows for these recruits the tedious and severe work of practice and instruction relating to the horse and cavalry tactics generally; these alone requiring more time than they ever have been allowed by our impatient policies and exigencies.

This preliminary instruction in infantry tactics, with differences, and great additions to what cavalry would ever be called on to perform (in excess and exaggeration, it is thought of the author's instructions), the eightfold puzzles which have been quoted, and a few other movements, which have been described or mentioned as *impracticable* for cavalry and useless and dangerous to either arm, constitute the important results of assimilation and harmony. (The changes of names are childish, but mischievous too, as childish things are apt to be.)

And these valuable gains have somehow been complemented by others extraneous, to wit: the addition to the work of the cavalry, which always requires much the most time for instruction, the preliminary study and practice of another arm, including some differences and defects which the trooper will have to "unlearn." Also the almost doubled work of two

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cavalry systems-single and two rank formations-besides the single and double rank of the trooper's infantry education.

And not least, a work which in substance and tone must change and depress not only valuable action, but the spirit, style, and dash peculiar and important to this arm, as the cavalry eye (which has been much emphasized in print, indicating that the commander's eye must be very sharp and quick to harmonize with the style of movement required of cavalry.)

The legend of finest Greek imagination is far outdone by the modern Procrustes, who would torture to its death freeriding cavalry by repression to the infantry scale.

What was meant by the first order for assimilation should sensibly have been assumed to be that in revisions of tactics for all arms, late inventions and improvements should be well considered, and in how far applicable, as principles, to such arms. Such as the ignoring of inversions, the adoption of the columns of fours, single and doubled, for both cavalry and infantry: agreeing upon the same signals in their nature applicable to all troops. Beyond such as these it has been a blunder and a pretence.

These desirable objects would have been attained by intelligent and experienced efforts to make the tactics of each arm the best possible for that arm.

The material constitution, the formation and duties of the three arms are different even to contrast; their methods, motions, and arms are as "nearly unlike as possible"; and "tactics" means the representative and orderly development of these differences. Consider only that the cavalry regiment has in this work three "battalions," and the infantry only one.

The attack and defense of infantry are mainly the sameby the far-reaching fire of small arms; even the superior force uses the protection of breastworks. Cavalry can scarcely defend itself, but must attack with weapons only available in contact. Artillery is passive, as the rule; only aggressive at a distance; it is defenseless, and always guarded by the other arms.

The attempt, as Colonel Upton was instructed, "To make a system of general tactics for the three principal arms of service, as near alike as possible," for these very opposites in spaces covered, in speed, and work to be done, could only result in the failure that we have seen.

The cavalry is always a force apart, under its own general. No word of command is ever applied to more than one arm. Cavalry is not put in line with infantry; is reversed generally; is at flanks or at the rear-detached, if not technically so. It properly is authorized to act without superior orders; watches the opposite cavalry; waits for the moment of opportunity to charge a half-beaten infantry; it finishes things in its own way. It is apt to be in front on the advance, behind in the retreat. It seldom marches even by the same road as the infantry.

Witness the "March to the Sea" (the longest strategic march, or succession of marches of record, and the ablest). There the cavalry column was generally far on a flank, enemyward; sometimes two marches off. There was "harmony," the real and only harmony of combinations inspired by a genius for war.

And is there truly "nothing new under the sun?" Are there cycles of delusions?

The writer witnessed an honest, logical attempt at assimilation. It was in the old times, after the regiment of dragoons had emerged from its cane-brake hibernation; so soon as it had received some instruction, and the horses had revived a little on prairie grass, the infantry colonel commanding-brigadier by a brevet, which, then a distinction, seemed to have unsettled him-essayed to command in a brigade drill. The dragoon regiment was paraded in a line extended to the left by the seventh regiment of Infantry. The general commanded a change of front to the right; the cavalry trotted off, pivoting on their right flank, and very soon had finished. After a time an interest was felt in the infantry regiment, and it was gratified by a distant view of it, marching leisurely through the hot prairie-a column of route. As that seemed the only kind of evolution capable of any assimilation, the general bethought him of firing; he commanded the long line to commence firing; then the cavalry officers in front of the line began to think it an awkward matter-not exactly "the thing,"-it was funny but warm. However, they stood fire, as did the front rank that of the second, ten feet behind.

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And this "Tactics for Cavalry—including the Proceedings of the Board, General Schofield, president—assimilated to the Tactics for infantry," is solely upheld by one who professes "no knowledge or skill in that branch."

DISCUSSION OF A NAPOLEONIC MANEUVER.*

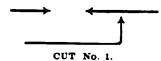
(A Cavalry Combat.)

IN the January number of the *Revue de Cavalerie*, General Paul Durand, who, was for many years the able commander of the Fourth Cavalry, outlined a cavalry engagement for maneuvers which closely resembles the favorite strategic maneuver of Napoleon: The maneuver against the rear.

General Durand's ideas are well worth considering, I will outline his ideas first and then I will compare them with Napoleon's.

MANEUVERS PROPOSED BY GENERAL DURAND.

Attack your adversary with a small fraction of your command, writes General Durand, and then when your adversary, deceived by this preliminary attack, has launched his troops against you, gain the enemy's flank at full gallop with your main body; fall on him, he is yours.



The success of the maneuver is based upon the following remarks, which the General explains by four theorems:

Theorem I. It is difficult and well nigh impossible to determine the real strength of cavalry when they open fire at a distance of, say, 1200 meters.

Likewise if a commander waits, even for a very short time, to obtain a more exact estimate of the enemy's strength, he stands a very good show of not being deployed in time or of being obliged to charge in disorder.

Corrallary.—The preliminary attack will make the enemy deploy his forces to meet you.

Theorem II. There is a tendency in the cavalry to always try to gain superiority by superiority in numbers.

Corrallary.—The preliminary attack will make the enemy deploy a force superior to what he thinks yours to be.

Theorem III. In the cavalry, once an order is given to a unit to attack, there is never time for that order to be rescinded or modified.

Corrallary.—Once the enemy's cavalry is ordered to meet your preliminary attack, it will never be possible for the commander to recall it in time to meet your attack with the main body.

The movement on the part of the main body will take time. The question remains, will not the enemy gain an advantage from such tactics, by first annihilating the preliminary attacking force, and then flushed with victory come back to the main attack? "No," says General Durand, and he explains his reasons in theorem IV.

Theorem IV. Mêlées take time.

I know our men in the cavalry, like their superiors, they will slash and fight as long as they have breath in them. Did not the engagement at Ville-sur-Yron last more than three quarters of an hour?

The next question is, will not the main attack come under the fire of the enemy's batteries which will only have to change objective?

"I cannot conceive," says General Durand, "where some of our cavalry get their idea of the efficiency of our artillery. Our artillery, although without a rival in the world, is often slow in getting its data, often fails to fire due to failures to observe or errors in the service of the piece and is often slow in changing objective."

[&]quot;Translated from the *Rovue Militaire Prancaise*, Journal des Sciences Militaire, for December, 1912, by First Lieutenant A. M. Pope, Eleventh U. S. Cavalry, for the War College Division, General Staff.

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"If the enemy's batteries, as would be very possible, have opened fire on the preliminary attack, it will be a long time before they open fire on the main attack."

"The following would have to take place."

"1. Some one would have to see you. 2. This some one would have to find the commanding officer who has authority to order the change of objective. 3. Then he in turn would have to look for you and see you. 4. Then he would have to make up his mind to give up his present objective and fire at you (this takes a long time). 5. Then he has to order or have an order taken to the battery commander. δ . These in turn have to stop looking through their glasses at the points of impact and find you. 7. Then they have to work out the modifications in their data to fire at you. After they have done all this they have to do some bracketing, etc., before they can hope for effective fire against you."

"Do not ask me how long it will take. It will take a long, a very long time."

What if one of the batteries of the enemy's division has been kept on the watch?

"If the enemy's artillery has been kept in watch, that is another thing. Look out for it. Still there is a way of getting around that. Why not make a target of it? When it sees your main attack, your own artillery, it will soon get into action from such unexpected events and then your road is clear. "

As a matter of fact an effective shot with an explosive shell will not take the artillery so very long to obtain, still it will be greatly embarrassed in the face of the fast attack approaching its cavalry so rapidly.

When should the preliminary attack cease, in order to cooperate with the main body in the flank attack?

This will be when by indications of some kind as by dust clouds, you are sure that the enemy has deployed his forces.

General Durand's full text follows:

"Attack first with a small fraction of your command and follow the movement with the remainder, never losing sight of what the enemy is doing.

"Forced to counter-attack you, the enemy will have to issue orders, a fact which you can observe by the change in position of its cavalry, the appearance of new troops, clouds of dust, etc. Now is the time for you to say to yourself 'he is *fixe*'* and you can be sure also that he will deploy many men, a great many more men than will be necessary. When from these first indications you feel that your enemy is '*fixe*' and that his troops are moving in a certain direction, then start out with your main force from the side opposite to this direction.

"Let them gain sufficient interval so that you have at your disposal the terrain necessary for the deployment of the first units of your main body and do not hurry—you have plenty of time. Take care that your enemy is '*fixe*' and that before being so he did not know what your main body was doing; that he has given his orders for reenforcing his first line; that the mélée will last some time; that he is no longer able to mai neuver his troops.

"Now you will find it easy to maneuver your forces on the flank at your own sweet will, choosing your own time and your own point of attack. The enemy is yours."

How large a body should the preliminary attacking force be in order to deceive the enemy? Should it be as large as a regiment, as large as a brigade?

Numbers cannot be given; it will depend upon circumstances, especially upon the terrain. In any case the attack must be supported by artillery. It is evident that the larger the attacking force the more chance there will be of making the enemy's division deploy.

Likewise the larger the force the more keenness will they have as the preliminary attacking force is bound to feel that they are being sacrificed to a certain extent.

Once our adversary deploys, if our main body surprises them when they have taken up a wrong point of attack, two brigades or even less will suffice to cut a whole division to pieces.

Is it necessary to place all of the artillery with the preliminary attack? No, it is better to keep a portion of it for

^aGeneral Durand intends the word *fixe* to mean that the enemy's troops have taken up a movement in a certain direction and they cannot readily_change this.

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the main attack. Besides it will be easier to assign it to a position when it is fully known where you are going and just what is wanted of it.

En resumé. General Durand's maneuvers allows the division commander to substitute for the frontal attack, that is always an uncertain question, an attack upon an enemy that has deployed in a faulty direction.

This maneuver has also this advantage:--the demoralization of the enemy before the main attack. You can eaisly imagine the demoralizing effect upon the enemy of the sudden appearance of our cavalry on its flank or rear when it has deployed in another direction. You can imagine how it will be stupefied and paralyzed and incapable of coherent action.

The general commanding the division has a perfect right to count on mistakes on the part of the enemy, brought on by this demoralization, and to calculate on them in his estimation of the situation, for they are going to facilitate his task.

So instead of letting the enemy come to the return attack with sang-froid, the division commander fulfills the first of his duties; that of formulating a plan and inventing a situation whereby he places his own troops in the most favorable situation for the engagement. He will have caused the moral and material demoralization of the enemy, after first having made his plans to profit by it.

This is just what Napoleon did.

THE NAPOLEONIC MANEUVERS.

In every campaign from 1796 to 1815, Napoleon employed only two kinds of maneuvers:--the movement on the rear and the movement on the center of the position.

Without taking into account the war in Spain, I have found twenty-seven characteristic maneuvers* of his against the rear. He has tried many more and planned still more:-Lodi, Castelnovo, Bassano, Arcole, Dolce, Marengo, Ulm, Hollabrunn, Jena, Pultusk, Allemstein, Friedland, Landshut, Eckmuhl, Vilna, Witebsk, Smolensk, Lutzen, Bautzen, Dresden, Duben, Saint-Dizier, Brienne, Montmirail, Soissons, Mery-sur-Seine, Saint-Dizier.

"Guerre Napoleonienne, three volumnes, Librairie Militaire Chapelot.

By strokes of genius, Napoleon always managed to fool the enemy by this maneuver in just the same way each time. He has tried it from unexpected directions, and followed it up with irrepressible stubbornness, with a sense of absolute security due to admirable foresight. The plan is one thing, the way that it is carried out is another.

Consider the maneuter of 1806:

Napoleon, on watch behind the Franken-Wald, first sends out a preliminary attacking force under the King of Holland to draw the Prussians towards Westphalia, then he delays until the enemy takes the offensive. Immediately, then, he throws his army into Saxony, to intercept there, before the battle, their various lines of retreat. When this is done and not until then, does he turn against them and overwhelms them at Jena and Auerstadt.

The King of Holland's demonstration in the preliminary attack:

On September 20, 1806, Napoleon wrote to the King of Holland, "You should have inserted in your gazette that a considerable force is coming from all points of France. I want those troops put in march the first part of October for the purpose of making a counter attack, it would be perhaps better to say a false attack, so as to draw the attention of the enemy while I make a turning movement."

We shall see in this movement of Napoleons all the advantages that we spoke of above.

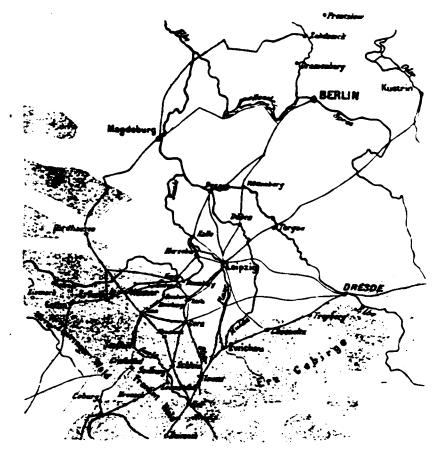
1. Demoralization of the adversary:

On the 5th of October, Napoleon moved out his main force across the Franken-Wald; he knew that the main body of the enemy was concentrated on Erfurt. On the 12th he writes in his bulletin:

"Turned on its left flank, due to an error of judgment at the very moment when it was about to enter upon a most hazardous combination, the Prussians are at the very beginning in a very critical position. On the 12th the French army occupied Saalfeld and Gera and marched on Naumbourg and Jena. All the letters intercepted indicate the King's councils are torn by different opinions which are always deliberate but never in agreement; uncertainty, alarm and fear are already taking the place of arrogance, lack of consideration and folly."

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And on the 13th:---"All letters intercepted say that consternation reigns at Erfurt where the King, the Queen and the Duke of Brunswick still remain, and that they are still discussing the course to pursue but cannot come to any decision.





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"Still while they are deliberating the French army marches on. The enemy cut off from Dresden, was still, on the 11th, trying to get its troops together which it had sent to Cassel and Wurzbourg on some offensive project, wishing to open the campaign by an invasion in Germany. The Wiser where they are having batteries emplaced, the Saale where they are likewise trying to make a defense, and the other rivers are turned somewhat as the Iller was last year, so we find the French army moving along the Saale with its back to the Elbe, marching on the Prussian army which has its back on the Rhine, which is such a hazardous position for it that events of importance are almost sure to happen there."

On the 13th, still in the fourth bulletin:

"Things are happening rapidly. The Prussian army is surprised in flank, its magazines raised, it is turned.

2 The advantage of avoiding the always doubtful frontal attack in battle.

On the 12th Napoleon wrote to Lannes:*

"All the letters that have been intercepted indicate that the enemy has lost its head. They hold counsels of war day and night and do not know what course to pursue. You will notice that my army is altogether and that it bars their road from Dresden and Berlin."

"The art lies in attacking today whatever we meet, so as to whip the enemy in detail while they are getting together."

And to Murat

"I will be, before noon today at Gera. You can see by the situation of the army that I completely surround the enemy, but I want information as to what they are going to do. I hope that you can get this for me at the post office at Zeitz.

*In the campaign in France in 1814, on the 17th day of March, after the battles of Craonne and Laon, leading his forces against the Bohemian army, we find Napoleon hesitating between three courses:—1st, to throw himself on the rear of Schwarzemberg; 2d, to join Macdonald and Oudinot at Provins; 3d, to gain Meaux so as to precede the enemy on the way to Paris. These projects he writes, each have their own characteristics. The first is the most hazardous and gives the most unexpected results. The third is the safest because it leads at once on Paris, but it also, on account of having no moral effect, leaves all to the chance of a great battle, and if the enemy numbers 70,000 or 80,000, such a battle will be a tremendous chance. (Correspondence No. 21506.)

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"You saw what I did at Gera, go and do likewise: attack vigorously everything that is on the march. Some of the enemy's troops are trying to get to a point of rendezvous, but "the rapidity of my movements prevents them from receiving counter orders in time. Two or three advantages of this kind will result in the wiping out of the Prussian army, and when that is gone we may find it to our advantage to bring on a general engagement."

3. The possibility of keeping the force in hand up to the very last moment:

in a narrow space, you see that I am in the position of hazarding nothing, but of being able to attack the enemy wherever it wants to make a stand and with double their force.

On the 12th of October, he writes to Lannes:-

"You see that my army is all together."

To attack the enemy in disorder and disunited is, in short Napoleon's aim.

At Saint Helena, in his discussion of "Notes on the Art of War," by General Rogniat, he wrote *a propos* of his movements at Smolensk:—

"Napoleon then executed that beautiful maneuver which is the exact counterpart of the one before Landshut in 1809; he concealed himself by the forest of Bieski, turned the left (the rear) of the Russian army, crossed the Borysthene, and moved on Smolensk where he arrived twenty-four hours before the Russian Army, which retreated in all haste. A division of 15,000 men, which was found there by chance, had the good luck to defend this town a day, which gave Barclay de Tolly time to arrive the next morning. If the French army had surprised Smolensk, it would have been able to have crossed the Borysthene there, and attacked the Russian army in rear while it was scattered and in disorder."

Let us study the Napoleonic maneuvers a little.

Risks run in making the preliminary attack:

In 1796, in the Lodi campaign, the preliminary attack was the demonstration for the capture of the passage of the Po by main force, made in front of Beaulieu at Valence by the different divisions of our army that were moving on Tortone. While that was going on our advance guard was exerting all its strength to get the bridge at Plaisance where the whole army was going to cross the Po in rear of the Austrians.

In 1805, the preliminary attack was the demonstrations made by Lannes' corps and the dragoons of Baraguey d'Hilliers, on the roads leading from the Black Forest, while the army executed the great turning movement in rear of the Austrians position along the Iller.

In 1809, the preliminary attack was made by Davoust's corps and the Bavarians, who made a demonstration before the Archduke Charles while Napoleon hastened on Landshut with his main body.

The preliminary attack runs the risk of being assailed by a superior force, but Napoleon counts on the fact that the news that the French army has come up in rear and is cutting off the lines of retreat will soon recall the enemy to the rear.

In 1807, in the second note to the King of Holland, he writes:--

"The observations of my first note are all a matter of foresight. My first marches threaten the heart of the Prussian monarchy, and the deployment of my forces will be so imposing and rapid, that it is probable that the whole Prussian army of" Westphalia will concentrate on Magdebourg and that it will set out to defend the capitol."

Furthermore the preliminary attack always has recourse to retreat.

On the 18th of April, 1809, in the maneuver on Landshut, Napoleon wrote to Messena:---

"Prince Charles came out yesterday from Landshut on Ratisbonne • • • ; the Bavarians have been in contact all day with his advance guard. Today the 18th, the Bavarians can still continue to harass him without great risk, since they always give ground, yet they harass and retard just as much the movements of the army this way."

The strategic pause:

As there is, after the launching of the preliminary attack, a short pause (tactical pause), by the division commander to

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observe what the enemy is going to do, so in each of Napoleon's maneuvers there is a strategic pause to observe what his adversary is going to do.

Such a pause is well marked in the early part of the campaigns in 1806 and 1809.

After we compare General Durand's scheme with that of Napoleon's, we must closely study the execution.

The study of Napoleon's principal maneuvers affords the most useful source of information.

Rapidity of evolution:

To be able to move rapidly is the first condition of success.

General Durand has worked out a system of evolutions whereby he can move rapidly because of the great suppleness of the movements. The reader can find an account of this in the Cavalry Review of last April.

Napoleon believed in the supple organization of the army corps and instituted his system of marches so as to accomplish this rapidity.

Order of march of the main body:

How must the main body march?

When the roads leading to the front admit it, Napoleon marches in three columns: the column on the side towards the enemy serves as a fixed or mobile flank guard against fractions of the enemy or allies that might eventually approach.

In 1806, the corps of Lannes and Augereau who formed the left column, served as a flank guard against the Prussian army, while the corps of Soult and Ney, who formed the right column, were at first destined to be the fixed flank guard on the side towards Dresden, where Napoleon feared the arrival of the Russians and Austrians.

Soon when everything was quiet on that side, Napoleon called in Soult and Ney who then were able to get into the battle of Jena.

This arrangement should be imitated in cavalry.

I can make no further comparison on the maneuver against the rear and that proposed by General Durand for the cavalry combat, so I conclude.

The maneuver proposed by General Durand gives the division commander a chance to attack with his force well in

hand against an enemy that is charging in the wrong direction and is demoralized.

With his brigadiers near by, the division commander can wait until the last minute before he makes the disposition of his forces and can then employ them to the best advantage, as the occasion demands.

> Colonel CAMON, Brevete d'etat-major.

NOTES ON THE ORGANIZATION OF A CAVALRY DIVISION.*

THE cavalry division is the largest unit into which this branch of the service is organized. Since it is needful that the scope of its instruction and preparation should correspond to the requirements of the various classes of duties which it may expect to be called upon to perform, and which are clearly set forth in the "Regulations for Service in War," it is evident that its organization must be such as will enable it to satisfy the complex demands which will arise from its employment in war.

The truth is that organization, instruction, and employment in war, are three factors which are very closely related to each other. It is indispensably necessary that the first two of these factors should be properly attained in time of peace, in order that the cavalry division should be brought into a condition which will admit of its conveniently preparing itself for doing the work which is to be expected of it in campaign.

It appears that the principles which have a bearing upon the regulation of these factors are variously estimated and appreciated in different armies and it is therefore believed that it will not be inopportune to undertake a brief examination into the organization of their cavalry divisions, giving due consideration to their training and instruction and to the

[•]Translated from the *Revista di Cavalleria*, May 1911, by Captain W. H. Paine, Seventh Cavalry, for the War College Division, General Staff, U. S Army.

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classes of duties which they are expected to perform, and seeking to obtain useful suggestions regarding the organization of our own cavalry.

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One of the first questions to present itself is that regarding the permanent organization of the cavalry divisions including time of peace, this being a question which has been warmly discussed during the past few years and which still continues to receive attention in Germany.

At the present time, the German is the only one of the great armies of Europe, which, with the exception of the Cavalry Division of the Guard, has in time of peace organized its cavalry regiments into brigades only, these being attached to the infantry divisions.

It should be said, however, that the principal German authorities on cavalry subjects, with the exception of General Von Bernhardi, are in favor of the organization of a certain number of cavalry divisions, even in time of peace.

The opponents of this system, and among these is to be counted the General Staff, in whose hands rests the decisions as to the courses of action to be adopted in regard to it, are not ignorant of the important advantages which it offers, some of them being readily admitted and indisputable. Among the principal of these advantages are quick mobilization and an intimate acquaintance between the generals, the other officers, and the troops. But there are, on the other hand, other and equally important advantages to be derived from the existing organization, among them being:

The selection of general officers who have shown themselves to be most competent since the numerous temporary divisions which are organized every year for the grand maneuvers, and for the special maneuvers of the different arms of the service, furnish opportunities for many generals to gain experience and to exhibit their respective abilities.

The inability of the enemy to certainly calculate upon the size of the divisions and upon the probable methods of their use and employment.

But it does not seem necessary to dwell at great length upon a question which is no longer of much interest to us, since in accordance with the best general opinion we have within the past few years maintained three divisions which we regard as being useful and desirable. And we have done even better, since our brigades are not even permanently organized, as they are both in France and Germany. There is, however, one important question which demands our attention, and this is the one regarding the proper composition and strength for the division.

Let us begin the consideration of this question by inquiring what has been done in this respect, in the principal European armies.

As has already been stated, the Germans have in time of peace only one division, the Guard Division, which consists of four brigades of two regiments each, with a total of thirty two squadrons in time of war.

There are one hundred and two regiments of cavalry in the German army, and since the Guard Division contains eight of them, there remain ninety-four others which are available for use in forming the cavalry divisions and for the divisional cavalry. Something will be said further on about the last of the above mentioned uses of the cavalry. However, it is not thought to be out of place to say here that there is in Germany, much discussion of the question as to the amount of cavalry which is needed by the infantry divisions and it is unanimously admitted that the assignment of a regiment of four squadrons according to the practice in the Franco-Prussian War, is much in excess of actual requirements. It has therefore, recently been proposed to assign only one squadron to each infantry division, and to create special detachments of "Meldereiter" for the services of scouting in the immediate vicinity of the division, and for orderly work and similar purposes which comprise the principal duties of divisional cavalry.

We may observe here, that the cavalry divisions of the army, if provided with artillery and machine guns, ought to be able to operate and sustain themselves independently except in the case in which resistance is offered by an enemy con sisting of all three arms of the service, and which absolutely prevents an advance. In such a case, which might present itself for example, while gaining contact with very strong bodies

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of the enemy in positions, the "Regulations for Service in War," admit the desirability of assistance from infantry and bicyclists.*

From the little which has been said, it may be concluded that beyond doubt, the Germans have much which they desire to conceal from their probable adversary, France, in regard to such things as the strength and organization of their large units of cavalry." These units may be divisions, or perhaps reinforced brigades; they will be formed at the time of mobilization and there will be a large number of them.

In France there are eight cavalry divisions, not all of them of the same strength. The 1st, 2d, 5th, 6th, and 8th Divisions consist of two brigades of two regiments each. The 7th Division has two brigades, one of them consisting of two regiments and the other of three. Finally, the 3d and 4th Divisions each consist of three brigades of two regiments.

Therefore, five of the Divisions have a strength of sixteen squadrons, one has twenty squadrons, and the remaining two have each twenty-four squadrons. The total is thirty-seven regiments with one hundred and forty-eight squadrons.

The other forty-four regiments, not including the ten regiments of African cavalry, each of these brigades consisting of two regiments with the exception of the 7th and the 20th, which have three regiments each. One brigade is attached to each of the army corps, that bearing the same number, with the exception of the Sixth Army Corps which has two of these brigades designated as the Sixth and the Sixth-Bis (i. e. 6 1-2.)

One cannot help being struck by the disproportion between the numerical strength of the cavalry force which is to be assigned to the general work of the army, and that which is intended for the army corps. In the cavalry divisions from which are expected the execution of the most important strategical and tactical duties, there are thirty-seven regiments, while there are to be forty-four regiments with the army corps. It is true that the Regulations assign certain important functions to the cavalry, which is assigned to the army corps, but after all, these functions are limited and are not to be compared in importance with those properly pertaining to the cavalry divisions.

Therefore, among the topics of the day, which are receiving attention, are propositions for a new organization for the cavalry. Without attempting to go into the details of these propositions, their substance is about as follows:

The abolition of the brigades of cavalry which are attached to the army corps, and which are declared to be almost useless. The fact is that each of these brigades would be expected to furnish two squadrons, one from each regiment, for service with the two divisions of the corps, thus leaving the cavalry brigades with but six squadrons each and these of a strength almost ridiculously small for the accomplishment of any efficient and valuable work. Furthermore, one very important result of this method of using the cavalry is that it leads to the subdivisions of a really very large force of that arm, into small fragments with all of the well known consequences which are always derived from such a course. A recent instructive example of the application of such a system can be found in the systematic subdivision of the Russian cavalry in the campaigns in Manchuria. This employment of small bodies and subdivisions has been much criticised, especially at the battle of Liao-Yang and at Mukden, where if the cavalry had been assembled in a large mass upon the plain at the right wing instead of being scattered in small detachments along the immense front of battle, it might have been able to play a decisive part in the conflict, while it did actually accomplish only a secondary part.

It is therefore proposed to gather all the cavalry into cavalry divisions, with the exception of a small part of it, which should be assigned to the infantry divisions as divisional cavalry.

Up to the present time, no official steps have been taken which would indicate the intention of the French Government to increase the existing number of cavalry divisions. But the

[•]There is no organized detachment of bicyclists maintained in the German Army in time of peace, and none has ever been formed for use in their Grand Maneuvers. German military writers are in general opposed to bicyclists, because they require good roads and are unable to travel across the fields. It therefore causes something of a feeling of surprise, to find this mention of their possible employment. This is the only mention which is made in the entire book of regulations regarding bicyclists.

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fact that during the period for summer training, numerous brigades of the cavalry assigned to the army corps have been assembled into divisions and given practice in the duties which are expected of the main cavalry force of an army, affords safe ground for the belief that in high military circles, there is being nurtured some intention that in case of war, there shall be made quite a different disposition of these brigades, or at least of a considerable number of them, from that contemplated in the arrangement of the present organization.

It is said that some consideration is being given to plans for the restoration of the Inspectors of Cavalry, which were abolished some years ago, with four or five brigades to be placed under their supervision. These inspectors would not only supervise and direct the instruction and training of the brigades during the year, but they would assume the command of the provisional divisions to be formed during the summer exercises. From this course would result two important advantages; one of them being that the inspectors general would thus become thoroughly acquainted with regiments and would be correspondingly well known to them; the other being that there would thus become available a certain number of general officers of cavalry who would be well experienced in the management and command of their troops, the usual experience being that in time of war, there is a shortage of such general officers.

We may further remark, that in the grand maneuvers of last year, nearly every infantry regiment made use of eight mounted scouts, which appear to have rendered very useful services. It is now proposed to rely upon these infantry mounted scouts, having them permanently assigned to the regiments, it being thought that, as they will be trained and experienced with their own arm of the service, they should be able to discharge their proper duties in general, to better advantage than would be done by cavalry, and that on the whole the best results will thus be attained. In consequence of these experiments recently completed in France, with mounted scouts, there is in Germany an inclination to organize the detachments of "Meldereiter," which have been mentioned.

From all that has just been said, it will be seen that we cannot state with certainty, precisely what form of organization

would be adopted by the French cavalry in case of war, but it is safe to assume that there would be considerable changes from the existing peace arrangements, and the changes can be expected to result in a more advantageous employment of this arm of the service, and consequently, in the greater ultimate efficiency of the entire army.

In the Austro-Hungarian Army, not including the two "Landwehr" with their cavalry, there are forty-two cavalry regiments, organized into nineteen brigades of two regiments each, with the exception of the 3d, 4th, 16th and 21st brigades which consist of three regiments.*

Fourteen of these brigades are organized into six permanent divisions which are designated by the names of the cities in which the division headquarters are located. The divisions are not uniform in strength and organization.

They are named and described as follows:

The Divisions of Kracovia and of Jaroslaw which consist of two brigades of two regiments each, a total of twenty-four squadrons for each division.

The Division of Temesvar, which consists of only two brigades, but one of them, the 4th Budapest, has three regiments, the 8th and 10th Hussars and the 12th Uhlans, making a total of thirty squadrons for the division.

The Divisions of Vienna and of Pozsony, each of which has six regiments, thirty-six squadrons, but the Vienna Division has three brigades of two regiments, while the Pozsony Division has two brigades each of three regiments.

Lastly, the Division of Stanislau, consists of three brigades, two of which have two regiments each, while the third, the 21st Brigade of Lemburg, has three regiments. The Division, therefore, contains seven regiments, or a total of forty-two squadrons.

In regard to the strength and composition of the cavalry divisions in the Austro-Hungarian Army, it may be observed that there is a variety from which to suit any taste. There are

[•]The brigades are numbered from one to twenty-one, but the 2d and 19th were broken up and have not yet been reorganized. The same thing is true of the Uhlan regiments, of which there are eleven, but their numbers run from one to thirteen.

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divisions having four, five, six and seven regiments, and, therefore, containing twenty-four, thirty, thirty-six, and forty-two squadrons, these squadrons being the largest that are found in any European army. Some of their brigades are of two regiments and some of them are of three.

The consideration of this important subject will be taken up farther on in this article.

The remaining five brigades are called "independent," and are composed of two regiments each. They are under the command of the chiefs of their respective army corps.

But there are other considerable forces of cavalry in the Austro-Hungarian Army. The Austrian Landwehr contains six regiments of Uhlans, and in the Hungarian Landwehr, there are, ten regiments of Hussars or "honved." The latter only are organized into brigades of which there are four, the 1st, that of Szegled, and the 4th, that of Debreczen, having two regiments each, while the 2d, that of Budapest and the 3d, that of Pecs, have three regiments each.

The organization of these regiments is the same as that of the regiments of the regular army, the only difference between them being in the number of men who are kept under arms. The staffs and outlined strength of the squadrons and the larger units, are sufficiently ample, but the number of men to a squadron is limited to from sixty-three to sixty-nine, while the number of horses is from forty-three to sixty. The men and the young horses receive the regular normal course of cavalry instruction and training. But when the term of instruction and training is completed, the surplus men not required to fill the organizations, are permitted to go on leave, and the extra horses are turned over to citizens for use with a requirement that they shall be returned to the organizations within twenty-four hours after the issuing of orders calling them in. The term of enlistment is two years, which is the same as for all the other troops of the Landwehr service.

The special system of organization for these regiments would not in any other country, indicate either their capacity for quick mobilization or their cohesion and ready state of preparation for war. But the thorough nature of the provisions of their regulations in regard to the instructions of recruits and the training of young horses, the annual assembling with their organizations of the men who are on leave, and the calling in of the horses which have been intrusted to the proprietors of farms or country estates for the summer exercises, which extend over a period of four or five months, and the special conditions existing in the Austro-Hungarian dominions which possess in Galicia and Hungary an ample supply of men accustomed to horsemanship and of horses adapted to the requirements of military service, all warrant the most confident prediction that this cavalry force would be called out in case of war.

The fact is, that the cavalry of the two Landwehr together with the other troops of those bodies, forms a part of the forces of the first line. There is no doubt that it can be so regarded.

It remains to be mentioned that the cavalry brigades of the Hungarian Landwehr, the "honved." are also nearly every year assembled into divisions for the maneuvers of the summer period, and this cavalry force, like that pertaining to the Austrian Landwehr, has participated in the grand maneuvers.

There also exists in the Austro-Hungarian Army, a body of one-half a regiment, three squadrons, of mounted chasseurs of the Tyrol, and another similar body of mounted chasseurs from Dalmatia.

Through these two half-regiments of mounted chasseurs, the ultimate design is made evident. In regard to the other fifty-eight regiments of cavalry, would any one readily fall into the error of concluding that from the manner of their organization in time of peace, it would be safe to assume what would be their formation and assignment to duties in case of war?

It must be considered that the entire military establishment of the Austro-Hungarian Empire with its skeletonized armies has until recently presented serious deficiencies in regard to shortage of men. and restricted resources in funds. In order to remedy these deficiencies, there are required at the present time, an expenditure of many millions in money and an increase in the annual contingent of recruits.

It must however be admitted that the cavalry, in so far as concerns its strength in men and horses, has not been at all

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affected by the troublesome conditions under which the other arms of the service have been laboring, at least this appears from here to be the truth. But it is certain that it is upon economic grounds that we would seek for the principal reasons for the organization of the huge cavalry divisions which are stationed at places more or less near to the Italian and Russian frontiers for the purpose of guarding them.

It is for the same economic reasons that the regimental organization of six squadrons has been adhered to, although it is recognized that this makes the regiment too large. There has, however, finally been a plan proposed for reducing regiments to five squadrons each.

For these reasons, and on account of still others which will be mentioned later on it is believed, as has already been stated that the peace organization of the Austro-Hungarian Army affords no grounds for much inference as to what its organization would be in case of war.

It is quite worth while to clearly point out that the Austrians are following the strictly correct and most advantageous systems of organization by the formation of real bodies or masses of cavalry, and that they are assigning the greater part of their cavalry regiments to the large cavalry units.

Let us now pass on to a consideration of the Russian cavalry. As it is desired to confine this article within the shortest limits no real examination, not even a brief summary, can be undertaken of all of the cavalry troops which are maintained by the Russian Empire for this would unavoidably consume too much space. However, it is not really necessary, to do that in order to accomplish the purpose of this modest study, and it is thought that it will be sufficient to make a few remarks about the cavalry forces which the Russians maintain in Europe.

There are twenty-four divisions of Russian cavalry in Europe. They are as follows: Two divisions of the Guards, fifteen divisions pertaining to the line of the army, one mixed division, one division from the Caucasus, and five divisions of Cossacks. There are also two independent cavalry brigades kept in Europe with five others in Asia.

The cavalry divisions consist normally of two brigades, one of them having two regiments of dragoons, the other one regiment of dragoons and one regiment of Don Cossacks, making a total of twenty-four squadrons for the division. The First Cavalry Division of the Guards forms an exception to the uniformity of this organization since it consists of three brigades, and it is to be understood that the Cossack divisions are wholly made up of Cossack regiments.

The two independent cavalry brigades stationed in Europe are each composed of two dragoon regiments of the regular line of the army.

In the military district of Warsaw there were formerly two cavalry corps, the 1st, composed of the Fifth and the Mixed Divisions, and the 2d composed of the Sixth and the Fifteenth Divisions but if the memory of the writer is not at fault these corps have recently been broken up.

Therefore all of the Russian cavalry which is kept in Europe is organized into large units and is attached to the army corps. From this system there results certain notable advantages and certain serious inconveniences. The advantages arise from having the cavalry organized into strong divisions and independent brigades even in time of peace. The disadvantages and inconveniences show themselves at the opening of a campaign and become more and more evident during the progress of operations when it becomes necessary to make arrangements for furnishing the necessary cavalry for the armies and the divisional cavalry for the infantry divisions. It is thus that there arose the conditions which existed in the Russo-Turkish War of 1877-78, and which were repeated in the campaign in Manchuria in 1904-05. One by one the Army Corps are deprived of their cavalry in order to advance it to the front for scouting or covering service. From some of the army corps there will be taken away a brigade or two or three regiments or one single regiment, or even two or three squadrons in order to provide detachments of cavalry to meet the necessities of the moment which has arisen in the cases of other army corps or infantry divisions which have been left without any cavalry at all. And this in turn leads to a continual subdivision followed by mixtures of the large and the small units. And as if all this were not enough of mischief there is the additional disadvantage of separating the troops from their own

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proper leaders who are acquainted with them and who are known to them and placing them under chiefs who have never seen them. And there is also a complete disorganization of the various units which have existed in time of peace.

In case of an important European war it is not improbable that in the plans for mobilization some account would be taken of the tendency to constant subdivision and intermixture which developed during the Russo-Turkish War. It is quite likely that steps have already been taken to fix upon the cavalry divisions which are to be assigned to the armies, and upon these regiments which are to be attached to the army corps and to the infantry divisions. In connection with these subjects it is not thought desirable to dismiss without remark the fact that in respect to the organization and utilization of the cavalry there has been a repetition in the extreme Orient of the same grave inconveniences which were developed in the Russo-Turkish War and which were severely criticized or condemned by the European Military writers who occupied themselves with the study of that campaign.

It is true that it was not believed in Russia until the last moment that the Japanese would dare to take field against the great Russian Empire and in consequence of this the preparations were incomplete and it became necessary to resort in great measure to improvised organizations and arrangements, one result of all this being that many months elapsed before the Russians succeeded in assembling their enormous mass of cavalry upon the theater of war. But after all when we consider the poor use which was made of the cavalry on the part of the commander-in-chief, by the army commanders and finally by the very generals of the cavalry themselves, there no longer seems to be anything very strange in the system of organization and employment which we find to have been adopted there, or that is to make a clearer explanation of the meaning, the assignment of the cavalry to the larger units.

But it is at least true that in the Russo-Turkish War the very force of circumstances made it necessary to assemble some real masses of cavalry for use in such operations as cutting the communications of Plevna, for accomplishing the passage of the Balkans, and in executing the march to Constantinople. In the campaign in Manchuria, on the other hand, there was but one assemblage of a large body of cavalry when seventy squadrons were gathered by taking them here and there from the different army corps and they were then intrusted to the command of General Mischtschenko for that famous raid upon Inkeou which resulted in the most absurd parody on that variety of operations.

It, therefore appears to be clearly demonstrated by all that has just been said that it is not sufficient to have in time of peace the best possible organization, which is now the case with the Russian cavalry. It is most absolutely necessary that its distribution and assignment in the dispositions for battle in time of war should correspond to the nature of the requirements which it would be expected to fulfill in a campaign, and this should be prearranged in a clear and exact manner.

The past history of the Russians is certainly not lacking in useful material for their instructions. This is all the more true and pertinent when it is considered that we are studying an army which has at its disposal an almost fabulous amount of cavalry. In the standing army in time of peace, there are twelve Guard Regiments, fifty-four regiments of dragoons and seventeen regiments of Don Cossacks of the first "Bando" or line, without counting the regiments of Orenburg Cossacks, those of the Ural, of Kuban, of Astrakan, of Terek, of Siberia, of Semirjetschensk, of the Trans-Baikal, and various other independent half regiments or "sotnias" of Cossacks, all of the first line. In time of war there would be available from the regiments of the standing army and from the First, Second and Third "Bandos" or lines there would be a mass of something like one thousand, eight hundred squadrons and sotnias.

With such an enormous force of cavalry, not taking into account the regiments stationed in Asia since they would not be able to reach a European theater of war until after the lapse of a considerable period of time, it is evident that they would properly be regarded as hardly more than a surplus force of this arm. A predisposition to so regard it would arise from the large masses of cavalry which would be available for assignment to the armies, to the infantry divisions, and even to the army corps if it should be so desired. In all of the other

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armies of the world it is necessary to take into account the available number of regiments and squadrons but in the Russian Army there is no embarrassment except that of making a choice.

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Within the past two years the organization of the Italian cavalry has undergone substantial modifications. The former twenty-four regiments of six squadrons have been reorganized into twenty-nine regiments of five squadrons each. The number of squadrons has been increased from one hundred and forty-four to one hundred and forty-five, an increase which is really of very little importance. What is of impotrance, however, is the fact that an actual improvement has been effected by making the regiments less cumbersome, more readily handled, and on the whole better adapted to the national terrain. Another item worthy of mention is the organization of three cavalry divisions each composed of two brigades of two regiments which is a measure that will result in inestimable advantages in the way of their preparation for war in time of peace and of their more efficient employment in war itself when a war does arise. The measure of the organization of the divisions has beyond doubt much more significance and importance than the reorganization of the regiments.

The Italian cavalry division is however quite a strong one, consisting of twenty squadrons. The organization of the three divisions has included twelve regiments, a total of sixty squadrons. There are remaining seventeen available regiments, with eighty-five squadrons, but the uses to which it is intended that these squadrons shall be devoted are not considered proper subjects for public discussion.

These seventeen regiments are not organized into eithe permanent or provisional brigades, but they constitute "groups." Two of these groups are under the supervision of major generals of cavalry, the remaining ones are under the surveillance, so to speak, of the major generals commanding the cavalry divisions.

This is of course only a temporary kind of organization which it was probably thought advisable to adopt in order to avoid any further increase in the heavy expense which was incurred through the reorganization of the cavalry, and also in order to avoid making any increase in the number of major generals of cavalry which were thus diminished by one. The writer confesses to a strong presentiment that this temporary arrangement will have the shortest practicable duration.

As has been said above it is not intended to enter upon any discussion as to what is to be the disposition of the above mentioned regiments of cavalry in case of war. But an attempt will soon be made to make a detailed study into the organization of the Italian cavalry divisions, and occasion will also be taken to express the ideas of the writer in regard to the regiments not included in the division.

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The reader who may have taken the trouble to follow this article up to this point will certainly have observed that in the discussion of this subject of the organization of the cavalry divisions not even the briefest mention has been made of the artillery organizations and the machine gun detachments which would of course form an integral part of these divisions, neither has anything been said of the detachments of infantry and of bicyclists which may according to the regulations of all the modern armies form a part of the divisions or else be attached to them. In the Italian Army the bicyclists normally form a part of the cavalry divisions. Most probably the reader will consider the avoidance of the mention of these topics as due to inadvertence or worse, but the truth is that this has been done purposely.

What good object can be attained by taking the time to discuss the horse artilley which would be joined to the cavalry divisions in accordance with the normal plans for forming these divisions in case of the mobilization of the armies? About the same principles are applied in this respect in all modern armies so that this artillery force is found to be in general about two, or at the most three batteries.

And what advantage is in prospect from the extended consideration of the use of machine guns about which there is so much enthusiasm, in view of the data gained from the "Polygon" and from the data gained in the position battles in Manchuria? All this, furthermore, at a time when all the armies

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of the world are engaged in the manufacture of machine guns with the intention of furnishing them to the cavalry and infantry. And there is not yet any definite information available as to the methods of their assignment and employment.

There still remains the important question of the infantry and of the bicyclists.

The field service regulations of the different nations indicate intentions to eventually attach some infantry to divisions of cavalry. In the French grand maneuvers of this last year there were actually one and even two battalions of infantry attached to the cavalry divisions, and not only to the divisions but even to the brigades serving with the army corps the same thing was done. Among French military writers it is continually being proposed and strongly urged that the existing detachments of bicyclists, of which there are now only five, be increased to five chasseur battalions for assignment to the large units of the cavalry.

In the Austro-Hungarian Army the normal organization of a cavalry division includes a battalion of chasseurs which is similar to the Italian plan of attaching a battalion of bicyclists to the division. The consideration of the subject of the Italian organizations of bicyclists will be undertaken in another article.

SOME DEFECTS OF OUR CAVALRY SYSTEM.*

BY WESLEY MERRITT, COLONEL PIPTH CAVALRY, BREVET MAJOR GENERAL, U. S. ARMY.

THERE is no country in the known world better fitted for the production of the best cavalry than the United States. The boys of our Southern and Western States may be said to live on horseback from the time they are old enough to manage a horse, and they commence horsemanship about as soon as they have learned to walk. That more of them do

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not enter the cavalry service is a radical fault of our system; the first defect met with thus being on the threshold of the service.*

The pay of the private soldier in our cavalry is all that it should be. The fare of the men in well regulated companies could scarcely be improved. It is vastly better than that of the greater number of laborers in civil life, and as good as that of skilled mechanics anywhere in our country. There can be no objection to enlisting because of low pay or of poor or insufficient fare. Nor should the discipline in the army constitute an objection to serving in it. In no instance, to my knowledge, under an officer of good standing in the service, would an intelligent enlisted man of good habits have the interior management of his command relaxed in any way. Certainly the work is not hard, nor more exacting than that of trades or professions in civil life. Then, if it is not the low pay, the poor fare, the discipline, or the hard labor in the army, which prevents more of our intelligent and industrious native young men from entering the cavalry service as a profession for life, what is it?

I think the answer to this may be found in the fact that the positions of enlisted men are not sufficiently graduated in rank, compensation, and treatment. Our service presents too few incentives to ambition. There is one dead, dreary level lying before the soldier in the line of his entering the service, with only a step or two in the way of advancement that breaks the monotony of a life-long experience, separated by a chasm of appalling dimensions from the rank of the commissioned officer, which few whose early advantages have not been great, can ever hope to overcome.

The remedy for this state of matters suggests itself. The pay of the ranking non-commissioned officers should be greatly increased. Seventy-five dollars a month, with the present allowances, would not be too great pay for men such as we should have in the cavalry service in the positions of non-

^{*}While this statement was correct when written, a third of a century ago, it is so to a limited extent only and to restricted sections at the present day The automobile and autocycle has changed this status of affairs.— Editor.

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commissioned staff-officers and first sergeants of companies. There are now non-commissioned officers in the service, filling such offices, who richly deserve this increased pay. After this, one or more of the ranking duty sergeants should receive the present allowances, and from forty to fifty dollars a month, and finally the pay of the other non-commissioned officers should be graduated accordingly to their positions and length of service. Does any one doubt, if this were accomplished, that we would have a superior class of men in our service, men who would make the profession of arms their choice for life?

It is a great mistake, in my opinion, to hold out to every non-commissioned officer in the service the positive prospect of promotion, simply because he is a good sergeant or corporal. While it may be well to encourage soldiers in the belief that every private in the ranks carries a "marshal's baton in his knapsack," it should be remembered that men cannot live a lifetime of monotonous service on the hope of something better to come. A soldier's life in every position in the army should be made tolerable, the higher positions desirable, and the man satisfied that he is leading a life of reasonable competence, and preparing for an old age of comfort and ease while serving his country in the days of his vigorous manhood. Establish this, and the best young men in the country would enter and remain in our cavalry service.

Promotion to the positions of commissioned officer should be reasonably certain when well deserved. But a jealous regard to fitness for this advancement should be observed. In many instances during the early part of our Civil War, non-commissioned officers were promoted only to be ruined. True, there were instances, not by any means few, where richly deserved promotions from the ranks were made, and these were, and are still, among our best officers. But there were cases of indiscriminate promotion which made miserable good men, who ended their existence in dissipation, consequent on finding themselves in a social atmosphere for which they knew, and felt to a morbidly sensitive degree, they were not fitted. In one instance, in my own regiment, a promoted officer of this character courted and found death in battle rather than live in the, to

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him, irksome bondage of a commissioned officer's life. And to my personal knowledge he was an excellent duty sergeant, and before his promotion was exceptionally well content with his soldier life. If further illustration of the viciousness of this system of indiscriminate promotion is required, let any interested inquirer take an army register of 1861-62, compare it with one of the present year, and then trace the intervening history of the promotions. Comment is unncessary.

In this connection it is important to refer to another abuse which has existed, but which I am glad to say is not flagrant in our service. I mean the enlistment of young men of influential families, and their appointment through friends to the position of non-commissioned officers, solely with a view of immediate promotion. Such practice must be prejudicial to the service, discourgaing men legitimately enlisted, whose conduct and capacity give them the right to expect all the soldier's offices available in a company.

It would require very little legislation to effect the change for the better above indicated. With it, the position of a non-commissioned officer in our cavalry service would be made desirable as a life profession for talented, energetic, industrious, and capable men, who, by their example and influence, would improve the ranks of the army beyond anything we can hope for as we are now organized. Does any one raise the objection of the expense attending this change? Five years of trial would establish the proof of its economy over the present system.

The recruits who are received into our service, as recruiting is now conducted, are of two classes: men who have served before and those who have never seen service. This latter class is the more numerous. The men who have seen service are, part of them, excellent soldiers, and the remainder very poor. These last are received partly through fraud, in disguising that they had ever been in the service, and partly through neglect on the part of company commanders, who, through a mistaken kindness, give them better "characters," on discharges than they deserve. I would appeal to company commanders to discontinue this practice, and to give no man a

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character on his discharge, which will enable him to enlist elsewhere, when he would not re-enlist in his own company.

It is difficult to determine how many of the rules of the recruiting service as found in the Army Regulations, are now in force. It is very certain, however, that many important matters are neglected. Recruits should not be sent to join a cavalry regiment until after they are fairly drilled on foot and in the manual of arms, and thoroughly set up as soldiers. If, in addition to this, they could be instructed to a degree in horsemanship, it would be a great advantage. As now conducted, recruits who have never received one day's drill are often forwarded to regiments in the midst of an active campaign. What can be expected of soldiers of this character? Sworn testimony is in existence that in the campaign of 1876 against the Souix, fully one-third of the men in some of the companies of the Seventh Cavalry were raw, uninstructed recruits at the time of the massacre on the Little Big Horn.

In the Fifth Cavalry, a large detachment of recruits joined the regiment while it was on the march to join General Crook's forces, which were confronted by three thousand Indian warriors. Is it wonderful that with such mismanagement our troops sometimes meet with disasters which shock the world?

From the nature of cavalry service, it is safe to say that an enlisted man who is not instructed before he joins his regiment. stands a good chance of never receiving a proper ground-work of military education. If he join just before a campaign, or while the command to which he is assigned is in the field, as is too often the case, he is given the little hurried instruction that may fit him to equip his horse for the march, and he manages to mount and blunder along with the command. It may be that the animal he rides escapes death or disability from the bad treatment and hard usage resulting from the ignorance of his rider. It is almost certain that the man's lack of drill is lost sight of, concealed as it is apt to be by the little knowledge that he picks up during a campaign, and it all ends by his being classed with soldiers of more experience, but of perhaps little more instruction, who a year or two before have gone through exactly the same course. Finally, these ignorant men become

an element in a company, the standard of excellence of which is continually suffering from this constant addition of uninstructed men; and it is plain to see that five years of such a system must ruin the best company of cavalry in the service.

Does any one ask why the cavalry situated in this way is not drilled and disciplined after campaign and during its stay in garrison? It goes without saying that this is done in every regiment in the service when possible. But many reasons exist against its being well done, and some against it being done at all. It may happen that the companies are campaigning nine months in the year. It may be that the weather during the only service in the garrison will prevent all drills. It is too often the fact that while troops are not on campaign they are busied building quarters for their protection. And it is certain that if men are not set up as soldiers when they first join, each day they serve makes it more nearly impossible to make good soldiers of them. It is difficult to convince a man who has campaigned for six months, and has taken part in one or more skirmishes with the Indians. that he knows nothing as a soldier and each lesson attempted, which proceeds on this assumption, is received with reluctance, repugnance, and, it may be, with disgust.

The means of remedying these evils are too numerous and too well known to need detailed mention in this paper. A few months anticipation of the necessities of the army, in recruiting for regiments, would give an opportunity to drill the recruits at the recruiting rendezvous; or, better still, would afford time to have them properly drilled after reaching the headquarters of a regiment.

During the war the defects above mentioned were not so noticeable as they are in these times of so-called peace. The men of the regiments of volunteers which entered the service came in at the same time and were equally instructed, and progressed in their knowledge steadily, constantly, and together. The regular regiments received an excellent class of recruits, in some cases transferred from the volunteers, who were perfected in like manner simultaneously.

A plea for a school for cavalry would not, I fear, be treated with the favor it deserves by the authorities in Washington.

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Yet I have no doubt that a school for cavalry could be proven to be as important in every point of view as a school for artillery. This latter arm has been ridiculed by being styled a "scientific corps." The term, instead of pointing a sarcasm, should indicate a fact. Each arm of the service would be improved by regarding it as a science. The *esprit* of officers and men would be raised by a school of instruction for a part of the corps, where a high standard of theory and practice could be established, to wich every company in the arm could seek to attain.

For present purposes it is not necessary to establish a particular bureau or complicated machinery of administration for the cavalry, but why not combine a school of instruction with our recruiting rendezvous? For the additional expense the government would be more than compensated by the improvement in the service. All that is imperatively needed now, is an increase in the numbers of officers for duty at the recruiting rendezvous, to drill and discipline the recruits; and the accumulation of a few companies of recruits at the rendezvous, in anticipation of the wants of the army. Is this too much to ask for the improvement of an important arm of the service?

If the practice of drilling and thoroughly setting up recruits at the rendezvous were adopted, I do not doubt that in the end it would be found a source of economy. For in this process the worthless men could be discovered and discharged, and the government thus saved the expense of transporting them to the regiment at remote stations. It would have a tendency to reduce the number of desertions by habituating a man to soldiering before joining a station among strangers.

It is not my purpose in this desultory paper to argue the importance of cavalry as an arm of the service. Those who seek to belittle it, have their reward. Statistics gathered from the Surgeon-General's office as to the paucity of wounds inflicted by the cavalry during recent wars prove nothing, except the want of fairness, or want of logic, or both, of those who use them in abusing the cavalry. Have these same persons ever turned their attention to like statistics for the artillery? Will any one, after the experience of past ages, attempt to measure

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the importance of an arm—its moral effect in battle—by the numbers of men who may be picked up wounded after a fight?

To those who underrate the arm or its armament we cannot do better than to say, in the words of that accomplished soldier, Sir Garnet Wolseley, "Whether our cavalry is to be changed into mounted rifles or to remain as at present, $\bullet \bullet \bullet$ it will be, in the opinion of the writer, an unfortunate day for the (English) generals who is called upon to fight an enemy who has a proportion of good cavalry, whilst he himself has none, being deprived of them in pursuance of some cleverly-stated theory."

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METHOD FOR NUMBERING ROAD JUNCTIONS ON MAPS.

THE system of numbering the different road junctions on maneuver and other tactical maps, while in general use, does not appear to follow any definite plan. Each topographer seems to follow his own inclinations in the mattter.

For the sake of uniformity, and saving time to those not familiar with a particular map, a definite method of numbering the important points on roads should be adopted.

The following method is suggested as being simple, easily comprehended, and likely to fill most requirements.

A central point is selected, such as post headquarters for maps of the vicinity of garrisons; or the headquarters camp of a maneuver area, and taken as a center. Through this point a north and south line is drawn and an east and west line, dividing the area into the four quadrants. The first quadrant, north-east; the second, south-east; the third, south-west; and the fourth, north-west.

From the same center describe circles with a convenient unit such as one mile, or two and a half miles, as the first radius; and increasing each time by the same unit. All points situated in the first quadrant have the figure 1 as the first characteristic figure of the number given them. Likewise points situated within the second, third or fourth quadrants have the figures 2, 3, or 4 as their first characteristic figures.

The second figure of the number is also a characteristic one and denotes the circle it is within. Thus all points in the innermost circle would have the figure 1 as their second characteristic figure. A point in the third quadrant and between the third and fourth circles would have as its characteristic figures 34. One in the fourth quadrant and between the fourth and fifth circles 45, and so on.

The succeeding figures of the number would be the distinctive, or individual figures applied to that particular point; and in each circle within a quadrant would run from 1 up as far as necessary. These should be arranged clock-wise so that the map reader should instinctively know where to look for them.

The advantage of this method is that anyone receiving an order to proceed via such and such points, or receiving a field message from such a point knows at once the approximate direction of the point and the distance from where he is without having to consult his map.

> C. R. MAYO, First Licutenant, Tenth Cavalry.

INTERNATIONAL MAP OF THE WORLD.

THE first sheet of the United States portion of the International Map of the World has been issued by the United States Geological Survey and includes Rhode Island and portions of New York, Connecticut, Massachusetts, New Hampshire, Maine, and Nova Scotia. This world map, undertaken by agreement among the leading nations, is being prepared on a scale of 1 to 1,000,000—that is 1 linear inch on the map represents 1,000,000 inches or nearly 16 miles, on the earth's surface. The map is to consist of about 1,500 sheets,

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covering all the land areas of the world each sheet representing 4 degrees of latitude and 6 degrees of longitude. It has been the dream of geographers for many years to have an international map, scientifically constructed on a uniform scale, and the work is now well under way. The unofficial maps, printed on all sorts of scales, in geographies and atlasses, the most important areas, being alloted the grestest space, lead to misconceptions as to the relative size of the different countries. With an international map on a uniform scale the study of comparative geography will become more fascinating and more instructive.

The sheet just issued, which is numbered "North K 19" in the general world scheme, but known as the "Boston sheet" in the United States section, is printed in six colors and shows all the principal cities and towns, railroads, main wagon roads, and other works of man, and the rivers, lakes and other water features. The different depths of the ocean are denoted by contour lines, or "depth curves," and various shades of blue, and the relief, or altitudes of all parts of the land surface, by contour lines and color gradations, from pale green to brown, a different tint being used for each 100 meters of altitude

The sheets for the completed map of the world would if combined cover an area about 150 feet by 75 feet or a globe 40 feet in diameter; the United States portion would be about 16 feet in width, a very large wall map. The Boston sheet is 24 by 25 inches and this will be the size of most of the United States sheets. The maps of areas at the far north covering 6 degrees of longitude will of course be much narrower than those of areas covering 6 degrees at the equator.

At the present rate of progress, the United States portion of the international map should be finished within eight or ten years. It will be by far the best map of the country in existence

The Geological Survey states that there is no very accurate map of the United States as a whole, although the Geological Survey publishes a base map about 7 feet in width and the General Land Office has issued a similar map. Many of the commerical maps, though pretty to look upon, are full of gross errors. The Boston sheet is a very accurate map and is a beautiful product of the engraver's and lithographer's art. It is sold by the Geological Survey at the bare cost of production, namely 40 cents, which will be the price of the other sheets as issued. Thus the entire map of the United States will cost \$20 80. As a preliminary to the issuance of the completed color sections of the United States portion of the world's map, the Survey is printing, in black and white, State maps on the scale of 1 to 500,000, being thus four times as large as the world's map of the same area. Already such maps have been finished and printed for Vermont, Illinois, Indiana, Iowa, Minnesota, Mississippi, and Georgia, and a dozen others are in process of publication. These are sold by the Survey at varing prices according to the size of the map.

Press Bulletin U. S. Geological Survey.)

HURSE BREEDING IN FRANCE-HIPPOMETRICS.

C. BARRIER, director of the National Veterinary School at Alfort, in a report read before the 6th "Congres Hippique" in Paris, gives some data on the relative weights of the forehand of the horse, in front of the center of gravity, and the hind part, in rear of the center of gravity. The forehand weighs 12.7 per cent. more than the rear; with rider sitting in a vertical position, the forehand weighs 16.86 per cent. more than the rear; with rider leaning forward, 23 per cent. more; with rider leaning backwards 11.3 per cent. more. These figures show the necessity of loading the cantle of the cavalryman's saddle rather than the pommel. This also means that a cavalry horse should have strong loins; and a heavy head, neck and shoulders will ruin a cavalry horse or hunter prematurely as they increase the weight in front. The above weights were obtained by means of a special system of scales, the horse being placed with each foot on a separate scale. The horse used in this experiment was a saddle horse of very good conformation, weighing 1122 pounds with saddle and bridle on.

(Translated in office of Front Royal Remount Depot.)

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GENERALS—SOME RECOLLECTIONS.

MAN'S point of view changes as he grows older. It is hard to realize that this is so, that it is not the person or thing viewed that has changed. Look back at the time you entered the service, and think how you looked on senior officers. You find it hard to realize that the subaltern of to-day has just the same sort of opinion of you. To the last-joined subaltern the field officer is an old man, to the field officer the subaltern is a boy. When you were a subaltern you did not look upon yourself as a boy any more than at the age of forty-five you look upon yourself as an old man. The subaltern looks on the general as something apart, a something he is only likely to come in contact with on rare occasions, that will jump on him if he does anything really wrong or distinctly silly at a field day or inspection. Of course generals have somewhat altered with the times. My experience of generals is chiefly confined to India. They are younger than they used to be. Many years ago a general here and there played polo, but he was regarded rather as a thing apart from the game, not to be hustled and ridden off. Sometimes he regarded himself in that light, and remonstrated with anyone bold enough to transgress the unwritten law in language more forcible than polite. Now-adays there are generals who play polo and expect to be treated like anyone else. They are young men playing the game.

Generals of old, in many cases—you might almost say in most cases—expected to be treated with very great deference, almost as if they were not quite human. When the general dined at mess a hush came over the scene. A year or two ago I sat at a table with two generals playing bridge after a mess dinner. There was no hush in that mess; in fact, a very lively rag was going on. One of the generals could not keep his attention on the game; he was itching to be up and joining in the fun. He did not do so, but he did not even remonstrate when a subaltern was violently cast into the card room, wrapped in a curtain he had pulled down on his way, on to the general's

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knees. He was one of the young generals who played polo as a game. But he was a man who knew his own mind and his work, and had no mercy on anyone who did not know and do his work, as many find. He could not forget he had been a subaltern, and his heart was young. There are generals that are very unpleasant to deal with, as senior officers find out. Some are very unreasonable. I do not mean the man who gives orders and insists on their being obeyed to the letter, but the man who thinks nothing can be right that he has not orderedthat everything you do on your own must be wrong. The nicest general I ever served under was one who could, and did, talk to you if you did anything wrong; but he always gave vou a chance of explaining why you did it. If you were frank with him, he always looked at what you had done from your point of view. If that was reasonable, you got off with a caution not to do it again; if you did it again, you heard all about it.

The first general I knew in India more than thirty years ago was a man who had served out there for fifty years, and only been home once. Despite his age and long service in the country, he was a wonderfully active man. When he finally retired, the horse he always rode passed through three mans' hands before he got an owner who could manage him; and only a few years earlier he had trained a horse for a big race, which he won. Until the jockey got up for the race, no one but his owner had been on his back. In his younger days he had been a noted horseman and swordsman. The records of his prowess in the latter capacity against Rohillas in the Deccan were marvelous The older men in India in those days were very tough. It was a case of the survival of the fittest. In the early half of the last century the weaklings were soon killed off by the climate. Fancy drilling in full English kit, with high stock and shako, in the middle of the day! These men had done it, and some of them survived to tell the tale. Those that did were decidedly tough. In those days and much later the day of the general's annual inspection was a day of rush and discomfort. The reputation of the regiment chiefly depended on the turn-out and the way the march past and parade movements were carried out. The men took immense pains to turn out well: nothing

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disappointed them more than for the general to take a mere cursory glance at them. Some generals, from a mistaken sense of good nature, made the parade as short as possible, much to the men's disappointment. They knew they were well turned out: they had taken a lot of trouble to be so; they wanted to be looked at; and felt that there trouble had been wasted. The luck of inspecting generals is proverbial. At a kit inspection the small book the general looks at is always the one in the room not properly made up, and the one garment unwashed or borrowed, so that the number on it is not that of the man showing it, is sure to be the one pitched on by the inspecting officer. From the regimental officers' point of view, the general with fads is a real-nuisance. One who was madly keen on office records, and bothered about little else, always ordered them to be kept in the way he liked, which was not the way laid down in regulations. He was succeeded by a man who was an expert in soldiers' messing, and invariably wanted to know what happened to the rice ration.

Another amused himself by looking under the dhurry men have on their beds in India, and various and miscellaneous were the articles he found concealed in the recesses of the corrugated iron bed boards. After all, a general makes an inspection to see what is wrong, and some are not happy until they discover something. On one occasion a general couldn't find anything to complain of for some time, and was getting surlier and surlier, until on his way round stables he saw a leather bucket half hidden in a hole. But it had to be brought out, and proved to be full of soft soap. Having told off everyone concerned, be hecame quite genial. On another occasion the same general could only find one thing to complain of, and that was that the moustache of one of the subalterns was too long.

(Bread Arrea-January 31, 1913.)

PRICE OF REMOUNTS IN RUSSIAN ARMY.

(Order No. 483, War Department, St. Petersburg, September 9, 1912.)

THE Council of War, by resolution dated August 9, 1912, has decreed:

1. To increase in 1913 the average remount price for the purchase by the Remount Commission of remounts for the cavalry and artillery in European Russia, as follows:

(a) For a saddle horse of good blood for the cavalry and artillery from 385 to 400 roubles.*

(b) For artillery draught horses of good blood from 350 to 365 roubles.

2. To establish for the years 1914 to 1918 inclusive, the average remount price for horses for the cavalry and artillery in European Russia as purchased by the Remount Commission, to be:

(a) For saddle horses of good blood for the cavalry and artillery 425 roubles.

(b) For artillery draught horses of good blood 390 roubles.

"A rouble is worth about fifty-two cents in U. S. money.

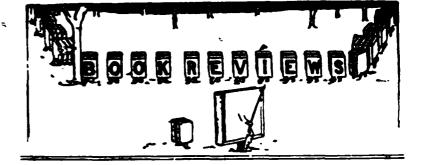
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AN UNIQUE PHOTOGRAPH.

The photograph which is reproduced herewith, was sent us by one of our members as being very unique, in that the horse was caught while standing on one foot.





War **of** To-day.* The second volume of Bernhardi's "On War of To-day" is an even more important and interesting contribution to the stock of our military literature than is the first volume. It is more concrete in its character and

is startling in the plainess of its discussions of probable future war with Russia, France and England.

This second volume is subdivided into two parts, entitled: "Attack and Defense," and "The Conduct of War." Many recent wars are discussed by the author and interesting deductions drawn from them. The history of the American Civil War is freely drawn upon, showing that, even if the Germans did at one time regard this war as a conflict "of armed mobs," they now consider that valuable conclusions may be drawn from it.

General Bernhardi repeatedly assails the most universally accepted principles of tactics and points out the dangers of one-sidedness and fixed schemes, both in attack and defense. For example, in discussing the relative advantages of outer

"'ON WAR OF TO-DAY."-By Friedrich von Bernhardi, General of Cavalry, retired. Authorised translation by Karl von Donat, Late Lieutenant 33d Fusileers Regiment, German Army. Volume II, (Combat and Conduct of War), with eleven sketches. HUGH REES, Ltd., Lodnon. Price 98.

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and inner lines and of the combined frontal and flank attack, he says:

"There is thus a reciprocal effect of merits and demerits of the inner and outer lines. They neutralize each other, as it were. But the outer lines lead tactically, as I said before, to the opponent being enveloped, while on the inner line there is the danger of being enveloped by the opponent. We must from this point of view, attribute a certain amount of superiority to the outer lines.

"But this does not at all justify the notion, so widely held in our time, that operating on the inner line under modern conditions is as good as impossible, because the mass to be removed is too great, and freedom of movement on the inner line too much restricted. By adhering to such a notion we shall become as one-sided as Jomini, who once thought he had recognized in the inner line the most essential secret of the art of war. We must guard against all one-sidedness respecting the forms of attack and defense too. There is no form that could, as it were, be termed the only right solution. It would be defying all historical truth and sound logic should we wish to accept such a form.

"We, unfortunately, in the German Army, are on the high road of becoming slaves to such one-sidedness. The principle of giving preference to the outer lines rules all our notions of strategy, and tactically the same idea has already assumed a schematic character, added to which the German 'Infantry Training' (Drill Regulations) gives official expression, thus sanctifying, as it were, the schematism in the form of attack. 'The combination of frontal with enveloping attack best insures success' is the wording of the vital sentence, (Par. 392.) That sentence is wrong, as I have already explained in detail. It only proves correct with perfectly arbitrary notions about the strength and attitude of enemy. But that sentence is also dangerous; for not only does it render it difficult for a commander to strive after victory by other methods, which, from immediate circumstances, seem perhaps more expedient, but it also makes it easier for the opponent to adopt suitable counter measures if he can with some certainty count upon the opposite party always acting on the same principles."

The author illustrates his point by describing the action at the Diamond Hills, in the Boer War, as follows:

"The hostile center was here the only possible direction of attack for the British, because it most directly threatened the vital artery of the Boer Army, and would have scattered the army itself in two directions. Yet Louis Botha was so sare of Lord Roberts acting on his theory of envelopment, and so sure of his reluctance to attack in front, that he occupied the center of his position quite weakly, as a mere pretence only, and distributed his main forces on both flanks, so as to envelop the numerically far superior enemy himself, whilst the latter, as Botha had rightly anticipated, was attempting to do the same to him."

Under the Old Flag.* This new work from the pen of that distinguished soldier and gifted writer, General James H. Wilson, has been received too late for an original and extended review in this number of the CAVALRY JOURNAL.

However, it is safe to say that anything written by General Wilson will prove interesting reading and more particularly since these two volumes of over eleven hundred pages, exclusive of an apparently complete index, covers the experiences of this distinguished soldier for a period of over forty vears.

The following is from the publisher's notice of the work:

"These are spirited memoirs of three wars by one of the best known of living American Generals. The work describes General Wilson's active life and experiences in the Civil War, in the Spanish American War and during the Boxer Rebellion in China. He served on Grant's staff and figured prominently

""UNDER THE OLD FLAG." Recollections of Military Operations in the War for the Union, the Spanish War, the Boxer Rebellion, etc. By James Harrison Wilson, Brevet Major General, U. S. A., late Major General U. S. V.; Engineer and Inspector General on Grant's Staff; Commander Third Cavalry, Division Army of the Potomac; Commander Cavalry Corps, M. D. M., etc. Two volumes (580 and 582 pages). D. Appleton & Co., New York. Price \$6.00, postage extra.

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throughout the Civil War. His raid at the Ream's Station. in which he drew Lee's army away from Grant, was one of the brilliant events of the great conflict. He was the friend of Lincoln. Grant. Sherman. Sheridan, Dana. McClellan, Custer, and other great men of that period, whom he pictures intimately. He throws new light on many of the maneuvers and campaigns of the Civil War, and his descriptions are likely to arouse controversy. He served during the Spanish War as a senior Major-General, and afterwards help to reorganize the Cuban Government. He commanded the joint American and British forces for a time during the Boxer uprising in China. He represented the Government at the Coronation of King Edward. As a delineator of character and a narrator of graphic incident General Wilson is a master. His work is not only a valuable historical document but an usually readable story of an active. picturesque life."

The following are extracts from a review of the book by George Haven Putnam written for the *Literary Digest* and which appeared in the March 1, 1913, number of that periodical:

"In delaying the production of his memoirs until half a century after the close of the war, the General has lost many readers among his contemporaries, the veterans who have now 'joined the majority,' but as an offset to this loss, he has secured certain advantages. He has been in a position to free himself from the heated atmosphere of the contest and to write from the point of view not of a combatant only but of an historian; while his book appears at a time when there is an assured revival of interest in the war period and a real desire on the part of the thoughtful citizens of the new generation to learn something of the things that happened and of the characters of the leaders who were responsible for the direction of affairs. The General is now in the full maturity of his life, and his narrative may be accepted as presenting final conclusions arrived at after half a century of deliberation. It need not be assumed, however, that the book is on this ground characterized by any oversedateness or coldness of presentation. The story moves forward briskly, with a glow of vitality and with a force of expression that recall one of the General's own cavalry charges The reader feels that he is in the company of a youngster

whose opinions are as burning, and, we may add, as assured, as was the case when the young lieutenant, at the opening of the war, was seeking the most active kind of service. We may conclude that General Wilson belongs to the fortunate group of mortals who never grow old.

"His experiences during the four years' war were singularly varied, but the variety was due not simply to the fortunes of war but very largely to the wide capacity and endless energy of the man himself who sought and found opportunities for work, and particularly for fighting, in the several channels in which he was able to distinguish himself. He was graduated from the Academy at West Point with the first six of his class, and his high position gave him the opportunity of selecting the engineer corps for his service. He had, even as a cadet, distinguished himself for skill in horsemanship, and his assignment as an engineer could not keep him from the more stirring . activities of cavalry service. It was as a cavalry leader that he finally won his chief distinction and secured his highest honors. His training as an engineer and his exceptional resourcefulness brought him into demand for staff service, but he secured a cavalry command, and after he was leading a division, and finally a corps, of cavalry he was always able at critical moments to use to advantage his engineering shill and ingenuity. He proved to be a most valuable staff officer; whatever fatigue he might have undergone, he was always ready for fresh work and was constantly volunteering for one arduous service or another. He was also ready with suggestions and counsel which, while always deserving of consideration and often proving to be of importance, must occasionally have seemed somewhat assuming, presented from a youngster to men who were much his seniors in years and in experience. One cannot but be impressed throughout the volumes with the naive confidence of the young officer, and with his certainty that his conclusions in the pending matter must be not only important but more valuable than any other recommendations that could be presented.

"In 1861, when his active service began, Wilson was twenty-four years of age. For a year or more, he did staff service with rank ranging from lieutenant to lieutenant-colonel.

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But he was given the command of a brigade when he was but twenty-six, and before he was twenty-eight he had the control as an independent command of the greatest corps of cavalry that was brought together during the entire war. It is to be borne in mind also that this cavalry corps was practically Wilson's own creation, and he was able to demonstrate, as no previous cavalry commander had done, the distinctive service that could be rendered in battle, and in pursuif after battle, and even, when well in advance of any supporting infantry force, in assaults on entrenched positions by a wellorganized and well-led corps of cavalry.

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"General Wilson's career shows him as in more ways than one, and in the best sense of the term, a typical American. His devotion to his work, his many sided capacities, his energy. enterprise, and organizing avility, his quick preception of the qualities of themen, with whom he had to serve either as subordinate or as commander, and his ready understanding, even in the earlier years of his army work, of large operations, placed him in a position to render service of most exceptional value. This value was, as we have seen, recognized by army commanders of very varying character and in a way most complimentary to Wilson himself. Wilson's frankness in expressing himself to his seniors and superiors his opinions either in regard to campaign plans or movements or concerning their own individual operations, seems never to have impaired his relations with them or their confidence in him. He showed himself well fitted from step to step for the highest responsibilities that were placed upon him or that he created for himself. The war could undoubtedly have shortened by many months if our armies could have had as leaders a few more men of the devotion and the capacity of James Harrison Wilson."

+ Editor's Cable. +

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CAVALRY REORGANIZATION, ETC.

Within the last few months several subjects of vital importance to the cavalry of our service have been under discussion, they having been brought to the front by the action taken by some of our Branch Associations.

The first, and probably the most important of these questions was advanced by the Fort William McKinley Branch Cavalry Association and is that regarding the reorganization of our cavalry and particularly as to the proposition to reduce the size of our cavalry regiments.

That Branch Association, having a membership of about seventy cavalry officers, or nearly ten per cent. of the cavalry officers of our service, after mature deliberation, resolved that no change in the present organization of our cavalry was necessary or advisable and that especially was it unwise and inopportune to advocate any reduction in the size of our cavalry regiments.

This and other subjects relating to the cavalry service had also been under consideration by the Fort Leavenworth Branch Association at their several meetings during the winter, at which meetings the cavalry members of the Special Field Officers' Class of the Army Service Schools, representing nearly every cavalry regiment, were present, and participated in the discussions. At the meeting of this Branch, held on March 6, 1913, the following resolutions were unanimously adopted, after a full and complete discussion:

"That this Branch Association approves most heartily the proposed bill as set forth in the resolutions adopted by the West

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Point Branch Association and recommends that the Executive Committee of the U. S. Cavalry Association bring the same to the attention of the several Branch Associations with a view of obtaining their endorsement of the same.

"That this Branch Association approves most heartily the resolutions as adopted by the Fort McKinley Branch Association; and further that we maintain that it is unwise to advocate any change in our present organization of cavalry regiments; provided, however, that the war strength of a troop of cavalry should be 100 troopers and that our cavalry should be maintained, at all times, at such war strength.

"That this Branch Association approves the General Staff plan for the reorganization of the mobile army and that it is desirable that the U. S. Cavalry Association should go on record as advocating the same."

Soon after this, on March 12th, the Excutive Council of the Cavalry Association, in accordance with the suggestions and requests of the two Branch Associations mentioned, formulated and sent out to the several Branch Associations, and also to those cavalry officers stationed at Posts where no Branch Associations existed, the following propositions for an expression of their opinions upon the same:

"First.—Shall the Cavalry Association advocate the adoption of the General Staff plan for the reorganization of the several arms of the mobile army?

"Second.—Shall the Cavalry Association advocate the adoption of the bill proposed by the West Point Branch Association regarding the relative rank of officers?

"Third.—Shall the Cavalry Association advocate and urge the retention of the present organization of our cavalry and use its best influence with the Cavalry Board that is now considering that question to prevent any such change?

"Fourth.—Is it deemed desirable that the stand taken or proposed against the reduction in the size of our cavalry regiments, or, in fact, any change in the organization of our cavalry be advocated through the columns of the CAVALRY JOURNAL?"

The fourth of the above propositions was inserted at the suggestion and request of the Editor of the CAVALRY JOURNAL because he had been criticised, mildly it is true, for having published so many articles that were in the line of advocating a reduction in the size of our cavalry regiments, and so few in opposition thereto. This discrepancy between the number of articles for and against this proposition has been due simply to the fact that those favoring the proposition have been more active in furnishing "dope" along this line for publication. As has been noticed, nearly all these articles favoring a reduction in the size has originated in Washington.

However, the reports from the Branch Associations and others of the action taken on the above named proposition were prompt and decisive, and almost unanimously in favor of each of them. Every Branch Association, with one exception, has been heard from and the one exception was due to an unfortunate mistake in sending the questions to one who took no interest in the matter, instead of to the proper official of the Branch Association.

Generally the votes from these Branch Associations and those from the officers at stations having no Branches, were in the form of resolutions endorsing the propositions as submitted to them or by the individual votes of the officers at the several stations, they, however, in some instances, making additions to the proposition as set forth in the circular letter from the Executive Council. These variations from a simple endorsement are as follows:

"••• This Branch Association, while endorsing the Cavalry Association and its individual members using their influence with the Cavalry Board, does not approve of the Cavalry Association or its members using their influence with Congress except through military channels."

"This Branch Association recommends that the CAV-ALRY JOURNAL take a decided stand against the reduction in size or change in organization of our cavalry regiments and to advocate the same in its columns without, however, closing its columns to the opposite side of the question."

"That this Branch favors the essential features of the plan for the organization of the Army as outlined in the "Report on the Organization of the Land Forces of the United States"

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(War Dept., August, 1912); that it recommends the support of that plan as a whole by the U. S. Cavalry Association that it regards as of doubtful expediency the publication of any specific pledge, purporting to bind the members of the Cavalry Association to the support of that plan—at least until it is clear that the legislation by means of which it is proposed to carry the plan into effect includes so essential a part of the proposed scheme as an equitable adjustment of promotion under the "one list" plan indicated on pages 46-47 of the report above cited.

"That this Branch favors the readjustment of relative rank along the general lines indicated in the bill proposed by the West Point Branch of the Cavalry Association; but is of the opinion that a much better bill, as to details, may be had by incorporating into legislation Section 1 of the proposed rules governing relative rank as presented on pages 46-47 of the report above cited. This preference is based upon the fact that the Section referred to of the General Staff plan disturbs much less the existing relative rank of officers in the same arm of the service and apparently provides a much more equitable arrangement of relative rank in the cases covered by sub-sections (a), (b) and (c) of that Section.

"Assuming that it is inexpedient to include in the present bill the "one list for promotion" feature, it is nevertheless believed that any readjustment of relative rank made at this time should conform, as nearly as possible, in each grade, to a list that might subsequently form an equitable basis for an arrangement, on a single list for promotion, of the officers of the Mobile Army, in case that question should later come before Congress.

"Moreover the support of a bill in the form indicated on pages 46-47 of the report cited would have the further advantage of being in support of a feature expressly advocated by the War Department and forming part of the Department's plans for the organization of the army.

"While thus stating its emphatic preference for the provisions of the General Staff plan cited above, this Branch recognizes the importance of harmonious action by the Cavalry Association and the advantage to be gained by the union of the Cavalry and Infantry in support of any suitable bills. If, therefore, good reasons can be advanced tending to show that the West Point bill is preferable to the General Staff provisions, this Branch requests information as to the advantages of the West Point bill with a view to further consideration of the latter.

"This Branch does not favor any movement looking to the reorganization of the cavalry at present.

"That this Branch deems it desirable that the JOURNAL of the Association oppose any movement looking to the reduction of the strength of the cavalry regiment or to any other reorganization of the cavalry arm at the present time; that it be made clear in the JOURNAL, that any article published in a sense contrary to the above do not represent the Association as a whole nor the opinion of the Executive Council; and that the Executive Council discourage the publication in the JOURNAL of articles on reorganization that are in opposition to the views believed to represent the Association as a whole."

This Branch of the Association approves the tactical organization for cavalry as published on pages 126 and 127, Report of Chief of Staff, 1912, except that the following should be added: It is believed that for purposes of instruction as well as for special work in the early stages of a campaign, the minimum peace strength of the troop should be 86 men and, 80 serviceable horses, this being the present maximum capacity of troop barracks and stables.

"This Branch Association approves the suggested 'Rules governing rank and promotion' published on pages 132 and 133, Report of the Chief of Staff, 1912."

"This Branch Association is opposed to any radical change in the size of the regiment or to any reorganization based on the double rank system, and urges that the influence of the Association be used in this direction with the Cavalry Board and with Congress.

"This Branch Association deems it desirable that the columns of the CAVALRY JOURNAL be used to advocate the principles above set forth, and that when articles appear therein

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contrary to these principles that the Editor preface the same with a note to the effect that the Association does not favor the views set forth."

"1. This Branch Association believes that the Cavalry Association should go on record as recognizing the fact that the Army of the United States needs to be better organized for war. The plan proposed by the General Staff in its "Report on the Organization of the Land Forces of the United States," although calculated to bring about efficient organization of the regular Infantry divisions, does not sufficiently recognize the fact that the numerical weakness of our Cavalry will prove a serious handicap in case of war. A very considerable increase in the Cavalry is regarded as absolutely necessary because there is very little National Guard Cavalry, because it will be extremely difficult and in many States impossible to organize and maintain efficient National Guard Cavalry, because a number of Cavalry divisions should be ready to take the field at the very out break of war, and finally, because efficient Cavalry cannot be organized and trained on short notice.

"2. The greatest need to-day of the Army of the United States and therefor of the Cavalry branch is a higher degree of professional unity. Without such unity the Army is as a house, divided against itself. Cooperation and team-play are as necessary in peace as in war. A "single-list" for promotion affords the only way to secure them. We heartily concur in the statement of the General Staff that it is "considered absolutely necessary preliminary to any reorganization of the Mobile Army to place promotion on an equitable basis independent of organization.

"3. We believe the CAVARLY JOURNAL should take a firm stand against any reduction in strength of Cavalry regiments. The pages of the JOURNAL should be open to all contributors but its policy should be strongly and constantly against any agitation for such reduction. Aside from tactical objections it must be remembered that any reduction in size of regiments will undoubtedly operate to reduce proportionately the effective strength of the entire Cavalry force of the United States." Officers at one station, with three exceptions, voted to support the General Staff plan, but with the modification that: "We do not favor the scheme of the General Staff for reorganization in its entirety, but express ourselves in favor of the promotion feature of the General Staff plan." At another station four officers voted against advocating the General Staff plan.

"This Branch Association also desires to place itself on record as being unanimously opposed to any policy which would deprive the cavalry arm of the pistol or revolver in action and desires the Cavalry Association to voice the sentiment of the arm through the columns of the CAVALRY JOURNAL."

One Branch Association adopted the following regarding the General Staff plan:

"Whereas, the scheme for reorganization of the Army as promulgated by the General Staff has already been adopted and partially executed by the War Department, and

"Whereas, the remainder of the scheme is in process of development,

"Be it resolved, that the U. S. Cavalry Association should abstain from the adoption of any fixed policy with regard to such scheme.

The same Branch also adopted the following:

"Whereas, it is believed that no real coordination can be secured looking to a suitable reorganization of the mobile forces of the United States until bias and personal ambition have been eliminated, be it

"Resolved by this Branch Association that it is heartily in favor of the concentration of all of the energy of the U.S. Cavalry Association to securing the one list for promotion, such as now exists in the line of our navy."

In conclusion, our members are informed that a Committee of Cavalry Officers has been selected to confer with a like Committee from the Field Artillery Association and the Infantry Association with a view of agreeing upon a fair and just scheme of reorganization of the mobile forces of our army and it is

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hoped that they may come to an agreement that will, in the end, prove satisfactory to all arms and bring about the much to be desired harmony between them.

CAVALRY ORGANIZATION •

The discussion of the organization of our cavalry regiments has made it clear that cavalry officers generally are attached to their present organization. This organization is believed to have been developed out of our experience in the Civil War, where our cavalry performed valuable service and attained a higher efficiency than had been attained by cavalry previously. We are proud of our cavalry organization because it is distinctively American and not copied from a foreign model. Our infantry have paid our organization the highest possible compliment by imitating it.

The subdivision of the regiment into three parts (formerly called battalions, later mis-named squadrons) each of four troops (formerly called companies) is a flexible one, capable of convenient subdivision and one which gives our colonels, majors and captains commands appropriate to their rank.

Cavalry will in the future be called on not only to hold points of support, to cover the deployment of infantry and to cover the retreat of infantry by delaying actions, but will also be required to make serious dismounted attacks against the flank and rear of hostile infantry. Our present regiments, which can place about a thousand rifles on the firing line, are convenient and efficient units for this work.

Our troops of from 80 to 100 men and horses are quite large enough for a captain to command and care for as he should do. Captains of infantry and artillery receive the same pay as captains of cavalry and are supposed to possess about the

EDITOR'S TABLE.

same amount of experience and training. It is proposed to raise the strength of our infantry companies to 150; if our cavalry troops are raised to 150 men and horses there can be no question that the cavalry captain will have a more difficult and responsible position and longer hours of duty than the infantry captain. The size of the European company, escadron and battery is influenced by considerations of economy to a greater degree than is necessary in this country; they could undoubtedly be made more efficient by grouping the same number of men in smaller units. Our country maintains only a small army and on that account this army should be maintained at the highest possible standard of efficiency. Our cavalry troops of 80 to 100 men, our infantry companies of 108 to 150 men and our batteries of four guns give us an opportunity to attain a higher degree of efficiency than would be possible if these units were larger.

> FARRAND SAYRE, Major, Cavalry.

DOUBLE VERSUS SINGLE RANK.

This question is one among the several that is now being agitated and discussed by those in authority in connection with the general subject of the reorganization of our cavalry.

In this connection, therefore, the following will prove interesting to our cavalry officers:

From one of our members:

"The subject of the relative merits of the various types of Cavalry organization has been recently so much under discussion and is of such vital interest to the cavalry arm, that it occured to me that experiences of the Confederate service might be of value in showing whether the evolution of their cavalry followed the same course as did the Federal cavalry or a different one.

"I have found a small volume published in 1863 and entitled 'A Revised System of Cavalry Tactics,' by Major-

^{*}Notwithstanding the fact that the above has appeared in at least one of the weekly service periodicals, it is considered of such value as to warrant its reproduction in the CAVALRY JOURNAL, especially as it is particularly a cavalry subject and one that is of vital interest to our cavalry.—EDITOR.

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General Joseph Wheeler. The introduction to this work is interesting in showing clearly the opinion of this cavalry leader in the very midst of the Rebellion.

INTRODUCTION.

'Much has been said regarding the relative advantages of single and double rank formation. We have seen that the depth of formation has been gradually decreasing during the last two thousand years, from ten or even sixteen ranks to the present system.

"The most perfect system of formation is that which enables the commander to do the most service with a given number of men. We will suppose a cavalry brigade of four regiments to be drawn up to charge the enemy. With the single rank formation the brigade will be formed in four lines and inflict upon the enemy four successive shocks, each of which would be nearly as severe as a charge in two ranks, and the number of shocks being double, the amount of execution would certainly be much greater.

'Another advantage in single rank, is the greater facility with which troops can be handled and reformed, after the confusion of a charge, and what is of more importance, disorder or confusion are less liable to be incurred. These together with several other minor considerations, have induced cavalry officers of most experience both in Europe and America, to prefer the single to the double rank.

'By forming the flank squadrons in echelon, the enemy would be ignorant as to whether the regiment charging them was in one or two ranks, and therefore the moral effect would be the same in both cases.'

"It would seem but proper that ideas formed as the result of the evolution resulting under the stress of actual war, should bear great weight."

From Roemer's Cavalry, Its History, Management and Use in War:

"But of all differences respecting formation, the most important is that which relates to the number of ranks. After the lapse of various epochs, and since we have gone back from

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deep to extended formations, it has been at last decided that the front rank alone effects the charge; that no weight or after charge can be contributed by troops placed behind; and that the rapidity is not increased by the pressure of those who follow, as with infantry. The practical result of this decision is that the cavlary of all the European nations is now formed on two ranks. As early as the time of Louis XIV, the losses incurred by some regiments obliged him to dispense with the third rank, and similar reasons in later times have necessitated an occasional formation in one. Some English tacticians have gone even further and recommended the permanent adoption of a single-rank system, which was practically tried for the first time in 1833, by General Bacon, in Portugal, where he commanded the cavalry of Don Pedro.

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"Still, this new system has found advocates among the most distinguished cavalry officers both here and in England. The following letter from the Duke of Wellington, addressed to Lord William Russell, in 1853, expresses his opinions on the subject, which are not only interesting, but, proceeding from so high an authority, are entitled to the most careful consideration:

Although I suppose that it will never happen to me again to have anything to say to the discipline of the troops, I have passed too many years of my life in relations with them, and in reflections upon what was good and useful to their discipline and movements, not to feel an anxiety relative to the formation of the cavalry.

In my opinion the cavalry is useful, and even safe, only by the use of very large reserves. It is essentially an offensive arm, whose efficiency depends upon its activity combined with its steadiness and good order. I think that the second rank of the cavalry, at the usual distance of close order, does not increase its activity. The rear rank does not strengthen the front rank, as the center and rear ranks do the front rank of the infantry. The rear rank of the cavalry can augment the activity or even the means of attack of the front rank, only by a movement of disorder.

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'If, then the attack of the front rank should fail, and it should be necessary to retire, the second or rear rank is too close to be able to sustain the attack or to restore order. The second rank must be involved in the defeat and confusion, and the whole must depend upon some other body, whether of cavalry or infantry in reserve, to receive and protect the fugitives.

'I have already stated that the second or rear rank can augment the means of the first rank only by a movement of disorder. This is peculiarly the case if the attack should be successful. In all these cases the second rank—at a distance sufficiently great to avoid being involved in the confusion of the attack of the front rank, whether successful or otherwise could aid in the attack, or, if necessary, cover the retreat of the cavalry as a body; while by the absence of all impediments from the closeness of the rear rank, the activity of the front rank would be increased.

But my opinion always has been that the whole practice of the cavalry ought to be one of reserves. I thought that the cavalry at two deep ought never to appear but in three lines. At one deep it follows that, if my reasoning be correct, three lines would still be sufficient; but I should be inclined to say that four or six lines would be preferable to a smaller number.

'The facility of movement is so great, and the use of the arm can be rendered of so much importance by the aid of artillery, that I should have no apprehension of not being able to bring up the lines from the rear to the front or to a flank, and to apply them to the most useful purposes of attack, if necessary. At the same time it cannot be denied that this required for the actual attack, the less they are exposed the better. My notion of the distance of the lines of cavalry was, as much as a cavalry horse could gallop in a minute. I would have the second line pull up at a walk when the first should charge; the third line, always in column, should deploy at the same moment, and then act as ordered for the second line, in support of the first. The supernumerary lines beyond these should all act as ordered for the third line.

'In Napoleon's great battles, he never charged with masses of cavalry. He used his cavalry, supported by great masses of artillery, to sieze positions; and he afterwards occupied them, with his infantry or his artillery, to operate on the morale of his enemy by turning a flank, or occupying a post in the center of his army with celerity. He tried this maxim in the battle of Waterloo, but the British infantry was too steady, and it did not answer. In all these operations the first movement of the cavalry is offensive, and the proper movement of that arm.

'But after the position is siezed the cavalry becomes defensive. Its order, depth, the removal of the great body of it from the effect of the fire of the enemy, the security of the flanks from the attacks of the enemy's cavalry—all become important, and can be only attained by reserves.

'I conceive that the one-rank system would require a change, not only in the discipline, but in the organization of the cavalry. If I am not mistaken, it would render the use of cavalry in an army much more general than it is at present.'"

Attention is also invited to the reprint of an article by Philip St. Geo. Cooke, appearing in this number of the CAVALRY JOURNAL, in which he comments upon the question.

CLUB RATES.

As will be seen from the notice appearing on the inside back cover of this number of the CAVALRY JOURNAL, mutual clubbing rates have been established between the U.S. Infantry Association, the U.S. Field Artillery Association and the U.S. Cavalry Association for the *Journals* of the respective Associations.

It will also be noticed that the club rate heretofore existing for the *Infantry Journal* and the CAVALRY JOURNAL for the members of the other Association has not been changed from what it has been for the last several years. The question of advancing this rate, on account of the increased cost of publication, was seriously considered but it was finally decided to retain the old rate for at least another year.

It is believed that it is to the advantage of all officers of the mobile army that they become subscribers to the *Journals*

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of the Associations other than their own as they thereby become familiar with the progress and improvements taking place in those arms and become better fitted for higher commands in time of war.

THE RASP.

We are advised that "The Rasp" for 1913 is now in press and will appear early in June. It will contain:

1. Illustrated and written records of the work at the Mounted Service School, 1912-1913.

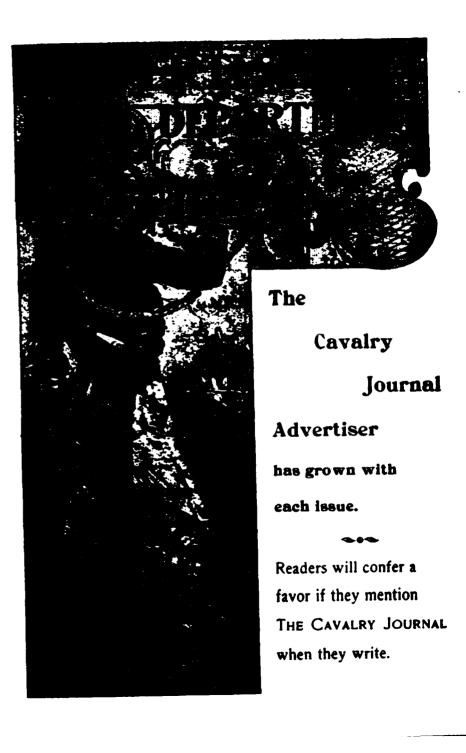
2. Articles on subjects of interest to the mounted service —"The Application of the Mounted Service School Methods to the Enlisted Man and the Service Mount"—"A Thorough Discussion of the Subject of Jumping"—"Suggestion for a Course of Instruction in the Officer's Garrison School of Equitation"—"An Article on Military Sports, Outlining a Proposed Organization for Advancing Polo in the Army"—and many others all written by officers especially qualified for the task.

3. Record and illustrations of the work of officers throughout the service during 1912—at Stockholm; at Horseshows, (about 300 illustrations); at Polo Tournaments; at Race Meets.

4. Photographs of mounts owned by many officers throughout the service and illustrations of character of work being done in many regiments in equitation, horsetraining, etc.

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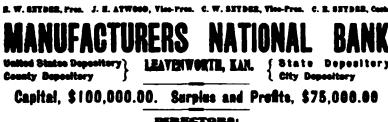


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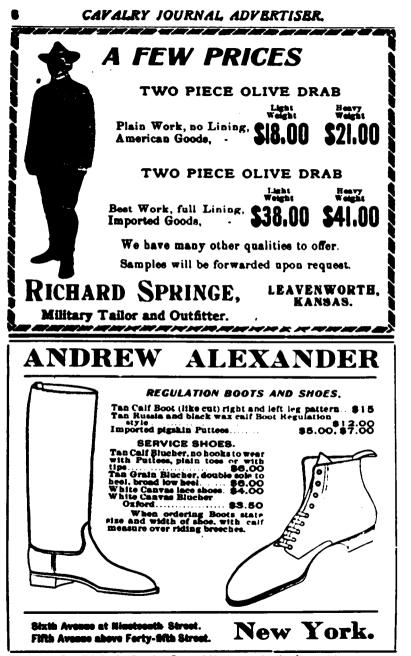
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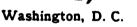
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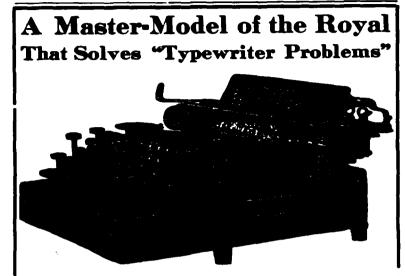
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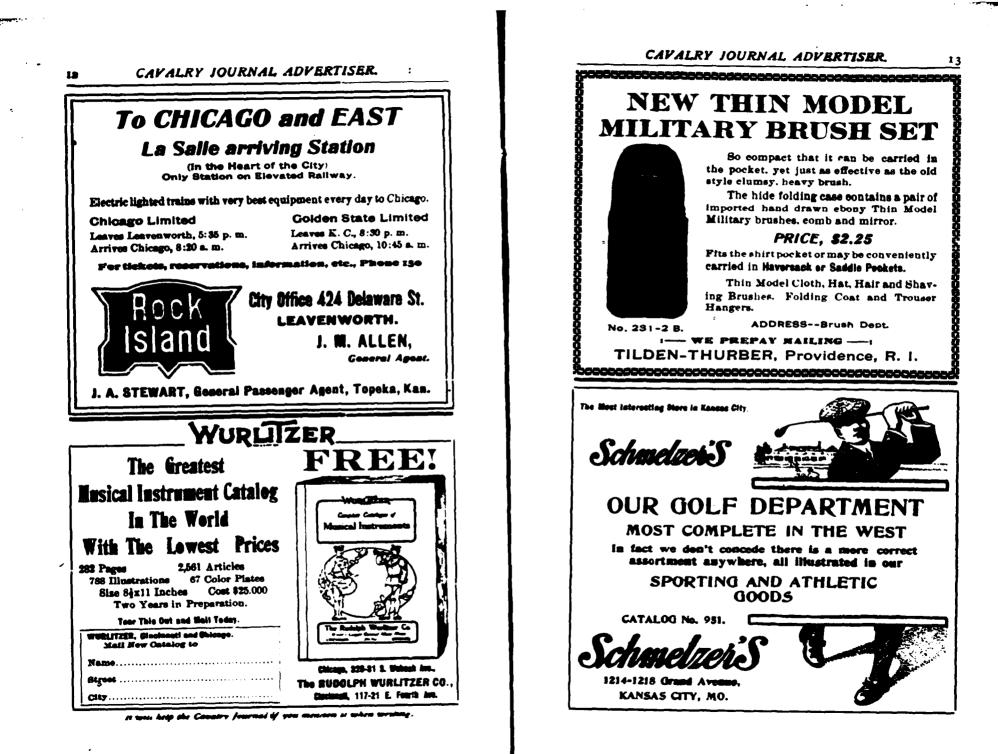
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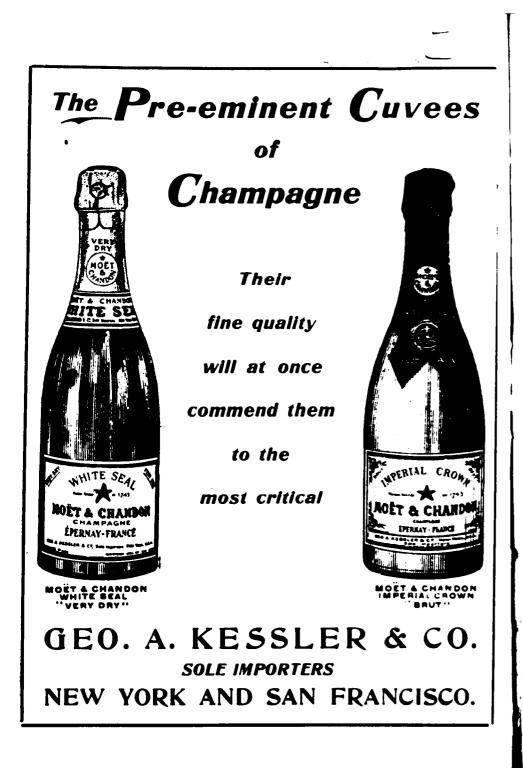
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