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EDITOR.

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CAVALRY REORGANIZATION.

BY CAPTAIN MATTHEW E. HANNA, GENERAL STAFF U. S. ARMY.

It may be stated with considerable confidence that any reorganization plan embracing an increase in the commissioned or enlisted strength of the Cavalry, or changing the ratios now existing between officers of different grades in the Cavalry would meet with such powerful opposition from other branches of the service and in Congress that some years probably would pass before it could be enacted into law, if at all. On the other hand, if the commissioned and enlisted strength of the Cavalry as now provided by law can be recast into a new organization without increasing or decreasing the total number of Cavalry officers or the number of them in any grade, and without exceeding the present number and cost of the enlisted strength of the Cavalry, and if it can be shown that this new organization is a material improvement over the one we now have, the chances for an early reorganization of the Cavalry are greatly improved. The material at our disposal has been thus recast in the following sample organizations, which illustrate the two types of organization receiving most consideration at the present time:

I. A REGIMENT OF THREE SQUADRONS OF TWO TROOPS EACH.

TROOP (Peace Strength—minimum):

1 Captain
1 First Lieutenant
1 Second Lieutenant
1 First Sergeant
1 Supply Sergeant
6 Sergeants
8 Corporals
2 Cooks
1 Farrier
1 Horseshoer
1 Saddler
1 Wagoner
2 Trumpeters
61 Privates

Total: 3 officers and 85 enlisted men.

TROOP (War Strength):

Increase minimum peace strength by 15 enlisted men (1 sergeant, 2 corporals, 1 horseshoer and 11 privates); total, 3 officers and 100 enlisted men.

SQUADRON (Peace Strength—minimum):

1 Major
1 First Lieutenant (Adjt. and Supply Officer)
1 Sergeant Major
1 Supply Sergeant
2 Privates (Orderlies)
2 Troops

Total: 8 officers and 174 enlisted men.

SQUADRON (War Strength):

Increase minimum peace strength by 30 enlisted men (2 sergeants, 4 corporals, 2 horseshoers, and 22 privates); total, 8 officers and 204 enlisted men.

HEADQUARTERS TROOP (Peace Strength—minimum):

1 Captain
1 First Lieutenant
1 Second Lieutenant
1 Machine gun platoon, consisting of
  2 Sergeants
  2 Corporals
  20 Privates
1 Band, consisting of
  1 Chief Musician
  1 Chief Trumpeter
  1 Principal Musician
  1 Drum Major
  4 Sergeants
  8 Corporals
  11 Privates
2 Cooks
1 Farrier
1 Horseshoer
1 Saddler
1 Wagoner
1 Trumpeter (for regimental headquarters)
4 Privates (Orderlies for regimental headquarters)

Total: 3 officers and 60 enlisted men.

HEADQUARTERS TROOP (War Strength):

Increase peace strength of machine gun platoon by 6 enlisted men (1 supply sergeant, 1 corporal and 4 privates); total, 3 officers and 66 enlisted men.

DEPOT TROOP (Peace Strength—minimum):

1 Captain
1 First Lieutenant
1 Second Lieutenant
1 First Sergeant
1 Supply Sergeant
6 Sergeants
8 Corporals
2 Cooks
1 Farrier
1 Horseshoer
1 Saddler
1 Wagoner
2 Trumpeters
26 Privates

Total: 3 officers and 50 enlisted men.

REGIMENT (Peace Strength—minimum):

1 Colonel
1 Lieutenant Colonel
1 Adjutant, Captain
2 Supply Officers, Captains
1 Chaplain
1 Veterinarian
1 Sergeant Major
2 Supply Sergeants
2 Color Sergeants
3 Squadrons
1 Headquarters Troop
1 Depot Troop

Total: 35 line officers, 1 chaplain, 1 veterinarian and 639 enlisted men.

REGIMENT (War Strength):

Increase minimum peace strength by 96 enlisted men (1 supply sergeant, 6 sergeants, 13 corporals, 6 horseshoers and 70 privates); total, 735 enlisted men. Total, less depot troop, 685 enlisted men.

The main features of this organization are:

1. Three squadrons are maintained. The tactical advantages of the three-squadron regiment are so well understood and have been so frequently discussed as to make it unnecessary to repeat them. The reports of the experiments being made at San Antonio indicate that the three-squadron regiment is preferred.

2. The troop has a minimum peace strength of 85 enlisted men. The value of this for instruction is self-evident. It should be observed that this is a ***minimum*** peace strength, and may be increased by the President so long as the total authorized enlisted strength of the army is not exceeded. The difference between peace and war strengths is small enough to warrant the hope that regiments may be sent to the front at war strength. Three officers can efficiently lead the troop at war strength.

3. There will be difference of opinion as to whether the squadron at war strength is large enough to form an appropriate command for a major; the consensus of opinion from San Antonio cavalry officers is that it is not. A single staff officer is sufficient for this major, but he is given a supply sergeant in addition to the sergeant major.

4. The composite "headquarters troop" is made up of odds and ends. Combining them in a single administrative unit should promote efficiency. This frees the adjutant of responsibility for the band and permits him to devote all his time to his staff duties. The machine gun platoon will be better cared for and more efficient than under the present system. This platoon is given the peace strength at present authorized in War Department orders. Reasons for changing this organization are given from time to time, but just what the organization should be cannot be definitely determined until after further experiments with the Benet-Mercie gun. A machine gun *troop* has no place in a regiment of this size. There has always been serious doubt as to its appropriateness even with our present large regiment. The strength of the band has not been changed. It will frequently be possible to consolidate bands of two or more regiments serving together.

5. The depot troop. This is an essential part of the organization. In peace and war it would have a fixed station at which it would begin the training of the recruits and remounts for its regiment. This would constitute the recruiting service for the cavalry in combination with the present general recruiting service. Existing recruit depots, remount depots and cavalry posts, if properly utilized, will furnish the necessary accommodations. If this troop is to have the task of supplying recruits and remounts in time of war, it should perform this same task in time of peace. Two or more of these troops may and probably would be united at one station under command of a lieutenant colonel. It does not seem practicable for us to maintain a depot unit in peace of such strength that its personnel, by transfer, can be depended upon on mobilization to raise the remainder of the regiment to war strength, as is the practice in some foreign services. We will have to accomplish this, if accomplished at all, in a different manner.

6. Opinion is divided concerning the regiment as a whole; there are those who think it a well-balanced mobile unit that may be employed with tactical efficiency. With two platoons per troop the squadron may be divided into four units in mounted (or dismounted) combat. The chief defect of the organization is the weakness of the squadron. Three regimental staff officers are provided. They will be badly needed in war. A farrier, horseshoer, saddler and wagoner are provided to care for the animals and equipment of the headquarters troop. Ninety-six (96) enlisted men are required to raise the regiment from the minimum peace strength to war strength. If we eventually secure a reserve for the regular army, these 96 men may be taken from the reserve, but their horses will be untrained. Failing a reserve, we probably will send our regiments to the front at peace strength, unless we raise all but a few of our regiments to war strength with privates taken from the few remaining regiments, the latter then to be filled up by recruiting and to go to the front later.

The present enlisted strength of the Cavalry is just about sufficient for twenty regiments, organized as above. This may be a disappointment to those who have been thinking of thirty regiments; but we must cut our pattern to suit our cloth. If

we need the other ten regiments or more, that is a problem for a later day. We are now seeking a tactical reorganization, not an increase, either in strength or promotion.

The following table compares the present enlisted strength of the Cavalry with that of the proposed organization, grade for grade. It is to be noted in this table that the present authorized strength is 12,775, and that the peace strength of the proposed organization is 12,780; also that the proposed organization will cost for pay of enlisted men $17,628 less per annum than the cost of the present organization for the same purpose.

	PRESENT ORGANIZATION							
	15 Regiments	Additional Strength (See G. O. No. 3, W. D. '11	Total	Proposed Organization	Increase	Decrease	*Increase in Cost Per Annum	*Decrease in Cost Per Annum
Sergeants Major, Regt	15		15	20	5		$ 2700	
Q. M. (Supply) Sergt. Regt.	15		15	20	5		2700	
Comsy. (Supply) Sergt. Regt.	15		15	20	5		2700	
Chief Musicians	15		15	20	5		4500	
Sergts. Major, Squadron	45		45	60	15		7200	
Supply Sergts., Squadron				60	60		28800	
Color Sergeants	30		30	40	10		4320	
Chief Trumpter	15		15	20	5		2400	
Principal Musician	15		15	20	5		2400	
First Sergeants	180		180	145		40		$ 21600
Drum Majors	15		15	20	*5		2160	
Sergeants, Band	60		60	80	20		8640	
Sergeants	1080		1080	880		200		72000
Q. M. (Supply) Sergts., Tr.	180		180	140		40		14400
Corporals, Band	120		120	160	40		14400	
Corporals	1080	74	1154	1160	6		1512	
Cooks	375		375	320		55		19800
Farriers	180		180	160		20		5040
Horseshoers	180		180	160		20		7200
Saddlers	180		180	160		20		5040
Wagoners	180		180	160		20		5040
Trumpters	360		360	300		60		10800
Privates, Band	165		165	220	55		15840	
Privates	7740	461	8201	8440	239		43020	
			12775	12780	480	475	143292	$ 160920
								143292
An annual decrease of								$ 17628

*Calculations are based on pay in first enlistment.

In the table which follows a similar comparison is made of the officers of the two organizations. The proposed organization has 50 officers less than the present organization, and costs for salary of officers (approximately as calculated) $28,100 less per annum.

	Present Organization	Proposed Organization	Increase	Decrease	Increase in cost per year	Decrease in cost per year
Colonels	15	20	5		$ 25000[1]	
Lieut.-Colonel	15	20	5		25000[1]	
Majors	45	60	15		60000[1]	
Captains	225	220		5		$ 15600[2]
1st Lieutenants	225	220		5		12000[3]
2d Lieutenants	225	160		65		110500[4]
	750	700	25	75	$110000	$138100
						$110000
An annual decrease of						$ 28100

[1] Maximum pay of grade.
[2] After 15 years' service.
[3] After 10 years's service.
[4] Under 5 years' service.

The total number of Cavalry officers, exclusive of chaplains and veterinarians, now authorized by law, the number absent from their organizations, the number available for the proposed organization of 20 regiments, and the number needed for the proposed organization, are as follows:

	Officers now authorized (1)	Not serving with their organizations (2)	Available for proposed organization	Needed for proposed organization
Colonels	23	3	20	20
Lieut.-Colonels	30	7	23	20
Majors	58	19	39	60
Captains	275	97	178	220
Lieutenants	480	95	365	380
Totals	866	221	645	700

(1) This includes, besides the 750 officers in the present organization of 15 regiments, 17 additional officers authorized by recent legislation readjusting rank of officers who lost in lineal rank through the system of regimental promotion, 51

officers detailed to staff corps under section 27, Act of February 2, 1901, and the 48 officers that comprise the Cavalry's portion of the 200 extra officers recently authorized.

(2) This includes 122 officers on detached service, 51 officers detailed to staff corps under section 27, Act of February 2, 1901, and the 48 officers that constitute the Cavalry's portion of the 200 extra officers recently authorized.

To make present available officers in the different grades fit in with the proposed organization, lieutenants, captains, majors, and lieutenant-colonels will have to exercise the command of grades higher (or lower) than their own as at the present time. This means that,

20 regiments would be commanded by colonels.
13 squadrons would be commanded by lieutenant-colonels. (Estimating that 10 lieutenant-colonels will be in command of recruiting depots.)
39 squadrons would be commanded by majors.
8 squadrons would be commanded by captains.
170 captains remain available for troop commanders and regimental staff officers. Of these 60 are regimental staff officers; hence,
110 troops would be commanded by captains, and
50 troops would be commanded by first lieutenants.
335 lieutenants would be available for duty with troops as follows:
60 for squadron staff officers, and
275 for assignment with troops, giving
2 lieutenants each for 115 troops, and
1 lieutenant each for the 45 remaining troops.

In other words, 92 per cent of the total commissioned strength of the regiment will be present for duty with the regiment.

II. A REGIMENT OF THREE SQUADRONS OF THREE TROOPS EACH.

TROOP (Peace Strength—minimum):

1 Captain
1 First Lieutenant
1 Second Lieutenant
1 First Sergeant
1 Supply Sergeant
6 Sergeants
8 Corporals
2 Cooks
1 Farrier
1 Horseshoer
1 Saddler
1 Wagoner
2 Trumpeters
56 Privates

Total: 3 officers and 80 enlisted men.

TROOP (War Strength):

Increase minimum peace strength by 20 enlisted men (1 sergeant, 2 corporals, 1 hofseshoer and 16 privates); total, 3 officers and 100 enlisted men.

SQUADRON (Peace Strength—minimum):

1 Major
1 First Lieutenant (adjt. and supply officer)
1 Sergeant Major
1 Supply Sergeant
2 Privates (orderlies)
3 Troops

Total: 11 officers and 244 enlisted men.

SQUADRON (War Strength):

Increase minimum peace strength by 60 enlisted men (3 sergeants, 6 corporals, 3 horseshoers and 48 privates); total, 11 officers and 304 enlisted men.

HEADQUARTERS TROOP (Peace Strength—minimum):

1 Captain
1 First Lieutenant
1 Second Lieutenant
1 Machine Gun Platoon, consisting of
2 Sergeants
2 Corporals
20 Privates
1 Band, consisting of
1 Chief Musician
1 Chief Trumpeter
1 Principal Musician
1 Drum Major
4 Sergeants
8 Corporals
11 Privates
2 Cooks
1 Farrier
1 Horseshoer
1 Saddler
1 Wagoner
1 Trumpeter (for regt'l hdqrs)
4 Privates (orderlies for regt'l hdqrs)

Total: 3 officers and 60 enlisted men.

HEADQUARTERS TROOP (War Strength):

Increase peace strength of machine gun platoon by 6 enlisted men (1 supply sergeant, 1 corporal and 4 privates); total, 3 officers and 66 enlisted men.

DEPOT TROOP (Peace Strength—minimum):

1 Captain	2 Cooks
1 First Lieutenant	1 Farrier
1 Second Lieutenant	1 Horsehoer
1 First Sergeant	1 Saddler
1 Supply Sergeant	1 Wagoner
6 Sergeants	2 Trumpeters
8 Corporals	26 Privates

Total: 3 officers and 50 enlisted men.

REGIMENT (Peace Strength—minimum):

1 Colonel	1 Sergeant Major
1 Lieutenant-Colonel	2 Supply Sergeants
1 Adjutant, Captain	2 Color Sergeants
2 Supply Officers, Captains	3 Squadrons
1 Chaplain	1 Headquarters Troop
1 Veterinarian	1 Depot Troop

Total: 44 line officers, 1 chaplain, 1 veterinarian and 849 enlisted men. Total, less depot troop, 43 line officers and 799 enlisted men.

REGIMENT (War Strength):

Increase minimum peace strength by 196 enlisted men (1 supply sergeant, 9 sergeants, 19 corporals, 9 horseshoers, and 148 privates; total, 1,035 enlisted men. Total, less depot troop, 985 enlisted men.

The main features of this organization are:

1. Three squadrons.
2. A minimum peace strength of 80 enlisted men per troop.
3. A squadron of 3 troops which at war strength is strong enough to form an appropriate command for a major.

4. The composite "headquarters troop."
5. A depot troop to constitute the recruit and remount depot for the regiment in peace and war.
6. A war strength for the field of nearly 1,000 enlisted men, giving 300 sabers per squadron, mounted, and 225 rifles ordinarily per squadron, dismounted (not allowing for the absent).

The present enlisted strength of the cavalry is just about sufficient for 15 regiments organized as above, as will be seen by a scrutiny of the following table:

	Present Organization 15 regts. and additional strength	Proposed Organization	Increase	Decrease	*Increase in Cost Per Annum	*Decrease in Cost Per Annum
Sergts. Major, Regt.	15	15				
Q. M. (Supply) Sgts. Regt.	15	15				
Comsy. (Supply) Sgts. Regt.	15	15				
Chief Musicians	15	15				
Sergts. Major Squadron	4	45				
Supply Sergts. Squadron		45	45		$21600	
Color Sergts.	30	30				
Chief Trumpeter	15	15				
Principal Musician	15	15				
First Sergeants	180	150		30		$ 16200
Drum Majors	15	15				
Sergeants, Band	60	60				
Sergeants	1080	930		150		54000
Q. M. (Supply) Sgts. Tr.	180	150		30		18000
Corporals, Band	120	120				
Corporals	1154	1230	76		19152	
Cooks	375	330		45		16200
Farriers	180	165		15		3780
Horseshoers	180	165		15		5400
Saddlers	180	165		15		3780
Wagoners	180	165		15		3780
Trumpeters	360	315		45		8100
Privates, Band	165	195				
Privates	8201	8400	199		35820	
	12775	12735	320	360	$76572	$122040
						76572
				An annual decrease of		$ 45468

*Calculations are based on pay in first enlistment.

The next table makes a similar comparison of the officers of the two organizations. This proposed organization has 90 officers less than the present organization, and costs for salary of officers $184,800 less per annum:

	Present Organization	Proposed Organization	Decrease	Decrease in Cost Per Annum
Colonels	15	15		
Lieut.-Colonels	15	15		
Majors	45	45		
Captains	225	210	15	$ 46800[1]
1st Lieutenants	225	210	15	36000[2]
2d Lieutenants	225	164	60	102000[3]
Total	750	660	90	$184800

[1] After 15 years' service.
[2] After 10 years' service.
[3] Under 5 years' service.

The present *available* officers (given in an earlier table) will officer this proposed organization as follows:

15 regiments will be commanded by colonels.

15 regiments will have lieutenant-colonels.

6 squadrons will be commanded by lieutenant-colonels.

39 squadrons will be commanded by majors.

Of the 178 captains available, 45 are regimental staff officers; hence,

133 troops will be commanded by captains, and

32 troops will be commanded by first lieutenants.

Of the 353 lieutenants remaining available

45 are squadron staff officers; hence,

308 are available for assigment to troops, giving

143 troops with 2 lieutenants each, and

22 troops with 1 lieutenant each.

In addition to the above, 5 colonels and 2 lieutenant-colonels are available but unassigned; there will be present for duty with the regiment 97 per cent of its total commissioned strength.

An organization along the above lines appears to be the one favored by the majority of officers who have taken part in the experiments at San Antonio. It is claimed to be far superior to the regiment of three squadrons of two troops each for many reasons, principal of which are:

1. That the squadron of three troops is a better tactical unit than one of two, and that the larger squadron is a more appropriate command for a major.

2. That for similar reasons the regiment of nine troops is more to be desired than one of six troops.

3. That the three-troop squadron, and the nine-troop regiment have more nearly the desired strength for each of these units for both mounted and dismounted action.

4. That the larger organization is handier to maneuver.

5. That it is more economical in the use of officers.

In passing judgment on the nine-troop regiment here proposed due importance should be given the conditions the organization is intended to meet, viz., that there shall be no change in the present total number of cavalry officers, or of the number in each grade, that the enlisted strength of the cavalry shall not be materially increased, and that the annual expense of the cavalry arm shall not be increased; it is believed that a reorganization that does not meet these conditions has little chance of adoption. One may want 16 regiments, instead of 15, but to secure this additional regiment without increasing the total enlisted strength of the cavalry every troop would have to be reduced from 80 to 74 enlisted men. Another may want to increase the peace strength of each troop to 100 men, but to do so we would have to reduce the number of regiments to twelve.

With rare exceptions the existing cavalry barracks and stables have ample room for the troop of 80 enlisted men. The few exceptional cases can be met as they arise by one of many possible expedients that should not involve material expense, if any at all. This is a point which must be given due consideration when determining the strength of the troop. It is not claimed for this organization that it is the only good, feasible

one, but it is claimed that if we are to get a reorganization at this time it must be along the lines suggested at the beginning of this paper, namely: a reorganization which will not increase the strength of the cavalry, enlisted or commissioned, nor change the existing ratios between the total number of cavalry officers of any two grades, nor increase the cost of the cavalry establishment.

CAVALRY REORGANIZATION.

REPORTS ON BY VARIOUS OFFICERS.*

HEADQUARTERS MANEUVER DIVISION.

San Antonio, Texas, May 26, 1911.

THE ADJUTANT GENERAL OF THE ARMY,
Washington, D. C.

SIR:—I have the honor to inclose herewith report concerning the operations of the two provisional regiments into which the Eleventh Cavalry was divided, for the purpose of determining the relative value of a regiment of six troops arranged in two squadrons of two troops each. It is not known just what led the Department to order the experiment as to these particular organizations of a regiment. The reports indicate a wide divergence of opinion as to the results of the experiment here, but the preponderance of opinion is against the squadron of two troops.

The number of troops in a squadron varies in different armies, but in strength the foreign squadron usually equals two American troops. The number of squadrons in a regiment in foreign armies varies from six in the Austrian and Russian to three in the British home establishment. In the Yeomanry and India service the British have four, as do Germany and France. The Italian and Japanese have five. As each squadron is rated as two of our troops, it is observed that foreign regiments have eight, ten and twelve troops. This is merely a historical statement, for an organization should be the one best adapted to our use without servilely copying any other nation. No other nation has so consistently adhered to the develop-

*The headings of the several reports, except that of the first, are omitted, as they are all from officers of the Provisional Regiments and from the Maneuver Camp at San Antonio, Texas.

ment of fire action in its cavalry as has the American army for fifty years, but all have made progress since the Civil War in America, and especially since the British campaign in South Africa.

The undersigned, believing that we should develop the best possible cavalry on American lines, devoted many years to the theoretical and practical work along these lines and concluded that the organization devised by Major-General Humphrey Bland for the British army, after the campaign in Flanders, about 1699, is the best basis for our model. It is necessary only to bear in mind the development of modern firearms.

The undersigned first experimented with a three-troop squadron in 1890 and found it most satisfactory. The results of studies on the subject were published in the *U. S. Cavalry Journal*. Subsequently, while in command of the Department of Luzon, the cavalry tried out the organization of regiments arranged in three squadrons of three troops each; the reports were preserved and are with my personal papers in Washington.

Without going further into details, I now recommend for trial a rearrangement of our present cavalry regiments in conformity to the following scheme: A regiment to consist of three active squadrons of three troops, each troop with an authorized strength of one hundred men. One of the three remaining troops of each regiment to comprise the machine gun detachment, a wireless communication detachment, trained scouts, orderlies, regimental clerks, etc. Two troops of each regiment to be given fixed stations and to constitute the recruit and remount depot for the regiment. The officers of the two depot troops to constitute recruiting officers and none others to be detached from the regiment. The lieutenant colonel to habitually command the depot troops, and in case several regiments have depots at the same post, the senior to command so far as post administration is concerned. With the development of brigade and division cantonments, some valuable reservations and buildings will be available for this purpose.

The experience in this division makes it certain that skeleton organizations, filled with recruits on the eve of active service, is about the worst possible form of economy. Regiments, under this system, are reduced so greatly in efficiency at critical periods as to jeopardize their morale. All recruits at regimental depots would be more carefully trained than at general depots. All recruits, whether cavalry or infantry, should be instructed, vaccinated for smallpox and typhoid fever, and passed through quarantine for measles, mumps and other diseases which have been brought to this division to so large an extent from recruit depots.

It would be entirely practicable to train remounts at the regimental depots.

This system will retain our present cavalry organization intact, but distribute it in a way to secure greater efficiency at less cost of time, energy and money.

Very respectfully,

WM. H. CARTER,
Major-General, U. S. Army, Commanding.

I have the honor to forward herewith the report of the Commanding Officer, Eleventh Cavalry, upon the provisional organizations into which his regiment is divided.

In the main I concur with Colonel Parker in his opinions and recommendations, most of which have been discussed between us, but I recommend the perusal of the letters of his subordinates appended to his report, and especially to those of the Field Officers and of Captain White, the Adjutant of the Eleventh Cavalry.

I dissent from Colonel Parker in all recommendations tending to give the regiment the attributes of the brigade. The regiment should not be so large as to require it to be habitually maneuvered in two lines. The attachment of artillery to the regiment, except temporarily for some special service, is an extravagance opposed to the principles on which modern artillery is handled.

In addition to experiments with the Eleventh Cavalry, some were tried with the Ninth Regiment, as for example, a march to Leon Springs with a four-troop squadron at war strength, as per Field Service Regulations.

I have had some previous experience with three-troop squadrons and I have served in campaign, as an observer, with European regiments.

I am willing to subscribe to the idea of a regiment of six troops organized into two squadrons, but only with the following provisions, viz.:

1st. That the troop shall be maintained at a strength, both in peace and war, of 100 enlisted men.

2d. That the regiment shall be the command of a lieutenant colonel.

3d. That two regiments shall constitute a brigade, commanded by a colonel.

4th. That there shall be but one band for each brigade.

5th. That there shall be a provision of two machine guns of the Mercier-Benet type assigned to each troop, with regulations for the *training* of the personnel by assembling the guns into platoons or companies under supervision of either squadron or regimental commanders, but the guns to go into action as appurtenances of the troops.

6th. That in time of war each regiment shall be expanded by the addition of a three-troop squadron of volunteer cavalry.

To my mind the chief consideration is the strength of the troop. Our great need is enlisted men. In comparison with this the question of organization is of secondary importance only.

The command of a colonel should not be less than 1,000 men. That of a major should be 300 men. The four-troop squadron, when at full war strength, is too large for proper control, but I agree with Lieutenant-Colonel Morgan, if we cannot have enough men in the troop, give the major more troops. Thus the two-troop squadron is inadequate. A regiment of three squadrons of two troops each would be the most expensive organization we could adopt.

I repeat, it is useless to discuss a change of organization unless we can have the men.

However, there is great justice in the contention that for dismounted fighting the large squadron of four full troops has great advantages, and when the day arrives that the bulk of

the cavalry must form a great mobile army-reserve to move rapidly to the reinforcement points, where the necessity has been indicated by the wireless or aeroplane service, we shall find the large regiment of three squadrons of four troops demonstrating its justification.

We must understand that our cavalry is usually to fight dismounted, but it is to be thoroughly trained, not only to take advantage of the rare opportunity to charge home with the steel, and to be eager for that opportunity, but also to be confidently mobile in preparation for either method.

The European soldiers write the greatest number of books and there may be danger of our being misled as to the soundness of their views. The adherence in Europe to antiquated organizations should not affect our opinions too strongly.

To my mind the country to be first considered in seeking a probable model for cavalry organization is Austria-Hungary, and, as Lieutenant-Colonel Brown shows in his table, the Austrian regiment has over a thousand men.

Finally, my *recommendation* is to first provide that our cavalry shall be maintained at a strength of 100 men to a troop. Then organize it into regiments of three squadrons of three troops each, with the band, pioneers, signal men and headquarter orderlies included in a tenth troop which shall contain horseshoers, saddler and all other mechanics pertinent to a troop of cavalry. This will give the colonel a thousand men and in his regimental troop he will have the essentials which his headquarters lacks under our present system.

Every cavalry regiment should be equipped with a pack train with at least twenty-five packs to every hundred men, it being found that this is the least transportation which will enable it to engage in rapid movement for four days away from its supply trains.

W. S. SCHUYLER,
Brigadier-General, U. S. Army, Commanding.

In compliance with the attached communication, I have the honor to make the following report.

PROGRESS.

The First and Second Provisional Regiments were organized April 4th by the orders inclosed. The drilling of these regiments began at once, with one and one-half hours' drill by trooper and by troop each morning, and one and one-half hours' drill by squadron and regiment each afternoon. See General Orders No. 18, Current Series, Eleventh Cavalry, herewith. These drills were interfered with by rain and mud to some extent, but on such days, in connection with horse exercise of two hours' gaiting, advance guard movement and scouting were practiced. The full strength as far as possible was present.

From May 2d to May 9th the whole command was at Leon Springs Reservation, where the following field exercises were practiced:

May 3d—Exploration of reservation, combined with attack by ambush and instruction of scouts. Preliminary instruction.

May 4th—Morning—by regiment—direct attack of a position.

(Exercise 5)—Open terrain.

Afternoon—Repeat exercise in close and broken terrain.

May 5th—Morning—by squadron—exploration of reservation, combined with attack by ambush (Exercise 1) and instruction of scouts. (Exercise No. 5.)

Afternoon—Same.

May 6th—Morning and afternoon. Line of outposts (Exercise 4), combined with instruction of scouts. (Exercise 5.)

May 8th—Battle exercise, dismounted, using ball cartridges; entire command.

As much independence of action as was practicable was given the commanders of these two provisional regiments.

I enclose a copy of a letter sent to regimental, squadron and troop commanders, with their replies.

My own conclusions and recommendations are as follows:

In comparing the regiment of three squadrons, each of four troops, with the regiment of two squadrons, each of three troops, and with the regiment of three squadrons, each of two troops (it is assumed that in each case the troop has 100 men), each organization will be found to have advantages and disadvantages.

In considering this report it is first necessary to discuss several popular errors. One is that the present organization is "archaic." If age is concerned, the "archaic" formation is the squadron of two troops. The squadron of three troops has never been adopted, as far as known, by any army. The squadron of four troops is an American formation, and was first called "squadron" in 1890. Prior to that date it was called a "battalion," and the troop was called a company. The cavalry had, in fact, the three-battalion infantry organization. This organization for cavalry, it is well known, was evolved as a result of the experience from the American Civil War, as being suited to dismounted fighting, the most important function of cavalry in war. In 1865 our cavalry had become mounted infantry, while at the same time it was trained to fight on horseback, and perform thoroughly all the other functions of cavalry. Mounted, using the saber, it had the dash of the best cavalry; dismounting, using the rifle, it had the resolution and staying power of the best infantry.

It is also, I think, a fact that in the light of recent developments, such as the Boer War, the American cavalry of the Civil War is being studied abroad with a view to copying its more valuable features in European armies.

On the other hand, the two-troop squadron is "archaic," if such a term is to be used. It was devised for the double-rank charge, and before the day when accuracy, long-range and rapidity of firing of modern small arms made it impossible to ride down infantry, and thus obliged cavalry, in order to cope with infantry, to develop its mobility and fire action.

Another misconception has to be dwelt upon. It is that a strength of 100 men puts 100 men into action. As a matter of fact, when there is deducted frim the strength of a troop the dismounted, the sick, the prisoners, the guard, the orderlies, the absent without leave and men absent with the train, there must be deducted from the strength of a troop in action, of 100

men, a few weeks after organization, perhaps fifteen or twenty men, and this number increases with time.

When the troop of eighty or eighty-five men dismounts, horse holders, equal to one-fourth its strength, are left with the horses, as also is a mounted guard, for the led horses, furnished by the squadron or regiment. Thus, the number of men marched to the firing line will be about sixty or sixty-five.

To obtain the number of rifles actually in use on the firing line, one must deduct the trumpeters and the chiefs of platoon from the above number.

The number of rifles, thus, in action in a squadron of two troops is about 120, three troops 180, four troops 240, six troops 360, twelve troops 720. In some cases it will be more, often it will be less. This may be compared with 85 rifles in action in a company of infantry, 340 in a battalion, 1,020 in a regiment.

Since one of the principal roles of cavalry, and as in the Civil War, is that of mounted infantry, it would appear that a regiment and a squadron should be able to dismount the largest number of rifles consistent with mobility and handiness in mounted work.

As the maximum strength which can be given a troop of cavalry, without making it cumbersome, is about 100, the main question for decision seems to be the number of troops which should be assigned to a squadron and to a regiment.

The question of the number of squadrons which should be assigned to a regiment is one, I think, which can be disposed of in advance by saying that it must be either three or four, for the reason that the consensus of military opinion regards at least three battalions of infantry necessary to the infantry regiment; and at least three squadrons of cavalry necessary to the cavalry regiment for efficient mounted service.

It may also be assumed that if the three-troop squadron be adopted, it must be as part of a nine or twelve-troop regiment.

It is believed that the probable effectiveness of organizations can be briefly compared in the following points, among others: (a) In movements in close order (taking into consideration handiness and number of men brought into action);

(b) in the charge; (c) in the battle exercise dismounted, acting independently; (d) in a general engagement, dismounted as part of a large cavalry force; (e) (as to regiments) in raids; (f) (as to squadrons) as contact squadrons; (g) as advance and rear guards; (h) in outpost duty; (i) in the order of march; (j) as suitable commands for colonels and majors; (k) as concerns administration, discipline and supply.

(a) In movements in close order, mounted, taking into consideration handiness and number of men brought into action, the three-troop squadron is to be preferred. Experience has shown, however, that the four-troop squadron is a handy force. The six-troop regiment is handier than the twelve-troop regiment.

(b) In the charge, the three-troop squadron has its advantages when fighting as part of a regiment. When fighting independently, the four-troop squadron has this virtue, that the attacking line can be with advantage composed of two troops, the support and reserve limited each to one. On the whole, the four-troop squadron is to be preferred. The six-troop regiment, as a part of a brigade, has undoubted advantage for the mounted attack. For independent action, however, the six-troop regiment, whether in two or three squadrons, is, in my opinion, an inferior type of organization to the regiment of three squadrons of three or four troops.

(c) In the battle exercise, dismounted as shown above, the regiment of six troops has the fire effectiveness of a battalion of infantry only, and the squadron of three troops of two companies only. The squadron of two troops can be relied upon usually to furnish not more than 120 rifles for the firing line.

I am, therefore, of opinion that the present organization, a regiment of three squadrons, each of four troops, is the best for dismounted action.

In independent action it must be remembered that it will usually be necessary for the commander to detail scouts, flanking detachments, a guard for the led horses, and often a mounted reserve. If regiments of six troops are employed, the detaching of these men from the attacking force would be apt to weaken it disastrously.

The plea that two six-troop regiments could be employed, can be answered by saying that a regiment of twelve troops must be ordinarily a better fighting unit on foot than a brigade of two regiments of six troops.

(d) In a general engagement, dismounted, we will say where, in the midst of a battle, a cavalry reserve of 10,000 or 20,000 men are launched suddenly on the enemy's flank and communications, the stronger the regiments are the better for effective work.

(e) The same is true in great raids.

(f) The contact squadron must be a fighting as well as a reconnoitering force. After stripping itself of advance guards, flankers, connecting patrols, etc., it must still have sufficient strength, in the case where the enemy is encountered, to hold its own ground, or to force its way through hostile detachments. This can be done by our four-troop squadrons, which are in fact "young regiments" (without the administrative functions). It is not so easily accomplished by smaller squadrons, which in consequence of these detachments are liable to find themselves unable to fight. The major of a two-troop squadron, for instance, after the advance guard and connecting patrols have been detached, is likely to find himself left in command of not more than three-fourths of a troop.

(g), (h) In advance guard duty and in outpost duty, the four and three-troop squadrons are, in my opinion, to be preferred, for the same reasons as above.

(i) In the order of march, the length of the present regiment (at war strength some 1,500 yards, when in column of fours), makes it difficult for the commander to keep in touch with his rear squadrons. But it is easy for the squadron commanders to keep their commands in hand, and nothing can be gained by multiplying the number of regiments and at the same time the number of squadrons.

(j) I don't consider a regiment of six troops, dismounting but 300 to 400 rifles, a suitable command for a colonel. Nor do I consider a squadron of two or three troops, dismounting from 120 to 180 rifles on the firing line, a suitable command for a major.

As far as the major is concerned, I am in favor of adding to the dignity and importance of his office by giving him, especially in the field, a fair degree of administrative power, if it can be done without adding to paper work.

The position of a major in command of a squadron of two troops, on account of the smallness of his command, is, I find here, too close to the enlisted men and to the intimate details of troop administration. The result is that he is liable to find vent for his energies by interfering in matters for which the troop commanders should be held primarily responsible.

(k) A regiment of three squadrons of two troops each will presumably have in the field the following officers: Field and Staff—one colonel, one lieutenant-colonel, one captain, adjutant, one captain, quartermaster, one captain, commissary, one chaplain, two surgeons, three majors, three first lieutenants, squadron adjutants, three second lieutenants, squadron quartermasters. Total, seventeen field and staff, eighteen line officers.

A regiment of two squadrons of three troops each would presumably be smaller by one major and his staff; total, fourteen field and staff and eighteen line officers. The present regiment has nineteen field and staff and thirty-six line officers. It seems to me that the regiment of six troops would be top-heavy.

To divide the regiment of twelve troops into two regiments of six troops would result in the increased cost of one colonel, one lieutenant-colonel, three majors, three captains, three first lieutenants, three second lieutenants, two surgeons (presumably), one chaplain, two veterinarians, eight non-commissioned staff, one band and one machine gun platoon—a total of about one hundred thousand dollars annually.

The regiment of three squadrons of three troops each:

As to the three-troop squadron, I find there is a strong tendency among the officers of the regiment, as a result of this test, to favor the regiment of three squadrons, each squadron to contain three troops.

There are many arguments in favor of this organization, the principal one being the handiness of the squadrons.

In maneuvering the regiment, I find it is desirable as a rule to adopt mass formations, either line of platoon columns, line of masses, or line of close columns, the third squadron ordinarily forming a second line at fifty yards distance. In changing from one of these formations to the other, it is desirable to make a direct change, if possible, without first breaking into column of fours. The line of platoon columns is, in my opinion, the best attack formation—as obstacles can be passed easily by each platoon in succession, since each platoon has sufficient distance from the platoon in front to be able to negotiate the obstacle more easily than a closed-up column of fours.

When the troop is small and contains but twelve sets of fours, I find it desirable to have but two platoons; then in the charge the second platoon reinforces the first platoon, as does the rear rank in the European squadron. When the troop contains eighteen to twenty-one sets of fours, it is found desirable to divide it into three platoons. In the charge, the second platoon closes up and the third platoon, under its commander, strikes a second blow or fills gaps wherever it may be necessary.

The nine-troop regimental formation was tested May 17th by an exhibition drill, each troop containing eighteen sets of fours. The results of the experiment were very favorable, the formation showing great handiness and mobility.

I believe the regiment should consist of three squadrons, and that each squadron should be able to put as many rifles on the firing line as is consistent with handiness and mobility in the mounted maneuver and attack. For this reason I am in favor of the four-troop squadron. If, however, it is desired to adopt the three-troop squadron, three squadrons per regiment, I insist that conditions must be such that the troops should always be kept near a fighting strength of 100 men. A squadron of three troops of sixty men each, is not a command consistent with the dignity of a major, nor will it be a fit command to put into action. This is particularly the case dismounted, when perhaps 100 will be all the rifles on the firing line.

The machine gun platoon is going through a period of transformation. I am very much struck with the advantages of the new Springfield automatic rifle, with which one of my two machine gun platoons is armed. Two of these rifles, with a box of ammunition, can be carried on a spare horse. In action we find the gun can be carried up to the firing line without attracting attention. When it is fired it presents no target, but is close to the ground. This is far from being the case with the Maxim gun, which presents the appearance of a small piece of artillery and will invariably become a target for the enemy, besides disclosing the position of the firing line even before the gun is fired. It is also so heavy that the mule carrying it is unable to keep up with cavalry going at a gallop or long continued trot.

It is evident then that the automatic Springfield is to displace the Maxim gun. The question arises, however, as to why it is necessary to assign it to a separate organization. The consensus of opinion among the officers in this regiment seems to be that it might be with advantage assigned to troops, two guns per troop, the gun being used only in emergencies necessitating its use by two men per gun, instructed in its use, extra ammunition being carried on the gun animal and on a separate pack horse. Thus 3,600 rounds of ammunition may be carried. Among the advantages to be derived from this arrangement is that of avoiding the likelihood, which now exists, that the machine gun platoon will, in time of action, be taken entirely away from the regiment, by order from superior authority, in order to go to defend or attack particular points on the line of battle. As long as the machine gun is a part of a separate organization, this danger will exist. Machine gun platoons are in fact like small batteries of artillery, and the regiment can be, therefore, certain of their aid only when acting independently.

In my opinion, with the nine-troop regiment, a tenth organization might with advantage be organized, to contain the band and the pioneer detachment.

The statement is often made that a regiment should not be larger than can be reached by the voice of its colonel. This statement is ridiculous, when applied to a regiment,

when applied to a squadron it is more just. A squadron of 400 mounted men in column of fours is about 400 yards long, the regiment, 1,200 yards. It is evident thus that a squadron of three troops of 100 men is much more likely to be completely within reach of its commander's voice than a squadron of four troops. Hence, one of the arguments for a three-troop squadron.

If the regiment of twelve troops of seventy-five men is compared with the regiment of nine troops of 100 men (each having three squadrons), I should strongly favor the first. The number of men is the same, the troops and squadrons are more handy, and the number of officers is greater. Personally, I think seventy-five men is about the maximum number of men that should march in a troop.

In my opinion a regiment of cavalry needs a battery of horse artillery more than it does a machine gun platoon. Our regiments are of such a size that they can be employed independently on reconnoitering expeditions or for other special service. In such cases, however, they will need the assistance of artillery, and such artillery should have, as its first and most important characteristic, extreme mobility. It should be able to travel where there are no roads, by night as well as by day, and make successive marches of forty miles or more per day. It seems to me these conditions can be met only by a horse battery, comprised of a gun and carriages much lighter than those now in use in the army. On the outbreak of a war such batteries should be at once attached to cavalry regiments as part of their organization.

Further, each cavalry regiment should comprise at all times a pack train to carry forage and ammunition. Such a pack train should not be less than 150 mules, fifty pack animals for each squadron, carrying two days' grain for 1,000 animals and in addition 60,000 rounds of ammunition. This will add more to the efficiency of a regiment than almost any other measure. At the close of the Civil War our cavalry was all equipped with pack trains, which had been forced on the troops by hard experience. Wagons often stick in the mud, pack trains never.

Opinions on the three types of regiments were requested from the lieutenant-colonels, commanding provisional regiments, from the squadron commanders, from the troop commanders and from the regimental staff, Eleventh Cavalry. I summarize some of their opinions:

Lieutenant-Colonel Morgan, commanding First Provisional Regiment, calls attention to the fact that he has but fourteen officers present for duty and the organization of two squadrons of three troops each, which he commands, has not had a good chance to prove its effectiveness. He sees great advantages in a regiment of three squadrons of three troops each, with an extra troop to contain the machine gun platoon, orderlies, etc. He says: "Unless the troops are kept at the maximum there is no call to reduce the number of troops in the squadron. A major can readily handle about 300 men in ranks with proper assistance from a complement of subordinate officers, and if we cannot have them with three troops and can only with four, five or six, I am in favor of giving the squadron commander the 300 men."

Lieutenant-Colonel Brown, commanding Second Provisional Regiment, three squadrons of two troops each, complains of lack of officers and men. (Note:—One of the principal causes for the lack of men at drill has been the shortage of horses, due to sickness.) Colonel Brown thinks our regiments are too large, because it is not the custom in Europe to have such large regiments. He seems to favor the regiment of three squadrons of three troops each.

Major Walsh, commanding second squadron, First Provisional Regiment (three troops), believes two troops is too small a command for a field officer. He prefers a three-troop squadron and a ten-troop regiment and the extra troop containing the band and machine gun platoon.

In certain functions of cavalry, such as dismounted action and outpost duty, Major Walsh prefers four-troop squadrons.

Major Cabell, commanding first squadron, Second Provisional Regiment (two troops), says the shortage of officers has not, in his opinion, prevented a fair test. The First Provisional organization is top-heavy; that he has seen regiments

of three squadrons of four troops handled as effectively and easily as one of six troops. He prefers the twelve-troop regiment and the four-troop squadron to the six-troop regiment and the two-troop squadron, for reasons given. He says, "the six-troop regiment is not a suitable command for a colonel in peace or war." "If we must change, the best organization for cavalry is three squadrons of three troops and a tenth troop, composed of horse artillery and engineer detachments. The machine gun platoon is better with the brigade."

Major Michie, commanding first squadron, Second Provisional Regiment, would model the American regiment on the European and have a band consisting of thirty-six pieces and a machine gun platoon of three officers and 100 enlisted men. He further says, "the present organization of twelve troops to a regiment and four troops to a squadron is far preferable if troops are to turn out with only one officer and about sixty men in ranks."

Captain M. W. Rowell, Eleventh Cavalry, commanding Troop "D," states, "I see no advantage in either organization over our legal organizations of three squadrons of four troops each."

Captain A. C. Gillem, Eleventh Cavalry, commanding Troop "H," believes "the most efficient fighting organization for the squadron, all things considered, would be an organization composed of as large a number of troops of 100 men each as the majors can handle with facility, and this limit is about four. On the whole, I am in favor of the old organization."

Captain Guy Cushman, Eleventh Cavalry, commanding Troop "M," says, "I believe the efficiency of four, three and two-troop squadrons can be arranged in the order of three, two and one, giving the four-troop squadron the maximum of three. Its main desideratum on the field of battle is its volume of fire. I do not need any more time to convince me the small squadron is, in every way, undesirable for American cavalry."

Captain F. P. Amos, commanding Troop "G," Eleventh Cavalry, says: "On the whole, I am in favor of the old organization. I should be even more in favor of a regiment of twelve troops of a hundred men each, divided into four squadrons, the fourth squadron to be a 'reserve' squadron and used to train recruits and horses and furnish all details except guard."

Captain J. E. Shelley, commanding Troop "I," Eleventh Cavalry, does not consider the two-troop squadron a suitable command for a major, who should have as many men as he can successfully handle. He prefers the three-troop formation for close-order movements, the charge, for dismounted fighting, and the four-troop organization for raids, contact squadrons and advance guard duty. He thinks the most efficient command for majors and colonels is a regiment of nine troops, containing three squadrons.

First Lieutenant E. R. Tompkins, Eleventh Cavalry, commanding Troop "E," prefers the ten-troop regiment, containing three squadrons, as do also First Lieutenant W. H. Bell, Eleventh Cavalry, commanding Troop "B," Second Lieutenant H. H. Fuller, Eleventh Cavalry, commanding Troop "K," and Second Lieutenant R. H. Kimball, Eleventh Cavalry, commanding Troop "L." Lieutenant Kimball also states, "to this it would be well to add a section of horse artillery, while to each squadron I would assign two automatic rifles. After spending two years in command of a machine gun platoon, as it is now organized, I believe it has not a single feature to recommend it for service with a regiment of cavalry."

First Lieutenant B. N. Rittenhouse, Eleventh Cavalry, commanding Troop "C," states, "I am of the opinion that a squadron of four troops of 100 men to each troop is better suited to our service than the present provisional organizations of two and three-troop squadrons."

First Lieutenant G. H. Baird, Eleventh Cavalry, Acting Commissary, prefers the three-troop squadron.

First Lieutenant J. A. Pearson, Eleventh Cavalry, commanding Troop "F," prefers the nine-troop regiment, organized into three squadrons.

First Lieutenant G. Grunert, Eleventh Cavalry, Acting Quartermaster, favors the three-troop squadron. He calls attention to the larger quantity of transportation that would

be required in case the twelve-troop regiment was divided into two six-troop regiments.

Captain H. A. White, Adjutant, Eleventh Cavalry, has contributed an important paper, giving history of the new organization, method of supply and administration which have obtained, and some remarks on tactics and details. He favors the twelve-troop regiment of three squadrons, since that will afford the greatest number of rifles on the firing line.

Second Lieutenant H. M. Hickam, Eleventh Cavalry, commanding Troop "A," favors the squadron of three troops.

Captain P. Clayton, Jr., Eleventh Cavalry, commanding Troop "L," but now on sick report, states verbally that he favors the regiment of three squadrons of three troops each.

Captain G. T. Langhorne, Eleventh Cavalry, commanding Troop "K," absent on leave, states by telegram attached that he favors the squadron of three troops.

In reply to the question whether in the officers' minds more time was needed to enable them to form an opinion of the relative merits of the different organizations cited, ten officers, including Lieutenant-Colonel Brown, Majors Cabell and Michie and four captains, stated that no more time was needed; three officers, including Lieutenant-Colonel Morgan, Major Walsh and Captain White, stated no more time was needed (with qualification); seven officers neglected to reply to this question, and two officers stated that more time was needed.

As to the statement of Lieutenant-Colonel Brown, commanding Second Provisional Regiment, in regard to the number of men absent from drills, it should be stated that there has been considerable sickness among the new horses. As a rule, the number of men at drills has been equal to the number of horses available for drill. The number of men in ranks of a troop usually was from sixty to seventy. The fact that it was not greater did not, in my opinion, prevent a fair trial of the merits of the two provisional regiments.

The general opinion seems to be that little can be gained by continuing this experiment under present conditions, and in this opinion I concur.

JAMES PARKER,
Colonel Eleventh Cavalry.

I have the honor to submit the following report relative to a proper organization of squadrons and regiments for the cavalry:

The Eleventh U. S. Cavalry, recruited to war strength, was divided into two provisional organizations; one of two-troop squadrons and the other into three-troop squadrons. I was placed in command of the latter. With the large number of recruits present in ranks and the lack of officers the drills of the larger units have been unduly delayed, altho the intention of the War Department being understood the minds of all have been directed to the problem and with results.

As to the necessity for a reorganization of the cavalry regiments, this is answered by the reply to the query: Is the present organization business-like? Have the several subordinate commanders the right number of men under them, *i. e.*, have they too many or too few for effective work?

The squadron is the fighting unit, and its strength must be determined by the physical and mental capacity of one man, the major. Our present four-troop squadron has been more or less a success because as it is not usually fully officered or kept at war strength it approximates the business-like organization. At the present time the First Provisional Regiment Eleventh Cavalry consists of two squadrons of three troops each, 575 enlisted men. Its roster includes,

Present.	Absent.	Aggregate.
1 Lieutenant-Colonel, commanding		1
1 Major, commanding squadron	1 Major	2
1 First Lieutenant, commanding squadron		1
1 Captain, commanding troop	5 Captains	6
3 First Lieutenants		3
1 Second Lieutenant		1
1 First Lieutenant, commanding M. G. P.		1
1 First Lieutenant, regimental adjutant		1
2 Second Lieutenants, squadron adjutants		2
2 Second Lieutenants, for duty	3 2d Lts.	5
0 First Lieutenants	5	5
14	14	28

One squadron is commanded by a First Lieutenant who is the only officer present for duty with his troop.

Under these conditions the organization has not had a good chance to prove its effectiveness, it has been shown that it is very handy at formations at drill. With proper arrangements for the necessary details that now handicap all organizations, with 100 men to the troop the three troop squadron will be an ideal formation for work.

By necessary details above mentioned is meant the clerk, cooks and orderlies for the different headquarters, demolition experts, signal detachments, machine gun platoons, etc. A separate troop with its three officers is recommended to carry all the above details with the band. The regimental organization would then consist of three squadrons 900 men and one troop 100 men, a unit convenient for the service of supply.

From past experience one immediately begins to consider and estimate as to what per cent we may expect to get out of our organizations actually in the field and expecting to meet the enemy. As the proposition is a business one, it should be met in the business way and that way established by law. As soon as the army moves it begins to disintegrate and recruits are needed. These should be furnished by a regimental organization at a depot from which is furnished not only the men and their clothing but also the remounts. For the personnel of this depot it is recommended that the lieutenant-colonel should have command assisted by a captain with two lieutenants and a suitable number of non-commissioned officers. Such an arrangement would take the place of the present recruiting details. To work best the regiment should form a part of a permanent division, and be located permanently at a fixed locality.

Unless the troops are kept at the maximum there is no call to reduce the number of troops in the squadron. A major can readily handle about 300 men in ranks with proper assistance from a complement of subordinate officers, and if we cannot have them with three troops and can only with four, five or six, I am in favor of giving the squadron commander the 300 men.

The three-troop squadron is without doubt the handiest to maneuver mounted. I think that the drill will be simplified, in the future, rather than made more complicated, and the best

reason for establishing the strength of the *fighting unit* will be determined by the requirements of the combat, to have as many men under the major as he can reasonably handle.

My answers to the series of questions propounded by the regimental commander would be in the main the same as Major Walsh's attached hereto. I beg to call attention to the reports of the other officer of the First Provisional Regiment, herewith.

To resume: A three-squadron regiment of 1,000 men divided as above and kept up to war strength is a proper and fit command for a colonel; the squadron of three troops each of 100 men is a proper command for a major. A squadron of two troops is too small and the three-troop squadron is handier than a larger force.

The regulations should include a proper system in the regiment for furnishing details that are necessary and proper, without robbing the troops of their most efficient men at the most inopportune time, and also for feeding into the regiment the men and horses necessary to replace the inevitable losses to be expected in campaign. The recruits, supplies and horses to be handled by officers of the regiment, naturally interested in their proper instruction and equipment.

There is no one thing in our present system more liable to cause friction, and useless friction at that, than the present system of detaching men from troops at the beginning of a campaign. The officer required to furnish, regrets losing a well drilled man and horse, while the recipient looks with suspicion upon the gift.

Many necessary detachments have been considered and allowed for in the new Field Service Regulations, with the few suggested above added, the General Commanding might be reasonably sure that when he calls upon a cavalry regiment for work, he can expect to get the results to be expected from a fighting cavalry organization.

GEO. H. MORGAN,
Lieutenant-Colonel, Commanding.

In compliance with instructions from Headquarters Eleventh Cavalry I have the honor to submit the following report relating to proposed change in organization of U. S. Cavalry regiments.

The command assigned me "for the purpose of studying in a practical way the reorganization of our Cavalry" has been the Second Provisional Regiment of the Eleventh Cavalry, consisting of three squadrons of two troops each. These troops are now carrying on their morning reports an average of 92 men and 86 horses. When turned out for drill May 15th (a day taken at random and without warning) the number averaged 60 men per troop, the whereabouts of the absentees are shown on lists enclosed herewith. It is but fair to say, however, that we had about all the men out for whom there were serviceable horses.

The memorandum prepared at Regimental Headquarters Eleventh Cavalry which accompanied the War Department letter of March 18th, 1911, evidently contemplated that we should have a personnel of eight field and staff besides the necessary troop officers.

At no time since the experiment have we had in this regiment more than a total of fifteen, and a large portion of the time not more than ten officers. The number of N. C. O.'s allowed for the *war strength* troops has been only that for the peace strength, another element of weakness.

It, therefore, appears that the absenteeism, particularly of officers, has been such that a really fair test has been impracticable, and while we may all form opinions as to the relative merits of various organizations tried or discussed these opinions will be largely based on theory.

My experieence has been that we can stand a detached service list of about thirty-three per cent of our maximum strength of commissioned officers without impairing the efficiency of troops, but where the detached service list has been sixty-three per cent, as has been the case much of the time the past six weeks, there are not enough officers to work with the new material (new men and new horses) which has recently been injected into the regiment.

It would be wrong, however, to say that no useful end had been attained, for the very fact that a regiment recruited in men to nearly *war strength,* and in horses approaching that number, had, though short to a most discouraging degree in officers, been divided equally and six of the troops organized into two squadrons has been sufficient to greatly stimulate thought in that direction, to cause officers of all grades to consider and to discuss the advantages and disadvantages not only of the normal twelve-troop regiment but of the relative merits of the smaller ones.

With the understanding then that I think that the conditions have not been such as to give the matter a fair trial, and that the opinions expressed are based largely on theory, I beg to submit the following:

I am of the opinion that the twelve-troop regiment of 1,200 men is too large, for the following reasons:

1. No other army appears to have so large a regiment. Appended hereto will be found the strength of regiment in various foreign services as furnished me by the Military Information Division of our General Staff. From an examination of this it will be seen that Austria-Hungary has the largest regiment—1,026 both in peace and war.

Of all first class powers we are probably the least military in our inclinations. It, therefore, behooves us to give careful consideration to the organization in foreign services where people have larger armies and have given more thought to the subject than we ourselves.

When we find that they *all* have smaller cavalry regiments than we, the average being but about half that of our cavalry regiments at *war strength,* may we not conclude that probably they are right, and we are wrong?

2. In matters of administration our units are first the troop, then (skipping the squadron) the regiment.

To divide this up and make the squadron partly an administrative unit would, it is feared, end unsatisfactorily, although I am unqualifiedly in favor of giving majors more authority than they now have—not only as a relief to the colonels, but also to train majors for higher commands.

In administering the affairs of a regiment a certain part of the work relates to affairs of individuals and the greater the number of individuals in the regiment the greater the volume of such work and this is frequently of such a nature that it can only be performed by the colonel, it cannot be delegated to a Staff officer.

There seems to be danger, therefore, that we may so swamp the colonel with administrative details that he has too little time and energy left for the training, instruction and tactical handling of his command. Occasionally one may find a colonel so gifted that he can despatch the administrative work of a regiment in so brief a time that he has ample time left for his tactical and other work, but with the average colonel I doubt if such is the case.

Thus far I am satisfied with the arrangements in the Second Provisional Regiment, three squadrons of two troops each.

Taking up the subject in the order indicated in the memorandum:

(a) The organization of three squadrons of two troops each, seems to lend itself to close order movements. I might add that as we have had more close order than other drills I am more confident on this than on other points.

(b) The charge. We have had no charging and have really had too many new men and new horses to engage in this successfully.

The per cent of new men in this regiment is about thirty-seven, that of new horses about thirty-three.

(c) and (d) Assuming that a regiment of about 600 men (six troops) is preferable to our regular organization of 1,200 men, the division of the regiment into three squadrons rather than two is preferred, as it gives us a greater number of majors, experienced officers. This is just in the ratio of three to two.

(e) In raids it will likely be necessary to march the regiment by several parallel roads and here a two-troop-to-the-squadron regiment has the advantage over the two squadron regiment for, without breaking up squadrons, it can march by three roads instead of two, thus covering the country more thoroughly for the purpose of collecting supplies, destroying railroads or bridges and generally in harassing the enemy.

(f) In the duty of contact squadrons it is believed that a two-troop squadron is admirably adapted to the work. As to what may be done in this line by a squadron of even less than 200 troopers the reader is referred to Biensan's Conduct of a Squadron, an admirable little work based on experience in the Franco-German war.

(g) As advance and rear guards the tactical arrangement in this the Second Provisional Regiment lends itself well, as indicated by the following diagrams.

(h) In outpost duty. I am inclined to favor the three-troop squadron, using two troops as supports and one in reserve.

So much depends on the terrain, however, and other conditions that frequently the two-troop squadron might prove to be the best.

(i) In the order of march one regiment seems to be as good as another.

(j) As suitable commands for colonels and majors it may be said that if we have a six-troop regiment of approximately 600 men this will be practically as large as the colonel now commands. Majors now command less than 250 men. The flow of promotion that would result from a reorganization would advance one grade most officers who are now majors, their places being taken by a like number of senior captains.

An important consideration which, it is thought, should influence us in arriving at the proper size of a regiment is to make it the largest number of mounted men which, closed in a solid mass without intervals, can be addressed by an officer with a fairly good voice. Frequently at drills, and generally before engagements, it is important that the will of the commander be communicated directly to every individual of the command. Here the personality of the commander comes into play, and while not disparaging the efforts of his subordinates to communicate his will and ideas to the men, still at critical times it is thought that nothing can be so effective as instructions given by the commander personally.

Six troops of 100 men each massed without intervals makes a block about twenty-five yards by a little less than 100 yards long.

An officer with a good voice can, it is thought, be heard by each mounted man in such a "block"; but that is about his limit.

In like manner when a six-troop, three-squadron regiment is in line of masses or line of platoon columns and the colonel is at a proper distance in front, his tactical commands can be heard by the majors.

In the present twelve-troop regiment this cannot be done.

(k) Concerning administration, discipline and supply, it is thought for reasons given in the first part of this letter that the six-troop regiment is the better, but it seems to be immaterial whether the regiment in this case be divided into two or three squadrons.

Shortly after being assigned to this regiment, being in doubt as to the lines on which the experiment was to be conducted, I addressed a letter of inquiry which with its endorsements is hereto attached and which speak for themselves.

The question of a machine gun platoon or troop, band, etc., seems to be a pertinent one and I beg to say that we find the Maxim too heavy and the Benet-Mercier now in use in the First Provisional Regiment is much preferred not only as being a lighter arm, but being provided with a telescopic sight it can be used for night firing under certain conditions. In this Provisional Regiment we are having the demolition outfit attached to the machine gun platoon and steps are being taken to train men in its use.

I would still farther increase the usefulness of the machine gun platoon by giving it a Barr and Stroud Range Finder (Infantry and Cavalry type) and detailing a man to carry it, get the ranges and announce them by megaphone if necessary.

Personally, I am not particularly partial to a band. If one is included, I should be inclined to incorporate it in the machine gun troop which should then have a captain and a first and second lieutenant.

If called upon to suggest a suitable organization I would recommend substantially the organization set forth in Major Michie's report forwarded herewith. I would prefer two

veterinarians, however, who, as in the British Service, should be commissioned officers.

I am unalterably opposed, based on my experience in the Sioux Campaign of 1890-91, the Spanish War, and what I have seen in this camp, to any organization in which a skeleton organization in time of peace is to be raised to *war strength* on the approach of hostilities.

Previous to the recent mobilization, the strength of our troops was sixty men. When the mobilization was ordered directions were given to recruit troops to war strength (Par. 25, F. S. R.) or an increase of forty-three per cent.

From the best available data at hand it appears that at the outbreak of war Germany and Japan increase their cavalry but thirteen per cent, France increases its cavalry less than one per cent, Great Britain, Italy, Austria-Hungary, Russia and Sweden appear to take the safe and sane view that modern wars come on so suddenly, and it takes so long to make an effective trooper out of a man, horse and set of equipments that their peace and war strength is essentially the same.

Is there anything in the history of our wars which indicates that in the event of trouble we can prepare ourselves more quickly than the countries above named? As a matter of fact history tells us exactly the contrary.

So much time and effort is required to make what military men, the world over, regard as well instructed troops of cavalry that it cannot be done in the time the National Guardsman can give to it.

The result is that probably in the entire United States it would be impracticable to get together more than twelve troops fit for the "first line" cavalry.

It would seem, therefore that our cavalry organization should include *at war strength* the proportion of cavalry which should go with the combined strength of Regular and National Guard Infantry. In war time especially there should be a depot or reserve squadron from which the regiment could draw trained men and horses to replace losses.

* * * * *

W. C. BROWN,
Lieutenant-Colonel, U. S. Cavalry.

I have the honor to submit the following, in compliance with memorandum from your office, received this date, calling for a statement of my views on the following points:

"1. The advantages and disadvantages, as compared with normal organization (as fixed by law, a regiment of three squadrons each of four troops, each troop of 100 men), and as compared with each other, of the types of organizations exemplified by the First Provisional Regiment, the Second Provisional Regiment, the squadron of three troops and the squadron of two troops."

"2. It will be further stated whether, in the opinion of the officer, more time is needed to enable him to form an opinion as to the probable relative merits of the different organizations cited."

Cavalry, to be effective, must have its "fighting" units maintained in peace on the same status they are to be used in war, with some provision for the further supply of men and remounts required during that time. Immediately on the outbreak of war the cavalry must go to the front and all non-effectives, as sick and recruits, should be left behind. In France and Germany immediately on mobilization, one of the squadrons (troops) becomes the depot, and the necessary transfers are made at once. These depots then become the feeders of the regiments in furnishing men and horses to replace casualties, etc., thus making the regiment self-supplying in all respects.

The "fighting" units are the squadron, about 150 combatants (corresponding to our troop), and the regiment, from 600 to 700 combatants, this strength being fixed by experience as to what one man can best directly maneuver for battle purposes by word of command and trumpet.

The provisional organization of three squadrons of two troops each of 100 men, would thus give us a regiment of similar strength, that could be maneuvered directly by one man, as a "fighting unit."

In my opinion a regiment with a greater number of troops of 100 men each, will have to be maneuvered more as a brigade, losing the *mobility* and *initiative*, possible with the smaller strength. This to me is the only serious objection to

our present twelve-troop regimental organization, where the troops and squadrons are the real *fighting* units. I can see no advantage to be gained in reducing the strength of squadrons, except to reduce the regiment to the proper size for a fighting unit—to do this it should be limited to not exceeding some 700 combatants, organized preferably into three squadrons of two troops each, 100 men to a troop, and one machine gun troop.

The advantages of this organization over the two squadrons of three troops each, are (a) line in close order, or skirmish line may be formed to the front more easily and expeditiously; (b) movements in line with guide in actual center of squadron, advantageous in charge by squadron as well as all movements of squadron in line; (c) a better distribution of units for the "attacking line" and reserve, viz.: two squadrons for the former and one for reserve; (d, e, f, g, h and i) affording a better disposition of units for general purposes; (j) in comparison with the present war strength of squadron and regimental units, the proposed reduction of a squadron to two troops and a regiment to six troops, might appear as inadequate commands for majors and colonels; but, should actual war strength, 100 men per troop, be maintained at all times, the peace strength will then be approximately as great as it has heretofore been in the past, viz.: about 750 men; (k) the smaller unit can be more easily administered, disciplined and supplied.

In this connection, the following organization is suggested:

Troop.

1 Captain	2 Cooks
1 First Lieutenant	1 Farrier
1 Second Lieutenant	1 Horseshoer
1 First Sergeant	1 Saddler
1 Supply Sergeant	1 Wagoner
6 Sergeants	2 Trumpeters
8 Corporals	76 Privates

Total: 3 officers and 100 enlisted men.

Squadron.

1 Major	1 Squadron Supply Sergeant
1 First Lieutenant (Adjutant and Supply Officer)	1 Trumpeter, Corporal
	2 Privates (Orderlies)
1 Sergeant-Major, Squadron	2 Troops

Total: 8 officers and 205 enlisted men.

Regiment.

1 Colonel	2 Color Sergeants
1 Lieutenant Colonel	1 Trumpeter, Sergeant
1 Chaplain	1 Horseshoer, Sergeant
1 Adjutant, Captain	1 Farrier, Sergeant
1 Supply Officer, Captain	6 Privates, Orderlies
1 Veterinarian	1 Band
1 Sergeant-Major	1 Machine Gun Troop
1 Quartermaster Sergeant	3 Squadrons
1 Commissary Sergeant	

Total regimental strength: 33 officers and 765 enlisted men.

The band to consist of thirty-six pieces and the machine gun troop of three officers and 100 enlisted men.

This troop also to contain expert signal men and a demolition squad—one platoon to have *mountain* gun and one platoon the *machine* gun.

The present organization of twelve troops to a regiment, and four troops to a squadron, is far preferable if troops are to turn out for duty with only one officer and about sixty enlisted men in ranks. My views on the subject of cavalry reorganization are given more in detail in an article published in the April, 1909, CAVALRY JOURNAL.

ROBERT E. L. MICHIE,
Major, Ninth Cavalry,
Commanding Squadron.

I have the honor to submit the following report relative to the organization of cavalry squadrons of three troops, as compared with squadrons of four troops.

The principal difference between a squadron of three troops and one of four troops, in my opinion, is that the three-troop organization is more directly within control of the major on the drill ground. I have had no experience with the squadrons of two troops, but believe two troops is too small a command for a field officer.

The following are answers to questions as outlined in memorandum from Regimental Headquarters:

(a) In movements in close order, taking into consideration handiness and number of men brought into action, the three-troop squadron is to be preferred.

(b) In the charge the three-troop squadron can be more easily handled.

(c) In the battle exercise, dismounted, acting independently, in general I believe the four-troop squadron preferable.

(d) In a general engagement, dismounted, the four-troop squadron.

(e) As to regiments in raids, the three-troop squadron. It permits of more squadrons acting on the flanks, etc., of the raiding force, and permits of squadrons being sent to more places.

(f) As contact squadrons the three troop squadrons.

(g) As advance and rear guard. Sometimes one, sometimes the other.

(h) In outpost duty. The four-troop squadron. Depends on circumstances.

(i) In the order of march. No difference.

(j) As suitable for colonels and majors, either a regiment of three squadrons, three troops, or three squadrons of four troops. I do not consider a regiment of six troops, or a squadron of two troops, a suitable command for a colonel or major.

(k) As concerns administration, discipline and supply, either a regiment of nine troops, or one of twelve troops.

Our system attaches machine guns to the regiments and not to brigades. Each squadron is now equipped with a demolition equipment. Cavalry can also frequently use a small number of pioneers and signal men. It appears to me that if the band, machine gun platoons, clerks and orderlies at headquarters, a pioneer detachment, and a signal detachment were consolidated into an extra troop it would improve the service.

It is nonsense to talk about all cavalry officers remaining with their troops in time of war. As a partial substitute I believe a colonel should have authority to appoint from his command fifteen sub-lieutenants. These men to have pay suitable to their grade and by law be authorized to receipt for property and perform other duties now performed solely by commissioned officers.

If the present system of filling our troops to war strength on the outbreak of hostilities continues, our troops will lose their efficiency and cannot regain it until the recruits are drilled and instructed. Cavalry in time of peace should be kept near war strength. Twenty per cent. should be the maximum of new men that can enter a troop without materially decreasing its efficiency.

When war breaks out many regiments of volunteer cavalry will be mustered into the service. For that reason the drill regulations should be simple. Regimental drill should be abolished and many other paragraphs modified or stricken out.

R. D. WALSH,
Major Eleventh U. S. Cavalry,
Commanding Second Sqdn. First Prov. Regt.

In compliance with instructions received this day, I have the honor to submit the following report upon the provisional organizations into which the Eleventh Cavalry has been divided during the past six weeks:

The Second Provisional Regiment in which I have commanded a squadron, consists of three squadrons of two troops each, with a machine gun platoon added. The full strength of

this organization would be thirty-three officers and 620 men. There have been present actually for duty ten to fourteen officers and about 590 men. This shortage of officers has not, in my opinion, prevented a fair test of the efficiency of the two-troop squadron, for the reason that in all wars and in any long field campaign it is my experience that the officers are from various causes rapidly reduced in number and a regiment organized with thirty-three officers might and would soon be reduced to fifteen or less. If the full strength of thirty-three officers is considered, fourteen of these are field and staff, forty per cent., and the transportation of their baggage on the march would be a serious drawback. The regiment is top-heavy. My opinions upon the different points are:

(a) *Movements in close order:*

I believe a major can drill a four-troop squadron as easily as one of two troops, while the drill of the latter is exceedingly uninteresting to all concerned and its value thereby greatly impaired. In the same way I have seen regiments of three squadrons of four troops handled as effectively and easily on the drill ground as this one of six troops. So in the matter of drill alone the advantage lies entirely with the large regiment on account of the interest. As to the number of men brought into action dismounted. One of the recent problems at Leon Springs consisted in firing dismounted at targets with three regiments Ninth Cavalry and the two provisional organizations Eleventh Cavalry. The conditions under which this firing was done were fairly such as might be expected in war; that is, we had men left back in the permanent camp, men back in the temporary camp and men on various details. After leaving a guard with the led horses and horseholders for the dismounted men the Second Provisional Regiment actually put on the firing line 160 rifles. This is far too small a number and six troops, therefore, too few for a regiment that hopes to do anything dismounted.

In the formation for the charge mounted the two-troop squadron is at a disadvantage, not giving enough echelons of complete organizations. In this a three-troop squadron meets all requirements, as does a three-squadron three-troop regiment.

In battle exercises dismounted acting independently:

Here horseholders and guards reduce the number of men on the firing line so much that a two-troop squadron or six-troop regiment is entirely too small, as I have illustrated above.

In raids where mounted and dismounted action would both be likely; where losses are to be expected and where the command must rely upon itself the six-troop regiment is too small a body.

Contact squadrons, the two-troop squadron after detaching its patrols would be too much reduced for effective work. A three or four-troop squadron would do the work where the other would fail.

In advance or rear guards or as out-posts the comparison is less against the two-troop squadron, though I see no advantage the latter has. In the order of march, there is little to choose between the different organizations.

The six-troop regiment is not a suitable command for a colonel in peace or war. We know that in peace the strength of the troops will be reduced by Congress and in war by details and casualties.

An energetic colonel with six troops and an energetic major with two troops only will each command these troops. If we are to have a two-troop squadron then do away with majors and place a captain in command of the two troops with lieutenants to aid him.

To reduce the present command of a major by half is to make things still easier for a lazy major or intolerable to the troop officers of a squadron having a capable major. Any man given a command in which he can not find legitimate duties to keep him busy will either lose interest or make himself obnoxious.

I have said nothing of the three-troop squadrons, as I have had no personal experience with them; yet as a matter of opinion I believe the best organization for cavalry, if we must change, is three squadron, three troops and a tenth troop composed of a section of horse artillery and engineer detachment. The machine gun is better with the brigade and not with the regiment.

DeR. C. CABELL,
Major Eleventh Cavalry.

Time and opportunity insufficient. Three squadrons to troop regiment best. More officers, better leading, especially if necessary orderlies, grooms and cooks are provided with field staff and not by troops. LANGHORNE.

Complying with your memorandum with reference to the merits of the provisional organizations, I have the honor to report that I see no advantage in either organization over our present legal organization of three squadrons of four troops each, and that in my opinion any reduced strength in our present tactical unit (the squadron) would not only weaken our fighting efficiency, but also add proportionally to our impedimenta and be an unwarranted increased expense in the maintenance of the cavalry. M. W. ROWELL,
Captain Eleventh Cavalry.

In compliance with instructions from the Regimental Commander, I have the honor to submit the following report upon the experimental organizations into which this regiment has been divided:

The regiment was divided into two provisional organizations pursuant to the order attached.

Lieutenant Colonel W. C. Brown having reported for duty was assigned to the command of the First Provisional Regiment. But Lieutenant Colonel Morgan having reported, the latter was assigned, by special request of General Carter, Division Commander to the First Provisional Regiment and Lieutenant Colonel Brown to the command of the Second.

No field officers having reported for duty with the Second Squadron, Second Regiment, the ranking officer, Captain G. T. Langhorne, fell into command of that squadron.

Since the above order was published to the present time there has been on the average about thirty-seven officers for duty. Of these twenty-two are field and staff and fifteen troop officers.

ADMINISTRATION.

As this was practically only an experiment, much of the administration was left in the office of the Regimental Commander, he occupying much the position of a post commander. Summary Court Officers were appointed by the Regimental Commander upon the recommendation of the Provisional Regimental Commanders. The Provisional Regimental Commanders referred cases to these courts and acted upon their findings. Survey officers were appointed in the same manner, but the question of inspection of property by the Post Commander arising, Survey Reports were referred by the Regimental Commander and acted upon by him. In short, in all matters which regulations compel the action of the Commanding Officer were handled through the office of the Regimental Commander. Morning reports were submitted to the Regimental Headquarters after passing through the hands of the Provisional Adjutants for their information. All questions of papers relating to deserters, directing payment of reward, etc., were handled by the Regimental Commander.

SUPPLY.

The matters relating to supply were handled as though the division did not exist. There was no necessity for any change here, for the question of supply is one largely of system. If Regimental Quartermasters and Commissaries are efficient, in a permanent camp they can handle twelve troops about as easily as six, providing they have the necessary number of wagons. In time of war, while it will not be so hard to supply 600 men as it would 1,200, yet one set of supply officers should find it easier to supply 1,200 men than two sets should.

Ration issues and settlements were made by the Regimental Commissary direct with the several troops and quartermaster stores were also handled in like manner.

TACTICS.

As to the handling of these organizations on the drill field and in maneuvers, it has appeared to me that the three-troop squadron organization was always more compact than the two-troop squadron organization, consequently more easily handled

for almost any purpose. It was always easier for me to find the commanding officer and his squadron commander here than in the other organization. Expressing a matter of opinion, I can see little argument for the two-troop squadron. Certainly three troops are not too many for a major's command. With too small a command a major is apt to become too much of a troop commander, interfering in affairs of the troop that should be left to the responsibility of the troop commanders.

The ease with which these organizations are handled convince me that we are losing officer material if we confine regiments to 600 men. Unquestionably, not the slightest diminution in efficiency will exist by increasing the number to 900, and I am about convinced that its increase to 1,200 will be a matter where the value of economy of officers considerably outweighs the supposed unwieldy mass of so many men.

HOW MANY MEN FOR DUTY ON THE FIRING LINE.

Under Field Service Regulations a regiment of cavalry consists of 1,188 men, of which 1,140 are mounted. Of these the following have no rifles: Band, thirty-six, and trumpeters, twenty-four.

With the ammunition train we have one cook, besides the one not mounted, and the troop mess sergeants and one squadron supply sergeant, making twenty-seven more men not available for the firing line, or for the charge or other mounted action. This decreases the number 1,140 to 1,053. Of these a number will be on sick report. In time of war regiments will never be at full strength. If 1,000 men are available for fire or mounted action a regimental commander should feel highly elated. This is not considered by me as too many for efficient handling by one colonel, especially when we take into consideration the fact that war rapidly diminishes the number of officers. As for the firing line, out of the 1,000 men must be taken the horseholders, quite likely 100, so a colonel of cavalry will never, in war, whatever may be the paper figures, command more than 900 speaking rifles.

DETAILS.

In the above figures I have taken no notice of details. While the Field Service Regulations contemplate that division and brigade headquarters and the staff will have quite a number of civilian employees, yet it will never be possible to get entirely away from details. In time of battle it will be possible to have most of these details on the firing line. But there are some, counted in the strength above given, that will surely not be on the firing line, for instance the commissary sergeant will be busy with supplies, also the quartermaster sergeant, and it certainly will be an ideal condition if enlisted men are not required to assist them. Many of the details now necessary to effect a business administration of affairs will not be required, such as the Post Exchange, probably the Post Bakery and storekeepers and salesmen in the Quartermaster and Commissary Departments. But there will always exist the necessity of some details. The army is a big machine. It requires men to run it the same as any other business and only efficient administration can exist where trained men are in different positions. Continuous and frequent changes of special duty men will in the end work more harm than the good that would arise from them being present for almost all drills. A new man cannot be put in the Quartermaster or Commissary Department every two or three days without danger of having the fighting line starving from want of supplies or want of transportation facilities to get them to the line. Considering this, my statement of 900 men as available for the firing line seems such a large factor of safety, that it is absolutely certain that number is all that a cavalry colonel will ever command on the firing line under an organization of 1,188 enlisted men per regiment.

Answering question one of the memorandum of May 12th. It is apparent from the preceding remarks that in my opinion the present organization of twelve troops per regiment, in three squadrons, is the best.

Answering question two. I believe that more time is needed for maneuvers only. Of these we have had but little.

HERBERT A. WHITE,
Captain and Adjutant Eleventh Cavalry.

I have the honor to render herein report called for by memorandum from the Adjutant General, Maneuver Division, Fort Sam Houston, Texas, May 12th, 1911.

The squadron must be regarded, and is, I think, generally conceded to be the fighting unit; the question therefore that we have to decide is, what shall be the strength of these fighting units, and how many of them will compose a regiment? In my opinion the fighting unit should be as numerically powerful as it is in the scope of one commander to handle; now how many men can the average squadron commander handle? Some more than others, so the personal equation enters in more or less, as it does in every phase of life; but, it has frequently been demonstrated that one man can handle the normal squadron of four troops at war strength mounted. Now, if this be true, why reduce the strength of what one man can control? I believe the efficiency of the four, three and two-troop squadrons can be arranged in the order of 3-2-1, giving the four-troop squadrons the maximum of 3, the three-troop squadrons 2, and the two-troop a value of 1. In comparing these organizations, all criticisms of the two-troop squadron apply with just one-third strength to the three-troop squadrons. Let us first consider the two-troop squadron units, with a maximum war strength of 200 men as a fighting unit; the squadron detached and acting alone. We can safely assume that having been called into active service in war, judging from the experience of cavalry in the past, that the first three weeks of active service will see each troop reduced by details away from it, casualties, sick, wounded, and missing, say twenty sabers, total forty men from the squadron, balance 160 sabers, and this increases as time goes on. Required that the squadron commander go into dismounted action, how many rifles can be put on the firing line? One hundred and sixty men, less one-fourth of this force for horseholders, and we have 120 rifles, if no guard for led horses is necessary. Allowing that the two troops are not fully supplied with officers to command platoons, a most likely situation, and we drop out three more men in each troop; platoon commanders, who do not fire. So I conclude that the squadron commander, if he is fortunate, brings on to the firing line from 110 to 114 rifles, say 115. A commander of a three-troop squadron under the same circum-

stances will have 171 rifles, and the commander of the four-troop squadron 228. A major can handle the latter number of men on the firing line, especially when it is considered that there will be, in all probabilities, squadron reserves. If he can handle 228 men, why make him handle 114, which a captain can handle just as well? Everything else being equal, the main desideratum on the field of battle is the volume of fire. A cavalry commander is handicapped at the outset by having to reduce his force one-fourth as horseholders and perhaps a horse guard. If this is so, it will be necessary for him to get every available rifle in the line; which, then, is better, 114 or 228?

Let us now consider the phase of mounted action. It is generally conceded that everything else being equal, the side that brings up the last formed reserve into a cavalry fight will win. If the squadron commander of the two-troop squadron desires to charge in more than two lines, he will have to split his organization, an undesirable feature, and in the event of the original presumption, what chance would a squadron of two troops charging in two lines have against a normal four-troop squadron charging in any number of lines?

As regards the functions of the two-troop squadron dismounted, as part of a large cavalry force, I find little to comment on, except that if squadron reserves were furnished, there would be six instead of three as employed in the normal formation. As regards the three squadrons of two troops, in cavalry raids, I can see no advantage and it is open to the same criticism as those previously made on the squadron acting alone. Also the same may hold true as to contact squadrons, advance and rear guards, with the two-troop squadron as a fighting unit, when the necessary patrols, scouts, and flanking parties are detached you have an insufficient number of men left to perform the main function of an advance, which is to "secure the uninterrupted advance of the main body."

As to the order of march, I see very little difference: a large number of small regiments or squadrons will take up just as much and a little more road space than the same number of men in a big regiment.

Whether or not the new regiment is a suitable command for a colonel, I do not feel qualified to express an opinion; personally, I do not think so. The two-troop squadron I do not consider a proper command for a major. He has no function that could not be as well performed by the senior captain in the two-troop squadron. If the major is active and does anything at all, he is bound to infringe on the duties and interests of his troop commanders, thereby causing discontent. His only function is in an engagement or the maneuvering on the field preparatory to one. Take as an example squadron drill with the two-troop squadron. Squadron drill is largely an officers' and platoon leaders' drill; the rank and file learn little or nothing from it and many officers seem to think it does more harm than good; the drill for a two-troop squadron is so perfunctory and uninteresting that the officers soon lose interest in it, and from the point of view of the squadron commander, I believe this is also true. The drill of the normal squadron, if carried on with snap, is extremely pretty and interesting and sustains the interest. As regards discipline, I see no difference in either the two, three, or four-troop squadrons, discipline being entirely in the hands of the troop commanders; if properly backed up by the various regimental commanders, I do not need any more time to convince me the small squadrons are in every way undesirable for the American cavalry.

GUY CUSHMAN,
Captain Eleventh Cavalry.

In compliance with instructions, I have the honer to submit the following report on the Provisional Organization of the Eleventh Cavalry:

a. Movements in close order.

The small squadron and small regiment undoubtedly has the advantage over the regular organization in flexibility, mobility and celerity of changing formation, and as this advantage increases in inverse ratio to the number of troops per squadron, the Second Provisional Regiment is better in these respects than either the regular organization or the First Provisional Regiment. On the other hand, the two-troop squadron is too

small to make the most efficient fighting unit, either mounted or dismounted. All things considered, I believe the most efficient fighting organization for the squadron would be an organization composed of the largest number of troops, of 100 men each, that the major can handle with facility, both mounted and dismounted, and this limit is about reached with four. Again, as a rule the number of men detailed on extra and special duty frequently reduces the number of available men for the firing line and this would be especially felt in the two and three-squadron organization. I therefore believe that the old organization is better for close order than either of the new ones.

b. The Charge.

In the charge the remarks I have made under "*a*" apply with even greater force, and I believe that the advantage of having a large number of men in successive echelons, giving the power to deliver a heavy shock, counterbalances all other considerations, and I think that the four-troop squadron is by far the best where the charge is concerned. I might remark that I consider the troop organization of a hundred men to be the very best possible.

c. In battle exercise.

In this exercise also I think the major should have as large a number of men as he can handle, and I believe that an efficient major can handle four troops.

d. In a general engagement.

The same remarks as in "*c.*"

e. Requirements in raids.

I can think of no reason why either of the Provisional Organizations would be as good as the old organization for this duty.

f. Contact squadrons.

On this duty the squadron is necessarily broken up into a greater or less number of smaller bodies. Each troop in a two-

troop squadron would be more broken up than would the same troop in a four-troop squadron and would lose correspondingly in efficiency. I therefore believe that the four-troop squadron would be better for this duty also.

g. and *h.*

The remarks under "*f*" apply with equal force.

i. In order of march.

It seems to me that on marches it would make little or no difference what organization was used.

j. Suitable commands for colonels and majors.

I consider the old organization of the regiment and squadron to be the most suitable commands for colonels and majors.

k. Supply.

I believe that it is quite as easy to supply a certain number of large regiments or squadrons as a larger number of smaller regiments or squadrons and can see no reason why any change of organization is advisable for this reason. On the whole, I am in favor of the old organization. I should be even more in favor of a regiment of twelve troops of a hundred men each, divided into four squadrons, the fourth squadron to be a "reserve" squadron and used to train recruits and horses and furnish all details except guard. In carrying out this plan, however, it would undoubtedly be necessary to give extra pay or privileges for service in the reserve squadron.

I do not believe that anything new would be developed in a longer period of time.

A. C. GILLEM,
Captain Eleventh Cavalry.

In compliance with instructions, I have the honor to submit the following report on the Provisional Organization of the Eleventh Cavalry:

a. Movements in close order.

The small squadron and small regiment undoubtedly has the advantage over the regular organization in flexibility, mo-

bility, and celerity of changing formation, and as this advantage increases in inverse ratio to the number of troops per squadron, the Second Provisional Regiment is better in these respects than either the regular organization or the First Provisional Regiment. On the other hand, the two-troop squadron is too small to make the most efficient fighting unit, either mounted or dismounted. All things considered, I believe that the most efficient fighting organization for the squadron would be an organization composed of the largest number of troops, of one hundred men each, that the major can handle with facility, both mounted and dismounted, and this limit is about reached with four. I therefore believe that the old organization is better for close order than either of the new ones.

b. The charge.

In the charge the remarks I have made under *"a"* apply with even greater force, and I believe that the advantage of having a large number of men in successive echelon, giving power to deliver a heavy shock, counterbalances all other considerations, and I think that the four-troop squadron is by far the best where the charge is concerned. I might remark that I consider the troop organization of a hundred men to be the very best possible.

c. In battle exercise.

In this exercise also I think the major should have as large a number of men as he can handle, and I believe that an efficient major can handle four troops.

d. In a general engagement.

The same remarks apply as in *"c."*

e. Requirements in raids.

I can think of no reason why either of the Provisional Organizations would be as good as the old organization for this duty.

f. Contact squadrons.

On this duty the squadron is necessarily broken up into a greater or less number of smaller bodies. Each troop in a two-

troop squadron would be more broken up than would the same troop in a four-troop squadron and would lose correspondingly in efficiency. I therefore believe that the four-troop squadron would be better for this duty also.

g. and *h.*

The remarks under *"f"* apply with equal force.

i. In order of march.

It seems to me that on marches it would make little or no difference what organization was used.

j. Suitable commands for colonels and majors.

I consider the old organization of the regiment and squadron to be the most suitable commands for colonels and majors.

k. Supply.

I believe that it is quite as easy to supply a certain number of large regiments or squadrons as a larger number of smaller regiments or squadrons and can see no reason why any change of organization is advisable for this reason. On the whole, I am in favor of the old organization. I should be even more in favor of a regiment of twelve troops of a hundred men each, divided into four squadrons, the fourth squadron to be a "reserve" squadron and used to train recruits and horses and furnish all details except guard. In carrying out this plan, however, it would undoubtedly be necessary to give extra pay or privileges for service in the reserve squadron.

I do not believe that anything new would be developed in a longer period of time.

F. P. AMOS,
First Lieutenant Eleventh Cavalry.

In accordance with instructions, I have the honor to submit the following report upon the Provisional Organizations of the Eleventh Cavalry:

The Second Provisional Regiment undoubtedly possesses greater mobility, flexibility and rapidity for changing formations than do the larger units. However, my idea is that a

commander should have as many men under his command as he can successfully handle, and I do not consider the two-troop squadron a suitable command for a major, especially in dismounted action.

(a) I think that the First Provisional Regiment is about the proper size that a major could efficiently handle, both mounted and dismounted, i. e., a three-troop command.

(b) I prefer the three-troop formation in the charge, also, as the object sought being shock action, for which flexibility and celerity are necessary.

(c) In battle exercises, I think a major should have the greatest number of men that he can efficiently command. The three-troop organization comes nearer giving that number.

(d) In a general engagement dismounted acting as part of a large cavalry force, the same applies as in battle exercises.

(e) As to regiments. I should think the old form troop organization the best for this duty, for it frequently becomes necessary to detach a troop.

(f) As contact squadrons, I prefer the "four-troop" organizations, as it is necessary to detach so many patrols that the major would finally have only one troop left, if the squadron consisted of three troops or less.

(g-h) For advance and rear guards and outpost duties, I prefer the "four-troop" organization for the same reason as stated in paragraph "f."

(i) In order of march, I don't think the squadron formation makes any difference.

(j-k) In my estimation, the three-squadron organization of three troops each would make the most efficient command for colonels and majors.

I do not think that I require any more time to form my opinion, as I do not believe that the present conditions are the most favorable in which to secure a good idea of the relative merits of the different organizations.

JAS. E. SHELLEY,
First Lieutenant Eleventh Cavalry.

In compliance with circular letter your office, requiring a report regarding the Provisional Organizations of the Eleventh Cavalry, I have the honor to submit the following:

Since the division as above I have commanded the left troop of the Second Squadron of the First Provisional Regiment. The average strength of the troop at squadron and regimental drills has been about fifteen fours (sixty men), in addition to chiefs of platoons, trumpeters, principal guides, etc.

Under the old order my troop was the left troop of a four-troop squadron and averaged about thirty-six men at all drills.

I have a hesitancy about expressing an opinion as to the relative merits of the old organization and the Provisional Organization as is being tried out in the regiment.

My experience has been limited and I have not given the question the required study and thought that would enable me to discuss the subject at length or to render a report of any particular value. My personal views are as follows:

I believe a regiment of three squadrons of three troops each, always maintained at full war strength, would be most effective. This would obviate the necessity of filling the ranks with raw recruits for whom equipments and horses would have to be furnished on short notice as was the case recently in this regiment.

In addition to the above, there should be a machine gun troop which should include a certain number of signal men, engineers (pioneer detachment for handling demolitions), and the clerks and orderlies for regimental and squadron headquarters.

A troop at full war strength with no men away on detail could count on putting about sixty men on the firing line. A larger number than this would be more than one man could handle with any good results.

My reasons for suggesting a three-troop squadron rather than one of four troops are these: A four-troop squadron at war strength is too large to be properly handled.

One of three troops can be more easily maneuvered, the center troop being a base on which all movements can be regulated, especially in deploying in line of battle.

I have had no experience with the two-troop squadrons and am not prepared to make any comments other than I believe that a two-troop squadron is too small for practicable purposes.

E. R. TOMPKINS,
First Lieutenant, Eleventh Cavalry.

In compliance with instructions from the Commanding Officer, I have the honor to submit the following report, with regard to the change from a twelve-troop regiment to a six-troop regiment:

As the original order with regard to the trying out of this change in the Eleventh Cavalry, stated that, as far as the Administration and Supply Departments, was concerned, there would be no change.

I have had no chance to look into this matter, but from personal observations and conversations with other officers, it seems to me that the present organizations is preferable to either of the proposed changes.

Of the two different squadron organizations, the three-troop squadron seems to me to be the better.

With reference to the supplying of rations, it would be easier to supply a six-troop regiment than a twelve-troop regiment, provided the reduction in the transportation was not so great.

From observation of the drill of this regiment this afternoon, and from knowledge of previous drills of regiment of twelve troops, I would say that the nine-troop regiment is a much more mobile organization.

G. H. BAIRD,
First Lieutenant and Commissary Eleventh Cavalry.

In compliance with letter from Headquarters, Eleventh Cavalry, I have the honor to submit the following report regarding the present provisional organization of this regiment:

I am of the opinion that the squadron composed of four

troops of 100 men to each troop (our present organization) to be better suited for our service than the present provisional organization of two and three-troop squadrons.

While the squadron of four troops and the regiment of three such squadrons is not as easily handled on the drill field as the squadrons of two and three troops, it appears to me the slight difference of time is compensated for by the greater number of men brought into action in each squadron both in the charge and dismounted.

In active service the squadron of two troops and three troops, could at the best when going into action have but one troop as a reserve, while with our present organization such is not the case, and when all four troops arrive on the firing line the effect of fire is thereby greatly increased in each squadron, while the reinforcement of but one troop per squadron would hardly be noticed throughout the regiment especially if composed of but two squadrons.

As to regiments in raids the greater number of mounted men to the squadrons and regiments there are the more chance of success and again I favor the four-troop formation to the squadron.

My same ideas stand regarding advance and rear guard duty, as contact squadrons and for outpost duty the four-troop formation is preferred.

When acting independently the squadron of 400 men is certainly better suited for the work assigned to it than the one of 200 or 300.

The above opinions are formed from my observation of the three different regimental organizations, but I do not feel that my experience with the two and three-troop squadrons has been long enough for me to have formed an unbiased opinion.

B. N. RITTENHOUSE,
First Lieutenant, Eleventh Cavalry.

I have the honor to report as follows upon the desirability of a different organization for a cavalry regiment as compared with that at present established by law:

I am in favor of a nine-troop regiment organized into three squadrons of three troops each for the following general theoretical reasons:

1. It makes each squadron a handy tactical unit by having a center and two equal wings.

2. If acting alone it lends itself easily to the well established lines of combat, viz.: firing line, support, and reserve.

3. It is more easily maneuvered and can be hurled with a greater celerity and accuracy against the enemy than a squadron of four troops.

4. Under the present system of tactics in combat it is as many men as the average man can efficiently superintend.

The foregoing are my reasons for the three-troop squadron, the same method of reasoning I apply in support of the three-squadron regiment.

It has been the experience of every war that small regiments in proportion to the number of men therein have been more effective than large regiments. Then since efficiency is the sole aim and object of our inquiry, it must be admitted that the three-troop squadron and nine-troop regiment is more desirable than the present four-troop squadron and twelve-troop regiment.

That now leads to the discussion of what is a suitable command for major or colonel. This question can be answered best in a few general words. No man has any proprietary right to his rank and command in the army. It is conferred for the benefit and convenience of the government, not the individual, though it would appear that some think differently. The relation is that of master and servant, and the master employs not for the benefit of the servant, but for the benefit of the master, and in every case the interest of the master is paramount, though benefits may and do accrue to the servant. The master in this case demands a greater efficiency, and it is he, not the servant, who should define the

scope and extent of the authority delegated to his servants, the majors and colonels.

Since the interest of the master and not the servant is paramount, any organization which results in greater efficiency necessarily confers upon these officers a suitable command. In addition to the nine-troop regiment heretofore suggested, I would have a machine gun troop, with a signal and pioneer detachment attached thereto, and possibly, not sure, two sections of horse artillery.

In deciding this question it is well to remember that in every walk of life, civil or military, and in every contest, peaceful or violent, a little more strength and we win with the strength we have, or a little less and we lose.

Let us have a little more strength.

JOHN A. PEARSON,
First Lieutenant, Eleventh Cavalry.

In compliance with verbal instructions of the Regimental Commander, I have the honor to submit the following report on the Organization of a Regiment of Cavalry:

I have had but very little opportunity to observe the two Provisional Regiments of the Eleventh Cavalry while at drill or in the field and therefore am unable to report on their relative merits.

As to the supply of a twelve-troop regiment, our present organization, compared with the supply of the two provisional organizations, there is practically no difference. One additional regimental headquarters, two additional squadron headquarters and a machine gun platoon make but little difference in the routine supply.

As to transportation:

Field Service Regulations allow a regiment of cavalry for its combat train thirty-two wagons. On this basis a six-troop regiment of three squadrons would require twenty wagons. A six-troop regiment of two squadrons would require nineteen wagons. A nine-troop regiment of three squadrons would require twenty-six wagons. A reduction in the number

of wagons required would of course be an advantage provided the reduction in the number of troops is not so great as to limit the efficiency of the regiment.

Personally, I favor the following organization of a Cavalry Regiment.

Troop: As at present organized in the Field Service Regulations.

Machine Gun Troop: As at present provided for in the Field Service Regulations except that it be a permanent organization.

Squadron: As at present organized in the Field Service Regulations except that there be three troops instead of four; that the supply sergeant and the five privates be a permanent assignment instead of a detail.

Band: As at present organized in the Field Service Regulations.

Regiment: As at present organized in the Field Service Regulations except that the sergeant detailed as a trumpeter sergeant and the seven detailed privates be permanent assignments.

(The additional men for each squadron and the regiment are very necessary in garrison as well as in the field as they could fill the position of officers' grooms, orderlies, messengers, etc.)

I would further recommend that each regiment have attached to it a provisional troop to consist of men from the Service Corps (yet to be organized); men who have been specially instructed in signaling, the use of explosives, etc; and such other men who by detail may be taken from the fighting strength of a troop.

Further that a regiment of cavalry, no matter what its organization, be kept at war strength at all times and that every enlisted man in it be provided with a rifle.

A six-troop regiment appears to me to be too small for independent action and it appears to be staff top-heavy. Officers are always in demand, especially in time of war, but I believe that they should be added to the troops instead of to the staff.

A three-troop squadron appears to me to be more mobile and more easily handled than a four-troop squadron while at the same time, if kept at war strength and that strength not depleted by details, will answer the same purpose in actual combat.

The machine gun troop and the general service troop could be organized from the three surplus troops now in the regiment. The proposed reorganization would practically leave a cavalry regiment at its present strength but would in its organization provide for the many details, and I believe would increase its efficiency.

GEORGE GRUNERT,
First Lieutenant, Acting Q. M. Eleventh Cavalry.

In accordance with memorandum relative to squadron and regimental organization for the cavalry, I have the honor to submit the following:

After a comparison of the normal organization with that of the two provisional organizations of this regiment, it is believed that the three-troop, two-squadron organization is the most desirable of these combinations. I am in favor of the regiment of nine troops; three squadrons of three troops each. In my opinion the three-troop organization is better balanced and more easily handled than the two or four-troop formation. In the movements in close order the three-troop squadron is thought to be superior to either of the others in the greater ease with which it can be handled, the greatly increased rapidity with which changes of formation can be made and the greater precision of movement possible at drill. In the charge, the opportunities, on account of the average terrain, for the employment of more than one squadron of the regiment in the attacking line are probably very rare and for this reason the three-squadron formation is favorable for the employment of one squadron in the attacking line, one in the support and one held in reserve for emergencies. In this case the two-squadron organization would necessitate a division of the squadrons to meet the requirements; the division of squadrons in any case being, in my opinion, objectionable, if the best use of the or-

ganization is to be expected. The three-squadron formation favors the use of squadrons under nearly all conditions intact. To meet the requirements of a general engagement it is thought that the three-squadron formation is preferable. As to raids the three squadrons would seem desirable as furnishing a sufficient number of men without being unwieldy. As contact squadrons three troops would give sufficient strength to meet all requirements. The three-troop squadron lends itself admirably to the formations for advance and rear guard and for outpost duty. The order of march as affecting squadron or regimental organization is not believed to be important. Three troops to the squadron for a major and three squadrons to the regiment for a colonel is thought to be an effective and handy organization for all purposes. Administration, discipline and supply need not be materially different from the present system. The organization of an additional troop to consist of the machine gun platoon, signal and pioneer squads, messengers and orderlies, is recommended to preserve as far as possible the full strength of troops for the firing line. It is believed that troops should be kept at full war strength in men and horses at all times.

WILLIAM H. BELL,
First Lieutenant, Eleventh Cavalry.

In accordance with a memorandum, these Headquarters, May 12th, 1911, I have the honor to submit the following report:

In movements in close order there can be no question that a squadron of two troops can be moved with greater handiness than one of three or four troops. Yet, I believe that a squadron of four troops could be handled with sufficient ease to satisfy all the requirements of close order drill. And it may be said that in the drill of a squadron of only two troops very little variety can be had.

In a charge the two-troop squadron could be kept under control and would deliver a compact blow, while the four-troop squadron is too large to handle satisfactorily, yet the

former would hardly have the number of men to give sufficient weight to the action, and in this work a good compromise might be made in the three-troop squadron.

In the battle exercise dismounted, acting independently, I should prefer to command a squadron of four troops because of the greater number of rifles available, in spite of the greater difficulty of controlling the larger body of men. While if I were participating in a large cavalry action I would be willing to sacrifice a number of rifles in favor of facility of control and would choose a squadron of three troops. In any dismounted action the two-troop squadron does not furnish a sufficient number of rifles, and this I consider the strongest objection to that organization.

In considering the work to be performed by a squadron, as mentioned above, as well as in the capacity of advance and rear guards, an outpost, or a cavalry screen, the two essential factors seem to be, control and an effective number of rifles and sabers. The two-troop squadron provides the former and is wanting in the latter, and *vice versa*, the four-troop squadron fails to meet the essential requirements. It is, therefore, my opinion that a three-troop squadron would give, on the whole, the most satisfactory results.

As to administration, there can be no doubt that a two-troop squadron is entirely too small as a command for a major. The temptation to meddle with the duties of troop commanders is too great, and, in my opinion, captains of the line, under such an organization, would soon find themselves restricted to the authority and powers of subalterns.

The four-troop squadron is by no means too large for the administration purposes of a major, but in view of its other disadvantages, I favor the three-troop squadron.

THE REGIMENT.

All that I have said with respect to the squadron may be said of the regiment. Therefore I favor a regimental organization of three squadrons of three troops each.

To this it would be well to add a section of horse artillery, while to each squadron I would assign two Springfield automatic rifles. After spending two years in command of a

machine gun platoon, as it is now organized, I believe that it has not a single feature to recommend it for service with a regiment of cavalry.

I do not believe that anything can be gained by continuing, under the present conditions, the experiment in the organizations discussed above. In many respects they have had no real test, but this could be obtained only by maintaining them for a year or more in separate regimental posts, where an opportunity might be given to try out every phase of administration, garrison instruction and maneuvers pertaining to a regiment of cavalry.

RICHARD H. KIMBALL,
Second Lieutenant, Eleventh Cavalry.

In accordance with orders I have the honor to submit the following report on squadron organization.

The squadron of three troops is preferred. The advantage of greater numbers in a four-troop squadron is more than offset by the greater mobility of the three-troop squadron. The fourth troop takes more time in getting into position in most changes of formation than the whole three-troop squadron. The drill is much easier, due to the proximity of the squadron commander to all the troops and the greater ease in understanding commands. Many movements and evolutions can be performed by the three-troop squadron that would be impossible for the four-troop squadron on account of the shorter time taken up in changing formations and the smaller space required. In time of action opportunities would occur for the smaller squadron that the larger squadron would never have. More "Golden Moments," spoken of by Wagner, would thus be realized since an opportunity once past can seldom be recalled. A lighter blow at exactly the right moment is more effective than a far heavier one after that moment has passed.

The difference in time of execution of movements and space required between the two-troop squadron and the three-troop squadron is much less than that between the three and

the four-troop squadrons, and it is thought that this difference would not compensate for the reduction in numbers.

H. M. HICKAM,
Second Lieutenant, Eleventh Cavalry.

In compliance with instructions from Headquarters, I have the honor to submit the following notes upon the provisional organizations as are now under trial in this regiment:

The squadron of two troops is entirely too small for a major's command. In such a squadron he is very apt to interfere with the captain's rights and privileges as to his troops. It is too small to act alone, when detached. The squadron of three troops is the best, I believe, as it is more flexible than one of four, and has not the disadvantage of having too few men as the squadron of two troops.

The regiment composed of three squadrons of three troops each with an additional troop for the machine guns will give the most efficient service. The squadrons of three troops can be easily maneuvered by the colonel and will be far more mobile than the regiment of four-troop squadrons. There will still be sufficient men upon the firing line after deducting the necessary horseholders and guards.

HORACE H. FULLER,
Second Lieutenant, Eleventh Cavalry.

ARMAMENT AND EQUIPMENT OF THE CAVALRYMAN.†

By E. H. GILPIN.‡

I have your letter in which you speak of the intention of the military authorities to get rid of the revolver, and in which you ask me, as "an experienced man of the old war," to give my views on the subject of armament and equipment of the cavalry soldier.

You have asked me a knotty question.

It may be that more rapid means of communication and transportation, electrical appliances, aeroplanes, new explosives, and high-power, long-range guns have made part of the ancient armament and equipment obsolete. We old fellows should willingly admit that we come from the West and want to be shown. Progress is the order of the day. Sometimes, however, the old is of more practical value, and should not be given up until after full discussion.

I should be most modest in giving my opinions about the armament and equipment of the trooper to one of the great organizers and cavalry commanders of the Civil War; yet I am not afraid to give them, for I know where I learned them, and of whom.

I have just read your review of Major Bigelow's "Chancellorsville," and the thought came to mind, as it has so often before, how unskillfully the cavalry arm was made use of in

† This article is a reprint of a letter to General James H. Wilson, who forwarded the same to the War Department with the following indorsement: "This paper, from a loyal and intelligent volunteer cavalryman who served in the war between the states, is respectfully forwarded with my hearty concurrence and approval. After such consideration as this paper may receive, I respectfully recommend that it may be sent to one of the Service Journals for publication and discussion."

‡Author of the article which appeared in the April, 1908, number of the CALVARY JOURNAL entitled, "The Last Campaign—A Cavalryman's Journal."

the first years of the Civil War. "Who ever saw a dead cavalryman?" as a taunt hurled by General Hooker made his subordinate wince; but a competent, alert commander of the army would have said: "General, bring me information of what Lee is doing on my right!" Half a dozen dead cavalrymen would have developed Jackson's turning movement in ample time to reform the line and bring up the reserves. Had Hooker used, not abused, his cavalry, we might have been spared that unspeakable disaster.

Results depend upon how cavalry is handled more than upon how it is equipped. That you may clearly get my point of view, I hold it wrong to try to assimilate the two arms of the service. The cavalryman is not an undeveloped infantryman, but *diverse*. It is an easy matter to spoil a good cavalryman by trying to make an infantry soldier or a sharpshooter of him.

Both arms and equipment are of great importance. I would hold to the carbine, saber and revolver—all three. They have been evolved like the knife, fork, and spoon, and while only one may be used at a time, sometimes all are needed to do full justice to the occasion. These three weapons have come up through great tribulation—have shown themselves fit to survive, and I think are indispensable.

At the first of the war the Confederate cavalry was superior to ours, but it deteriorated, while ours increased in efficiency to the end, owing, as I believe, to our better and more complete armament. I came to this conclusion as a soldier from a number of rough campaigns. You, as a military student, will know whether or not I am correct.

My military experience began when a boy of fifteen. I enlisted in no mean regiment, that saw service as far back as "Pea Ridge." "Eheu, fugaçes—Postume, Postume,"—that was nearly a half century ago. Carr, Osterhaus and Grierson are the only familiar names I see in the Army Register, of the survivors of those days.

Our regiment in 1861 and 1862 had the long straight saber. It was too unwieldy to drill with, too heavy to carry—we were glad to get rid of it and be furnished with one similar to that now in use. The men liked them, they were easy

to carry, and many became expert in saber exercises. Some of us brought them home at the close of the war and hung them over the mantelpiece. General John W. Davidson, a fine cavalry officer, made us grind them to a keen edge. His first order was, "Keep your sabers bright!"—and we laughed at him: afterward we swore by him when we discovered he was a brave man and knew how to handle cavalry. When he gave the command "Draw saber," it didn't take us long to find out he was by our side in the charge.

We were armed with Mississippi rifles; they shot accurately and had a good range, but were heavy and cumbersome and severe on the horses. The same objection applied to Springfields. We tried the Hall carbine, and then the Burnside, single shot; they were soon discarded. After a few rounds we had to pry the shells out with our pocket knives. In 1864 we were armed with Spencer carbine, 7-shot metallic cartridge, a favorite weapon from first to last. Our brigade carried them with you on the last campaign of the war. Early in the service we were furnished about equally with Colt's Navy and Remington revolvers. Both were liked, their champions in the regiment being about equally divided. The men became expert marksmen. When separated into battalions, scouting, patrolling, foraging and escorting trains through north and southwestern Missouri, we shot quail, squirrels, deer and wild turkey with them. Man and revolver were inseparable companions. In 1864 we reënlisted as veterans, and received the improved army revolver, an ideal weapon for cavalry. We liked them better the longer we carried them. In the service we encountered only one regiment of *Lancers*—they were never taken seriously.

Armed and equipped as we were, during three and one-half years under Generals Curtis, Steele, Grierson and Sherman, we were in the saddle upwards of 4,000 miles, in Missouri, Kansas, Arkansas, Tennessee and Mississippi. Our regiment and brigade, long together, made a good record; in orders every general officer under whom we served giving us unstinted praise. You will remember in the order assigning us to the cavalry corps, the division commander stated there were no better soldiers.

At that time you were pitted against General Forrest, the ablest cavalry fighter in the Confederate army. A competent military critic (Forsyth) has pronounced your last campaign "One of the most brilliant, splendidly conceived, perfectly executed and successful of the Civil War." Bear with me while I quote from a little diary I kept on that expedition, under date of April 20, 1865: "In the pine woods, somewhere in Georgia. We ride and fight all day, hardly stopping long enough to eat and sleep. The day's doings must be jotted down, if at all, by the light of the camp-fire. Who knows! Perhaps this road from Waterloo to Macon may some day lie before the reader like a map, for things are being done. We have marched over it at all events, 500 miles, have had some rough-and-tumble service, our horses have fallen off very little and the men are game as fighting cocks. We have taught a new lesson in military tactics. Cavalry, as now armed and equipped, is not considered merely the eyes and ears for infantry and artillery as in 1861-1863, but an effective force against the enemy entrenched and in fortified cities." Your divisions similarly armed and accoutered, had been thoroughly tested the summer before by the heat and dust of long marches. At Franklin and Nashville you had wintered and summered with them through the exigencies of prolonged service. After marching 600 miles through unfamiliar country, crossing six rivers, some wide and rapid, fording swamps, corduroying muddy roads, building bridges and fighting Forrest to a finish inside of two months, this was a practical test of arms and equipment. The cavalry in future campaigns will meet similar climatic and topographic conditions.

Personal preferences for one weapon or another appear trivial measured against such results. These results were obtained by means of skillful generalship and good fighting, both absolutely necessary. This sounds trite, but I learned it in the impressionable days of youth when I saw that lack of either wrought havoc and disaster; combined, they brought such victories as made me proud to be a cavalry soldier.

Upton was an artillery officer before he came to command the Fourth Division of the Cavalry Corps. He always wanted to get his cavalrymen with their revolvers in among the bat-

teries, stampeding the horses and shooting the artillerymen before they could use their pieces. That was one lesson I learned of him—it is a good one to hand down. You remember the time he "shod his troop with felt," and under cover of twilight stole to the upper bridge at Columbus and led his men to the assault. In his report of that action he used these words: "The command pressed through a-slashing a hundred yards deep, and after a charge unexampled in cavalry service, and with but few parallels in infantry, carried the works." No closer military observer than he, none more careful of statement; he it was who with his twelve regiments charged and held "the bloody angle" at Spottsylvania; and his words are good for cavalry to remember.

The principal defect in the cavalryman's outfit is the regulation saddle. It is an old sore. We read that King Darius, three thousand years ago, delayed his expedition against the Scythians three months waiting for his quartermasters to fit his command with saddles. The quartermaster's department hasn't got them fitted yet. Probably they never will, until they make two sizes, to accommodate both man and beast. The McClellan tree is about right, but should be made longer and curved a trifle more in the rear. Stirrups should be hooded, to keep out rain and snow, for safety in the woods, on the charge and in the stampede. Bridles should be kept as strong and with curb bit to hold in any emergency. The "jauncing Bolingbroke" style of riding, affected by some cavalry companies, is altogether vicious, certain to produce rupture of one kind or another, and is the ruination of horses' shoulders. Properly drilled men ride with lightness and grace, and a "chronic soreback," except on long, hard marches, is without excuse. It is the fault of the orderly sergeant or the captain, or both, if a lubberly Sancho Panza is allowed to slouch for hours at a stretch, boring his saddletree into the raw. He should be dismounted and made to walk—that would teach the whole troop a lesson.

A light carbine, up-to-date, will do all right in a gun-pocket, and not hurt the horse. A repeating carbine that will shoot accurately a thousand yards is all that is required. The long-range target rifle is most unsuitable for cavalry. They

have no time to waste firing at infantry or trying to pot sharpshooters.

It is well that our standing army is a moving army, teaching as it does something of the art of war to all our people. Politics may separate the forces, scatter them through states and territories, but actual warfare will assemble them quickly, improved by acquaintance with different climatic, civil and social conditions.

Discipline is apt to be relaxed when regiments are separated. At army posts and service schools I would have more range firing, more fording of streams, jumping fences and practice with the revolver. There is too much coddling with thermo bottles and first aid to the wounded, too much couching lance in tournament, too much bending to my lady fair. War is a stern mistress. In the old war times we perhaps cared too little for the amenities.

I think of Upton with the surgeon's turniquet close pressed against his thigh to stanch the flow of blood, while continuing to give orders from a stretcher; of Wood and Hancock wounded, but keeping on the field; of John Wall, supporting your cavalry guidon with his left arm, the other hanging useless, his handkerchief tight-knotted above the severed artery.

When the surgeons carried them off it was from a victorious field, and that was the main thing.

The revolver is a most valuable all-around weapon. The cavalryman uses it to shoot chickens and pigs when out foraging—stands guard with it, needs it on picket, patrolling, escorting trains, carrying dispatches and in the mix-up after a charge. "Stick to your saddles, men, and if I fall ride over me!" shouted Major Brown when cut off by the enemy at Tupelo, and surrounded; and they dashed through, cheering and firing their revolvers. At "Big Blue," General Marmaduke looked into the muzzle of Dunlavy's revolver and surrendered at discretion. General Forrest, who bore a charmed life the day of Plantersville, parried Taylor's saber-thrust with his revolver, shot him dead, gave his horse the spur and escaped. Poor Custer; we can forget his faults, for he was a brave man who loved to say "Forward, boys—Forward!" His men loved to hear it, for he stayed by their side. They stayed by him on

the "Little Big Horn" when surrounded by murderous Apaches, until barricaded by the dead bodies of his comrades, the only man left alive. Lifting his eyes to the hills, whence no help came, his revolver, pressed to where he lived, brought the last aid to the wounded. Buford's cavalry with their revolvers laid down the line of battle on which Gettysburg was fought. The position gave us the victory in that momentous conflict

In emergencies of every kind, at close quarters, the true objective of cavalry, the revolver has justified itself and won its place in the armament.

The present cavalry saber can be used for thrusting, cutting and slashing. Shorten it and you detract from its moral effect in the charge. Curved and broadened into a scimetar, it becomes too clumsy. In action men will throw them away before the time. They can't be forever holding them in their teeth, as they do up San Juan Hill.

I have read some recent discussions in the journals that, to speak reverently, seem like the innocent prattle of children. Because, forsooth, aeroplanes have appeared on our horizon, the old order must give place to something new. I have not seen a maneuvering aeroplane but that a platoon of cavalry could shoot it full of holes with their carbines before it could do any mischief. It will be time to give the order to the cavalry: "Prepare to meet aeroplanes!" when the firing begins.

In addition to the long gun, it is proposed to furnish the cavalry with bayonets. Arm the cavalry with bayonets! An old cavalryman's gorge rises at it. Provide him a lance, put a blunt, short sword at his side, a machine gun in front, lash a mountain howitzer to the cantel of his saddle; all that is needed to complete the outfit is a suit of armor and the helmet of Mambrino—set him to fight kites, balloons and air vessels, and you have an opera bouffe cavalryman to adorn any stage. Throw away the bugle—the cavalryman's occupation's gone.

Shade of the mighty Sheridan! Let us see again the cavalry soldier? Perfect in the use of saber, carbine, revolver, master of his horse and of himself, he ranges supreme in his own sphere. Celerity is his special virtue. No long-range targeteer, no machine gunner or other excrescence to hamper its natural freedom of movement, primarily and essentially the

cavalry is a mobile power akin to the elemental forces. Meteor-like it flashes in unexpected quarters. It is the whirlwind, a rushing mass of dust rattling a hail of missiles to stampede horses and gunners of hostile batteries. It is the cloudy screen let fall to hide the flanking movement, or the change of front. It is the flash and outbreak above the barricaded defile in the mountain. It is the vanguard of the storm gathering in dark masses behind wooded hills and sweeping in long, level lines across the fields like the swift tread of an army of men. Changing front it becomes a tornado, and its pent up fury breaks in shock with lightning flash of saber blades. In action it is short, sharp, decisive. Dismounted, it holds the enemy at bay with carbine and revolver, while the infantry lines are forming. If whipped, it remounts and is off at a trot, mad clean through; it has just begun to fight. It hangs on the enemy's flank, cuts off his couriers, intercepts his supplies, misleads, ambuscades, surprises. Detached parties guard the ford, hold the passes, burn bridges, tear up railroad tracks, capture supply trains, ford streams, swim bayous, fall on the unguarded posts, are here, there, everywhere, persistent, aggressive. Doubling its average marching speed for days at a time, the column descends upon the rear of the enemy. Rejoining the main army, its work is cut out for it. With carbines it comes to reinforce the hard-pressed troops. It charges the shaky divisions of the enemy with the saber, throws them into confusion, takes prisoners at the point of the revolver, and when the fight is over is on hand to help the infantry do the yelling.

There is a fascination about the cavalry service that is irresistible. Most fortunate the general who wins the confidence and keeps the loyal support of his mounted troops.

It will be long till the millennium. The weak nation will still be the prey of the stronger. America is destined to conserve freedom by holding this continent against the world. It will become the duty of the general commanding the army of the United States to perfect the organization of the greatest cavalry force yet known, to develop it into a mighty arm with which to gather the fruits of victory, or with titanic grasp wrest victory from defeat.

It goes without saying, our military authorities desire the cavalry arm to reach the highest state of efficiency. The survivors of the Civil War, the old fellows who rode with Buford. Wilson, Sheridan, also cherish a pride in its history, and have its interests at heart. So it comes, that one, no longer able to carry a carbine or "present saber!" would fain lay a finger on the bridle-rein of the commander-in-chief to stay the order, "Give up your revolvers!"

"We must get rid of the revolver," say the staff officers, "and lighten the armament."

The revolver is not very heavy; it weighs a trifle only over two pounds. The cavalryman does not mind it. The carbine gets heavy, and the saber hangs a dead weight, when he is tired; but he does not feel the revolver; he has become used to it. With it he is always armed. On the march or scout, with saddle for a pillow, when wakened from sleep he involuntarily reaches for it between blanket and poncho, touches it with his hand and is reassured. With an instinctive motion he draws it in the fight, holds it with a steady grasp and knows how to use it, when the time arrives. He liked the looks of it the first time he saw it. He likes it better the longer they are acquainted, the attachment appears to be mutual—by and by he is wedded to it, so to speak. Many an old cavalryman in the service, I doubt not, as he looks down at his side upon his faithful revolver, tried and true through long years, will say: "Do so to me and more also, if aught but death part thee and me." This, you say, is sentiment. So in the last analysis is patriotism.

We shall need it in our approaching war. Other men there are, willing to lay down life for Fatherland, the Emperor, the Shades of their ancestors. Amercans also will die for their country. That sentiment is in their blood; and the cavalry soldier will give a good account of himself before the time comes to die.

Give him first a leader, my general, and let him ride to meet the foe full-armed.

Here, my dear general, you have, at too great length, my views about cavalry. I am indebted to you; for writing them has awakened pleasant recollections of our old army days.

MANEUVER CAMPS VS. MANEUVER CAMPAIGNS.

By Captain W. D. CHITTY, Fourth Cavalry.

It has been pointed out by the distinguished German General Von Bernhardi, in his work "Cavalry in War and Peace," that "conditions at peace maneuvers are often unreal and the resulting efforts misdirected." Now it is well known that the maneuvers of the German army are conducted on the most stupendous scale and with an elaborate attention to detail that probably surpasses any other army in the world. In the perfection of its organization, discipline, and training, it furnishes the standard for all armies. General Von Bernhardi has probably had abundant opportunities for observation of European maneuvers generally, nevertheless his remarks have an especial bearing upon the German maneuvers.

If then such criticisms can be justly applied to the maneuvers of the German army, it is reasonable to suspect similar conditions in our own. And that such conditions do exist, especially at our *Maneuver Camps*, and to an undesirable extent, is a matter of general comment by the service.

If the newspaper comments are to be accepted, our maneuvers are invariably successful. But the average news writer is not a military critic and usually concerns himself more with the sensational and spectacular than with the more important though prosaic analysis of tactical instruction. The fact is that conditions which make for a really successful maneuver camp are not those which appeal to the average civilian. Fair weather, short marches, full rations, and the noise of many guns, will call forth unlimited bouquets from press and populace. On the other hand, mud and rain, short rations, an average march, and a little of the business of real war, suffices to turn bouquets into brick-bats.

We have had considerable experience in the maneuver business. For the past seven or eight years we have been

having maneuvers for both regular and militia troops, combined naval and land maneuvers, one Maneuver Campaign (1909), and the present concentration of a division comprising most of our available field army on the southwestern border.

It would seem that the army should have received great benefit from these maneuvers and have attained more or less perfection for field service. There *has* been improvement along certain lines; principally in giving a large portion of our officers opportunities to serve with large forces and to learn by experience some of the conditions which must always accompany such service. Then too the temporary suspension of garrison routine, the relief from interminable guard duty, and close order drill, for which some of our post commanders possess an inordinate fondness, and the effort, however incomplete, at real field training, is always beneficial to officers and men. And yet, notwithstanding the time and labor which we have devoted to maneuver training, the report of the Inspector General for 1910 calls "attention to the unpreparedness of the field army for field service." This of course does not mean that the army is unprepared to take the field, but that it is unprepared for its essential business after it has taken the field. It means that the tactical organization and training of the army is not up to the standard that it ought to be.

The reasons for this condition are complex and varied. No small part of it is due (1) to political interference, (2) to inadequate garrison tactical instruction, theoretical and practical, and (3) to sleepy and prolonged maneuver camps afflicted with flagrantly unreal conditions, resulting in "misdirected efforts," perfunctory performance, and wasted time.

Inadequate garrison instruction results from too much time devoted to target practice, post guard duty, close order drills, complex paper work, and "specking" the garrison school course, and too little time devoted to theoretical and practical field training in the form of war games, map maneuvers, terrain exercises, reconnaissance, patrols, outposts, attack and defense of positions and convoys, transmission of information, etc. These subjects are all most important in the professional equipment of officers and men, and yet how little appreciation of their importance is shown by many of our post commanders.

Marching takes up a great deal of our time. If marches are made merely to test the capacity of troops in making distance and pitching shelter tents, they are a monotonous waste of time. If on the other hand there is an intelligent application of tactical problems to the daily march, interest is aroused, fatigue is ignored, and officers and men derive permanent benefit. Such a march, for example, was that made by the Second Squadron, Eleventh Cavalry, at Camp Columbia, Cuba, in 1908, and most interestingly described by Captain Edward Davis in the July, 1910, CAVALRY JOURNAL.

On the matter of marches the following remarks by another writer in the CAVALRY JOURNAL for May, 1910 (p. 1141), are illuminating. "Who would march a regiment over 300 miles of open country, with many young officers and soldiers present, without a single maneuver, disposition for attack and defense, or problem in the service of security and information? Who would neglect * * * the opportunities * * * in a fine big country where the Indian taught our army this art? And yet, just such things have occurred—shamefully often, in very recent times, and marches have been conducted with deadly slowness and monotony that put black despair into the hearts of the ambitious." The writer further suggests the only adequate remedy for this condition as follows: "The lid on this thing must be *pried off* by those highest in authority."

Our field maneuvers are intended to complete the course of instruction begun with garrison drills and continued in minor field exercises. They are supposed to simulate the conditions of war and acquaint troops with the possibilities and difficulties of actual campaign.

As a matter of fact they do but few of these things. Our theory on maneuvers is in the main correct. It is based on the careful study and thought of the best of our officers. We fall short in the practical application through causes of inexperience, sometimes through incompetence, and frequently through the adverse conditions of the camp itself.

The first deviation from the correct principle of maneuvers occurs when the combatant forces are all united in one camp. This arrangement utterly violates the principle of

simulating war conditions and imposes a strain upon the imagination of everybody taking part in all the ensuing problems and exercises. The maneuver ground is usually limited and after a few problems the terrain becomes so familiar to officers and men that essential positions are known from the mere reading of the problem. Maps under these circumstances are of use solely in placing the troops; measures of security and information are perfunctory since every foot of the ground is familiar to both sides; the limited terrain forces certain measures on the enemy and the demand for tactical knowledge or skill is negligible. The business of ascertaining the enemy's character and strength consists simply in subtracting your own forces from the total of those in camp.

It is scarcely to be wondered that problems attempted under such conditions should be unreal and in some cases farcical. Even officers fail to meet the violent demand made upon the imagination. What must be the effect upon the average enlisted man?

In the maneuver camp problem, there is always the march out to position, which is artificial, and the march back to camp, which is also artificial. Naturally the problem which is sandwiched between is prejudiced by what precedes it, and negatived more or less by what follows it.

Both sides being familiar with the ground, and therefore informed as to what the enemy is most likely to do, the "solution" is simple, to-wit, the march out to position, a dash by the cavalry for the key point, a deployment either wholly or in part, of the two forces, an entirely amicable exchange of a few volleys, and recall. Thereupon the erstwhile enemies march back to camp together, principally concerned as to whether camp can be reached before dinner. Sometimes a premature recall occurs. The resultant demonstrations could by no means be mistaken for the acclamations of victorious combatants.

These conditions give rise to a spirit exemplified in the following conversation, said to have occurred at one of our recent maneuver camps:

Umpire (inspecting sentinel)—What are your orders, sentinel?

Sentinel (an honest recruit)—To look for smoke bombs (recall), *sir*.

In the majority of our maneuver camp problems there is but little to show for success or failure beyond a few words of commendation or disapproval by the chief umpire, and unless he happens to be a man of marked and acknowledged ability, his observations make but slight impression. Herein is found a vast difference between the maneuver camp and the maneuver campaign. In the maneuver campaign, results speak for themselves. If a reconnaissance is well performed, it is not necessary for the chief umpire to say so. The report rendered or the information obtained either goes at once to the waste basket or is seized upon by the commander as a basis for his further disposition or action. If a wagon train is well protected and gets through with its rations, the approval of the well fed faces of the men is more eloquent than volumes from a chief umpire. If a mistake is made in the disposition of troops, the enemy takes advantage of it. No criticism is required. The enemy has gained a point and the commander responsible for the mistake has lost one. Of course umpires are necessary in any case, but there is but little demand for criticisms from the chief umpire, and this effectively eliminates that unedifying and unmilitary (to say the least) wrangling between chief umpires and commanders which sometimes occurs at our maneuver camps.

The unreality of maneuver camp problems is further magnified by the difficulties connected with the introduction of transportation and supply features into tactical problems. These features are of the greatest importance, inasmuch as they sometimes dominate all other features completely. With an experience covering three maneuver camps, as umpire, instructor, observer, and combatant, I have never seen a problem which adequately presented the transportation and supply problem in connection with the field training of troops. And yet the regulations for maneuvers specifically emphasize their great importance and the necessity of their careful study.

In almost every conceivable operation of war, whether it be a one-man patrol or the movement of an army, the questions of transportation and supply intrude themselves and will not

be put aside. They project themselves into all movements of troops, large or small. Notwithstanding the practically hopeless disadvantages of the maneuver camp, our umpires bravely go ahead and try to comply with the requirements of the regulations. What is the result? We have "convoy problems" which usually represent the convoy by means of some four or five empty wagons under command of a wagonmaster, and frequently operating without orders or any relation whatsoever to its protecting escort. Nobody is dependent upon the safe passage of a lot of empty wagons for rations or equipage; the wagon master is usually not interested in maneuvers; the convoy is a dummy, and that fact is enough to paralyze the imagination of all those who have anything to do with it. Sometimes the wagonmaster takes too much of a hand in the game, and with two hundred yards start will beat even the cavalry on good roads.

Our weakness in the matter of transportation and supply has been demonstrated often enough within the past twelve years, both in simulated and actual campaign, to convince us of our need of much more general training in that regard for the entire service. It was damagingly evident at Chickamauga Park and at Tampa, in 1898; it was conspicuously so at Santiago when pack trains became the sole means of supply for an army, and when rations were reduced to coffee, bacon and hard bread, at a distance of but eight or ten miles from a well supplied base; it was evident at Manila when mules and escort wagons became useless for service in the rainy season, and an entirely new system of carabao cart transportation had to be organized; it was demonstrated as recently as 1909 in the otherwise completely successful *Maneuver Campaign* involving the attack and defense of Boston; and there is no reason to doubt that when the reports are all in it will have again been demonstrated in the present concentration of troops on the southwestern border.

In many respects the maneuver campaign in Massachusetts in 1909 was unique in our maneuver experience, and, considering its eminently successful character, it is a matter of surprise that the service generally has had but scant information of it. I am well aware that the bad weather, rain and mud

threw the civilian press into a ridiculous state of hysteria, greatly to the injury of the really excellent militia troops taking part. As a member of the staff of the second brigade of the Red Army, I enjoyed exceptional opportunities for observing most intimately, not only the professional results of the maneuvers, but also the essential character of the militiaman as a soldier. Clouds of "war correspondents" accompanied both armies. The Boston and New York dailies published photographs of generals and corporals indiscriminately. The seniors being non-communicative, the plans of war were obtained from anybody that had one and was inclined to talk. The weather furnished an inexhaustible subject and was worked to death. A little discomfort soon develops the featherbed or imitation soldier, and the man who could put up the most effective complaint became a matter of competition for the reporters. The result was that the newspapers gave generally an utterly false impression of actual conditions and most seriously reflected upon the highly efficient and soldierly militia regiments taking part. One or two papers, notably the *New York Times*, published articles which showed something more than a desire to turn the maneuvers into a wholesale sensation. Of these complaints that had any just cause, the greater part resulted from the inadequate transportation furnished. A few complaints were justly laid at the door of the Subsistence Department, but these were not of serious character.

Now, the point, with reference to this campaign, is that it was a *campaign*, and essentially different as a method of field training from the maneuver camp. The difference extended practically to every feature, whether of tactics or logistics. Especially in the matter of transportation and supply was there a wide difference from what usually obtains at the maneuver camp.

In the maneuver campaign we have realism at its highest development as far as transportation and supply are concerned. The troops are there and they must be fed. No subterfuge is required in surrounding this circumstance with an atmosphere of fact. No fiction of empty wagons would be tolerated for a minute. Likewise the problem is an ever-present one. Com-

missaries must be constantly on the move; quartermasters have a live problem throughout the entire twenty-four hours of each day. All officers and men learn from the experience of constant contact with the problem exactly what must take place in actual war.

In the matter of tactical instruction, the advantages afforded by the maneuver campaign over the maneuver camp are just as marked as in the matter of logistics. For example, in the Massachusetts campaign there was a single problem presented to the opposing commanders at the outset. The enemy was permanent and distinguished by a distinctive uniform; information of the enemy and country was obtained by the normal methods of reconnaissance and maps; the daily advance brought the troops into ever new and unknown country; the transmission of information became in itself a problem such as no maneuver camp could possibly call forth; motor cycles were sent flying back and forth between contact troops and commanders in rear, and for the first time in our maneuver experience effectively demonstrated their great advantages for such work; every advance involved a problem in marching, reconnaissance, advance guard, movement of trains, escort flank guard, and, frequently, in attack and defense; every halt for the night demanded the most careful and realistic measures for security. No criticisms from the chief umpire were necessary, for the results of hard work and good judgment spoke for themselves; in spite of the almost impossible weather, the campaign went steadily forward, the interest of officers and men increasing from the beginning and finally developing into the stage of nervous enthusiasm. The men of the Seventh New York requested that the military situation be explained to them by the regular officers on duty with the regiment; the Fourteenth New York marched seventeen miles one day through rainstorms and mud in order to take part in an engagement, and this voluntarily and pursuant solely to the "call of the guns." The conversation of officers and men was habitually on the military situation; the whole topic of absorbing interest was the "war."

In the maneuver campaign there is neither time nor opportunity for many of those side issues which throw a disheartening influence over officers and men in the maneuver camp so frequently; namely, those grand reviews in which everybody has a chance to test his patience and his profane vocabulary as a part of a spectacle for the villagers and the camp commander. All boards, courts-martial, ceremonies, escorts, etc., have no place at maneuvers. They serve to distract the attention of both officers and men when the essential business is tactical instruction. They should be absolutely forbidden by orders from the War Department.

Most of the objectionable features of our maneuver camps result, as I have stated, from the nature of the camp itself, and it is doubtful if they can be eradicated without radical changes in the method of placing the troops in camp. Enemies should be permanent in character, and the terrain should be large enough, if possible, to require actual reconnaissance of the ground to be made.

This calls at once for a division of the troops into two separate parts and their location in separate camps. Care is necessary that the distance between the camps be not too great, otherwise the troops will be required to do much unnecessary marching. If too close together, the disadvantages of a single camp arise. Other things being equal, the distance between camps should be about four miles. The question of too great familiarity with the ground likewise calls for a change in the maneuver ground as often as possible, and this brings us back again to the *maneuver campaign*, in which the same ground is never used twice.

The *duration* of our maneuver camps has been a serious obstacle to the attainment of the standard set by our Maneuver Regulations. Camp life is dirty; laundry facilities crude or wanting; tents are cramped and uncomfortable; food is usually rough and sometimes unwholesome; flies or mosquitos, or both, assail the permanent camp in clouds; typhoid fever is a constant menace necessitatig the most rigorous vigilance by officers and men; measles and other minor diseases have their best opportunities in the prolonged maneuver camp. In time of war these things are accepted as the soldiers' portion, and without murmur. Likewise, whatever of experience and training is needful in time of peace to prepare troops for war is cheer-

fully accepted. But enough of camp life, even for soldiers, in time of peace, is enough, and any excess is wasteful in time, treasure, and the bodily health and vigor of officers and men.

The time devoted to company and battalion maneuvers at our maneuver camps is, to a large extent, time wasted. Most of our companies and battalions are qualified by work on their home maneuver grounds, or should be. Some are not, but in such cases they should not jeopardize the training of the whole camp, but should be put with the militia troops or allowed to work independently. We have some post commanders who take but a perfunctory interest in field training, and until they are brought to time by the War Department there will always be a few companies and battalions not up to the standard. Company and battalion maneuvers at our maneuver camps are invariably conducted without blank ammunition and without umpires. Now, the imagination of the average soldier will go so far and no farther. It will not supply the details of a battle under such conditions. Snapping his firing pin on an empty chamber arouses no enthusiasm or even interest. How is the enemy to know that he is being destroyed by a withering fire? He hears no sound and marches bravely, though foolishly, into annihilation. In the meantime, the well hidden enemy knows that the situation is absurd or is too disinterested to know what the situation is. Under such circumstances, impregnable positions are assaulted and carried. Cavalry rides over solid lines of infantry deployed for action. Attacking lines fire at each other at thirty yards' distance. Is there any semblance to actual war in that? Could anything be more farcical, not to say dangerous, in the false ideas it gives to young officers and men?

For the regular troops, all problems should be "big" problems. Do they not as a rule include the little problems for the company and battalion, anyhow? The "big" problem should take place daily, and, so far as possible, it should consist of progressive situations of the same problem with the same troops and the same commanders. The supply of blank ammunition should be ample for all possible needs. Umpires should be sufficiently numerous to provide at least one for every battalion,

with several additional umpires for emergency uses. Much depends on the umpires at a maneuver camp. The few tactical lessons that are learned come more from the action of a competent umpire on the ground than from any other source.

It is not at all unusual at our maneuvers to see tactical instruction sacrificed for the less important business of "beating the other fellow." This results from the attempt to qualify some fifteen or eighteen brigadiers in a series of eight or ten problems. The principle of affording senior officers opportunities for higher command is a good one, assuming that all are qualified to benefit from it. But since but few of those seniors will have more than one chance to show what they can do, the question of tactical instruction is very likely to be abandoned for the secondary one of winning at all odds. This gives rise, sometimes, to needless and exhausting marching and counter-marching, the passing of impassable obstacles, and the employment of measures which the strict rule of fairness precludes. The position is not an easy one to fill. Each field officer gets but one chance. His reputation is at stake, or so he thinks. He must win. Away with military science and tactics; the cavalry will move at the gallop; the artillery at the trot; the infantry will take up a double-time; the signal troops and the medical corps will do what they please, so long as they keep out of the way.

It would probably be illuminating to hear the comments of Von Bernhardi after having witnessed some of our maneuver camp problems.

In the final analysis, the maneuver camp is seriously limited as a means of accomplishing that "completing course" which our Maneuver Regulations assign to it. No permanent camp possesses the conditions essential for the perfection of troops in the higher degrees of war training. A certain amount of that unreality of which General Von Bernhardi speaks is inseparable from the maneuver camp. And with unreal conditions there will inevitably follow "misdirected efforts." The very permanency of the maneuver camp is unreal and unwarlike. It is for that reason that the everlasting problems of supply and transportation cannot properly be introduced. Troops mark-time in camp. The operations of war are never

conducted from a permanent camp. There never was, and there probably never will be, a campaign fought out from a permanent camp. Even in siege operations there is always movement, more or less, on the part of one of the combatants. With movement inevitably comes the supply and transportation problem, the *bête noir* of our service, and a vital problem for any service.

Considering the advantages of the maneuver campaign over the maneuver camp as a means of perfecting the field army for field service, why have we not made use of this method more generally? Is it because the actual character of the Massachusetts maneuvers has never been fully communicated to the service, or is it because the service has failed to understand them and appreciate them for their true value?

Another great German soldier and writer, von Alten, says that in the peace training of troops every effort must be made to surround the soldier with the conditions of war, so that when war comes he will be confronted by no new and unfamiliar situations to confuse and unnerve him. In other words, all unreal conditions must be carefully avoided and the fiction of actual war pushed as far as the safety of individuals will admit.

Thus will the carnival of "misdirected efforts" enacted at our maneuver camps be eliminated.

Reprints and Translations.

BREEDING HORSES FOR THE UNITED STATES ARMY.†

By A. D. MELVIN, Chief of Bureau of Animal Industry.

Although horses are now commanding higher prices than have been known for many years, there is evidently a great shortage in their production. The United States Army has for some years found it difficult to maintain an adequate supply of suitable horses, and it seems that if the efficiency of the cavalry is to be maintained it will be necessary for the Government to take up some systematic plan to encourage the breeding of horses of a type suitable for Army use.

During the past year the Secretary of War requested the co-operation of the Secretary of Agriculture in evolving some plan for enabling the Army to obtain suitable horses. The Secretary of War pointed out that the supply of horses fit for remounts is becoming more and more limited, and that the present indications are that the country would find it impossible to mount its Army from its own resources in time of war and is rapidly reaching a point where the needed supply of suitable remounts for the present strength of the Army would be extremely difficult to obtain, if obtainable at all. As a result this department designated a representative to join with a representative of the War Department in considering the subject and formulating a plan. The Department of Agriculture was

† From the report of the Chief of the Bureau of Animal Industry for 1910.

represented by Mr. George M. Rommel, Chief of the Animal Husbandry Division of the Bureau of Animal Industry, and the War Department by Capt. Casper H. Conrad, Jr., Third Cavalry, United States Army, detailed for duty in the Quartermaster General's Department in connection with the purchase of remounts. These gentlemen have outlined a plan for breeding horses for Army use, which is presented in the following pages. The statement setting forth the reasons why the War Department regards it as imperative for the Government to undertake the work of encouraging the breeding of horses for the Army was prepared by Capt. Conrad and is inserted here with the consent and approval of the Quartermaster General. The plan for breeding the horses was prepared by Mr. Rommel with the assistance of Captain Conrad and other officers of the Army stationed in Washington, and has been formally approved by the War Department. To carry out this plan would require appropriations for the use of the Department of Agriculture estimated at $250,000 for the first year and $100,000 a year thereafter.

THE NECESSITY FOR GOVERNMENT ENCOURAGEMENT OF BREEDING ARMY HORSES.

The difficulty experienced by the Quartermaster's Department in procuring remounts seems perfectly natural. The early settlement of the United States, particularly the eastern part, went on some time before the advent of steam and electric transportation, and the settlement of the western part even now in the most remote points takes place without the assistance of modern transportation. In all new countries the horse has played an important part in the advancement of civilization and the general scheme of settlement. Even in the first part of the nineteenth century the horse was a very much more important animal in Europe and the British Isles than at present.

During the opening of a country the settler must, owing to the absence of roads and other forms of transportation, put his principal reliance upon the horse; he is forced to travel trails and long distances, and for this purpose finds that he needs a horse suitable to carry him quickly and comfortably to his destination. To accompany him and carry the articles

necessary for his daily life, he needs a pack animal. So long as conditions remain unchanged, a desirable type of saddle and pack animal will exist in good numbers; but so soon as the country becomes more settled and habitations more permanent, the mountain trail gives place to the road, and later the country road to the worked and metaled highway, and the type of horse rapidly changes. The necessity for the saddle animal lessens; the light-draft animal becomes more important; the people ride less and discard the expensive pack transportation; the horse is attached to a light vehicle with which he is able to transport more than one person or a heavier load. As the roads become better and the country more extensively cultivated, the lighter horse is used more for pleasure or solely as a means of drawing the carriage; another type of horse becomes more useful and economical, and the light-draft type appears to be succeeded by the heavy draft. Next come the railroad, the trolley line, and the automobile. The people ride and drive less, and fewer horses of the riding types are bred. Riding is indulged in almost solely for pleasure. A new country is a country on horseback; an up-to-date one, a country in an easy chair.

In the United States the type of horse suitable for Army purposes is now proportionately less numerous because it is not found necessary to the civilians of the country, and the Quartermaster's Department is finding it each year more difficult to supply the yearly demands of the mounted branch of a small Army.

The horses of our mounted branches are severely criticised by representatives of foreign armies, while from our own officers come reports of poor animals, poor performance, many quickly developed unsoundnesses, and short life.

As an illustration—in the West it is found that a marked change has taken place in recent years in the so-called "cow pony." Twenty years ago cattle ranches of the West were practically without fences and unlimited, and the cow man found it necessary to breed and use a type of quick, active pony. As the West became settled and as agriculture was taken up the large free ranges changed to the large fenced pastures of a few years ago. These large pastures are now being broken up into even smaller ones. The yearly round-up requiring rid-

ing over immense distances and active work has about disappeared. Today cattle are not chased and roped, but are driven into the small pastures and pens and quietly handled. The quick cow pony of the past has given place to a larger animal, frequently having a cross of draft blood. It may be said that the cow pony of the West has practically disappeared.

Virginia has long been famous for the horse known as the Virginia hunter. Even the breeding of this type of horse has been sadly affected by the high price of heavy draft horses, and further influenced by the fact that only those hunter-bred horses that attained full size brought high prices. Under the haphazard methods of breeding in vogue in these sections not more than 1 in 6 colts could be depended upon to attain the size necessary to bring a high price, and the farmer found himself the possessor of four or five small horses for which there was no steady market. When he found that all draft colts, in spite of minor blemishes, brought good prices as 3-year-olds, he at once ceased to breed the hunter type, with its many misfits, and commenced on heavy draft horses. The disappointment in the hunter-bred horse would not have been so great had the breeding of this type been done scientifically and rationally. The hunter-bred horse as now raised in Virginia is sired almost entirely by stallions either sent to the country gratis or sold at small prices to individuals by wealthy people in the North who desire hunters and are looking to the future supply. A farmer living in the neighborhood of a thoroughbred stallion, and feeling that he would like to breed a hunter, will take advantage of the nearest and cheapest stallion in his neighborhood, regardless of what the result may be. All that he considers necessary is that the horse should be, first, a thoroughbred; and, second, that he should be a pleasing individual; never taking into consideration the fact that the mare might not be suited to the horse nor the horse to the mare. Hence the misfits, the discouragement, and the decrease in number of the hunter type. It is said that not one-tenth as many hunters are bred in Virginia today as formerly.

Even more appalling than the present scarcity of horses suitable for military purposes in this country is the large number of unsound horses that are constantly being examined by

purchasing officers. Horses of this class can be the result of but one thing, and that is an absolutely irrational system of breeding, or the lack of any system whatsoever. When it is remembered that a sound and serviceable horse of a particular type costs no more to raise than an unsound horse, the immense waste caused by our present lask of system is only made more apparent.

The enactment in a number of States of laws whose effect is to prohibit the standing of unsound stallions for public service will no doubt, in time, tend to correct this evil; but not until the horse-raising States generally prohibit absolutely the public stud service of unsound stallions will unsound horses be less common on the market. Such legislation in one State is an excellent thing for that particular State, but it is very likely to drive all the unsound stallions across the borders into adjoining States where laws against the unsound stallion do not exist.

The next census will probably show that there are in the neighborhood of 23,000,000 horses in the United States. It would seem that in this immense number there must be many thousands of horses suitable to remounts for the Army, and there probably are; but the fact that the type desired is comparatively scarce, and that the horses that would do are scattered over an immense area and are in demand for other purposes than the military, makes it not only expensive and impracticable to obtain them, but next to impossible to do so.

The purchase of young horses for the Army during the last fiscal year has been more or less successful, but all officers connected with the Quartermaster's Department have reported that while they were obtaining a fair number of horses, they could see no prospect of obtaining them in any number in future years, and all report the apparent necessity for the Government's assistance in the rational breeding of Army horses in the country.

As no system of supply, so far as the Army is concerned, which deals with peace conditions alone, is complete, the War Department must constantly keep in mind the possibilities of war, and it is not surprising that, finding difficulty in purchasing

a supply of remounts for the peace Army, there should be more or less uneasiness when war requirements are considered.

The waste of horseflesh in war times is enormous, and in a war of any magnitude in which this country might be engaged the number of horses required will not be confined to the thousands per year, but will extend into the hundreds of thousands.

In this connection attention is invited to a few of the records on this subject:

There were purchased for the armies of the Federal Government in the fiscal year ending June 30, 1864, 188,718 horses. There were captured from the enemy and reported 20,388. Leaving out of consideration those captured and not reported, it should be observed that the Army required 500 horses each day for remounts. This, therefore, is the measure of destruction of horses during the same period.

During the eight months of the year 1864 the cavalry of the Army of the Potomac was supplied with two remounts, nearly 40,000 horses. The supply of fresh horses to the army of General Sheridan during his campaign in the Valley of the Shenandoah has been at the rate of 150 per day.

During the Russian campaign the French crossed the Nieman in June, 1812, with cavalry, artillery, and train horses to the extent of 127,121. About 60,000 of these pertained to the cavalry. On December 13 the remnant of the invading army recrossed the Nieman with 1,600 cavalry horses. In six months the horses had all disappeared.

Examples of the terrible waste of horseflesh during war might be multiplied *ad limitum*.

The question of remounts for the Army became so serious during the Civil War that in 1863 the Cavalry Bureau was established. One of the principal duties of this bureau was the purchase and inspection of horses for the Army. Six remount depots were established. The most important of these was Giesboro Manor, situated on the north bank of the Potomac, nearly equal distance between Washington and Alexandria. To show the magnitude of operations of the Cavalry Bureau, the following report of the Giesboro depot is given:

On hand October 1, 1863, cavalry horses	4,281	
Received to December 31, 1863	36,932	
Total		41,213
Issued	22,204	
Sold	1,651	
Died	1,637	
Total		25,492

On hand January 1, 1864		15,721
Received by purchase, January 1, 1864, to June 30, 1866		5,326
Received from other depots for issue		59,507
Received for recuperation		85,980
Received by transfer from Artillery		4,120
Total		170,654
Issued to armies in the field	96,006	
Issued to officers after June 30, 1865	1,574	
Issued for sale or sold at depot	48,721	
Died	24,321	
Total		170,622
On hand June 30, 1866		32

This does not take into consideration the twelve or thirteen thousand artillery horses handled at this depot.

This report closes with the abandonment of the depot, but it is to be remembered that nearly all the volunteer cavalry was mustered out immediately after the surrender of General Lee's army the preceding year, so that nearly all the horses were handled during a period of eighteen months.

Until recently acts of Congress appropriating money for the purchase of horses for the Army required that they should be purchased by contract from the lowest responsible bidder after advertisement. The specifications of the horse to be delivered under contract are those of a perfect animal, which, of course, is seldom seen. The inspectors and purchasing officers are required to reconcile these specifications with existing conditions, keeping in mind fairness both to the contractor and to the Government. This system led to the building up of the class of middlemen who purchased animals from the breeders, presented them for the action of the Government inspectors, and sold them at the contract price. Until recently this price ranged from $100 to $150. Considering the large expense to which the contractor would be put, it could not be expected that all of the Government's money would be invested in horseflesh. The result was, considering the profit by the contractor, his expenses, etc., that the price paid by the Government secured for the cavalry a horse worth from $70 to $100. Nothing is known of the breeding of these animals further than that they were "probably of such and such breeding." Often the question of breeding was

not raised, the principal requisite being that they should give promise of performing the duties expected of them.

The contract system has tended to discourage the horse breeder of the country, as the money paid him by the contractor, after much haggling, was often very little more than the cost of raising the horse. There has been no incentive for breeders, even in the best naturally endowed sections, to breed the type of horse that the Army needs.

Again, in recent years the demands for heavy draft animals for farming purposes, the high prices that these animals are bringing, the fact that they cost no more to raise, and bring even a higher price although blemished, has had a further bad effect upon the breeding of the desired saddle type. Even before the present high prices of all horses and the higher price of the draft horse existed, the breeding of the type considered best for Army purposes received another severe setback by the adoption of electric and cable street railways and the extension of the trolleys. While not generally appreciated, the best "railroaders," as the horses used for street cars were called in the market, were the very kind that made the best cavalry mount. This horse was desirable for street car purposes because of his endurance and his willingness to work.

The contract system received its first serious setback from the contractor's standpoint, when the Army, due to the clamor for better mounts, insisted upon a closer compliance with the contract specifications and rejected more of the horses presented by the contractor. The sudden rise in the price of horses further embarrassed the contractor, and the added difficulty of obtaining horses to present for inspection caused many of the contractors to fail in their deliveries, made others reluctant to bid, later led to the impossibility of obtaining horses under this system in certain sections, and finally led to authority being given by Congress for open-market purchases. This method, while apparently a little more expensive to the Government, had the advantage of eliminating the middleman, giving the breeder all the money which the Government was willing to pay for horses, and giving the Government value received in horseflesh.

The establishment in 1908 of the remount depots has further improved the type of horse for the army, as the system of

purchasing young horses 3 and 4 years old, often unbroken, has enabled the Government to get the best type of horse before he has cost the breeder much money and when he could be sold for a reasonable amount. These horses, sent to the depots for maturing and handling, and finally issued to troops as 4½ and 5 year olds, while costing the Government more per head than the horses 5 and 6 years old formerly purchased and issued directly to troops, are very much better horses from the beginning, are properly developed at a critical period in their existence, rationally handled, and, when issued to troops, have been received with enthusiasm as a great improvement over the matured horses formerly issued under the old system. Even considering the high market value of horses at present, it is believed that, under the remount system, horses can be issued to troops at not to exceed a total average cost of $225. The latest contract price of cavalry horses is $183.75; for artillery horses, $213.75. Many of the late contract horses are young and require some handling at depots before suitable for service; others are mature.

Horses purchased as mature under the old system have had a useful life in the army of 6.4 years on an average. The better grade of horses, such as are now being purchased, rationally developed and handled, should and will have a useful average life of ten years. It is easy to see that the better horse issued from the depot at a cost of $225 that lasts ten years is cheaper than the horse costing from $183 to $213 lasting only 6.4 years. In addition the army will have had a better horse throughout the entire period of usefulness. The horses being issued from the depot could undoubtedly be sold at time of issue at a handsome profit. Many individuals would bring fancy prices. It is needless to say that if it were possible to purchase them in issue form, it would be necessary to pay much more than they have cost under the depot system.

European countries long ago found it not only advisable but necessary to supervise the breeding of horses in order to supply the demands of their armies, and every European country of importance, with the exception of England, has for years been encouraging the breeding of the proper type of army remount. England, one of the most important horse countries of the world, has for many reasons only recently been forced to this

step. It is interesting to note that practically the same conditions confront England that confront this country at the present time, and that almost identical steps are contemplated in the two Anglo-Saxon countries to accomplish the same result—suitable Army horses in sufficient number.

A PLAN FOR BREEDING HORSES FOR THE UNITED STATES ARMY.

NUMBER OF STALLIONS REQUIRED.

From the best information available it would appear that a comprehensive plan to breed the horses needed for the mounted service of the Army on the present peace footing should provide for not less than 2,000 horses a year and need not exceed an estimated allowance for over 2,500 a year.

To determine the number of stallions needed for this work, allowances must be made for failure of stallions to get in foal all mares served, for ordinary losses of foals, and for failure of foals bred to prove suitable for remounts.

A good sound stallion will get about 75 per cent of his mares in foal. Of the resulting foals, an average of at least 10 per cent will die from various causes before they are old enough to be purchased as remounts. In the proposed Army horse-breeding work probably about 50 per cent of the remainder would be suitable for remounts.

Based on an estimate of 100 stallions, the following results could be expected for varying numbers of mares served by each stallion:

Number of mares covered by each stallion.	Estimated number of suitable remounts by 100 stallions.
40	1,350
50	1,688
60	2,025
70	2,363

An estimate of 100 stallions would therefore appear to be conservative. It is doubtful if stallions average more than 70 mares a season, as a rule. In some localities it would probably be possible to stand stallions for a short fall breeding season in addition to the usual spring season, in which case a larger number of mares could be covered. In others only a spring season would be feasible, and a smaller number of suitable mares might be offered.

DISTRIBUTION OF STALLIONS.

The country should be divided into four or more breeding districts, as follows, and stallions assigned as indicated:

New England district (vicinity of Maine and New Hampshire)	10 Morgans.
Central district (Virginia, West Virginia, Kentucky and Tennessee, with perhaps certain sections of Indiana and Ohio)	30 Thoroughbreds. 10 Standardbreds. 10 Saddlers.
Southwestern district (vicinity of Missouri or Texas, with perhaps certain sections of Iowa)	5 Thoroughbreds. 5 Saddlers. 5 Standardbreds.
Northwestern district (Montana, Washington, Oregon, and perhaps California	15 Thoroughbreds 10 Standardbreds.
Total	100

It might be well to subdivide one or more of these districts. The above arrangement is worked out to establish such districts so that they will be in reasonable proximity to Government stations where the stallions may be kept between breeding seasons.

NUMBER OF REMOUNTS AVAILABLE ANNUALLY.

Based on the foregoing estimates, the number of remounts available yearly from these sections would be as follows, with stallions covering the maximum of 70 mares, and taking 24 as a convenient unit for the number of suitable remounts got by each stallion annually:

New England district	240 Half-Morgans.
Central district	720 Halfbreds. 240 Half-Standardbreds. 240 Saddlers.
Southwestern district	120 Halfbreds. 120 Saddlers. 120 Half-Standardbreds.
Northwestern District	360 Halfbreds. 240 Half-Standardbreds.
Total	2,400

A considerable number of the horses sired by the Morgan and Standardbred stallions would be suitable for cavalry remounts, but a much larger number would be preferable for the field artillery. The number of estimated remounts by Morgan and Standardbreds is 840. In selecting stallions of these breeds due consideration should be given the necessity for artillery remounts.

SELECTION OF BREEDING DISTRICTS.

Those localities should be selected for breeding districts where conditions are especially suited to horse raising, where the type of mares is most likely to approach the type of horses desired for the Army, where a light type of horse will always in the long run be the most profitable to the farmer and draft horses least likely to gain a firm foothold, and where mares are sufficiently numerous to give the stallions maximum service. A careful survey of the horse-raising districts of the country will be necessary before this question is settled, and the returns of the Thirteenth Census can probably be used. The Bureau of Statistics of the Department of Agriculture states that it is impossible to use its returns for this purpose. Perhaps, however, that bureau could assist in making the survey.

The Government reservations where stallions would be kept between the breeding seasons would be the points around which the work would center. In some cases it might be possible to stand some stallion on the central station itself. Stallions should be distributed in lots of five around the central stations, and such further distribution could be made as necessity required. At the close of the season they would be returned to the central station and kept there until the next season or sent to another locality.

THE EXPERIMENTAL FEATURE.

The plan has experimental possibilities of the highest order, which should be utilized. The leading features are the test of the value of different breeds to produce remounts and the value of different soils and climates for the purpose, which could soon be determined by the army by keeping records of performance. Certain troops, squadrons, and batteries, and entire regiments, could be supplied with remounts bred in a certain way in certain localities, and the possibilities of the plan from an experimental standpoint would thus become very great. By the time a second large appropriation to purchase stallions would, if ever, be necessary, the Government would be in possession of facts which would enable it to show definitely whether the plan had been successful, and whether any crosses or localities should be eliminated from further consideration. It might be well, also, to consider the feasibility of arranging with the breeders to reserve a small number of high-class fillies each year for breeding purposes; otherwise mare owners would be compelled to replace their mares by purchase, which would bring the problem little nearer solution at the end of twenty or fifty years than it was at the beginning. That it is possible in time to fix the type desired for remounts is by no means questionable, and this may indeed be very desirable.

TERMS OF SERVICE.

No mare should be bred to a Government stallion until she has been approved by the proper officer as of the type suitable to produce remounts. The common unsoundness, the tendency to which may be transmitted from one generation to another, should naturally disqualify a mare, but even more important would be the necessity to refuse a mare on account of manifest faults of conformation, action or quality.

The terms of service should be free, the owner of the mare entering into a contract to give the War Department an option on the resulting foal during the year it is 3 years old (estimating a horse to be 1 year old on the 1st of January after it is foaled) at a price to be fixed before the mare is bred. A provision should be included in the contract that the mare must remain in the owner's possession until the foal is weaned, and that, in case the foal is sold before the War Department has exercised its option, a service fee shall be exacted from the breeder of the foal. Provision should be made, however, to cover such emergencies as the death of the breeder, etc.

The price contracted to be paid for remounts should be fixed annually for each State by a board of arbitration before the breeding season opens, subject to the approval of the Secretary of War. For example, in January or February, 1912, this board

would meet in each State mentioned above and agree upon the price to be paid for remounts bred in that State to be purchased in 1916; in 1913 prices to be paid in 1917 would be fixed, and so on. The arbitration board should be composed of an officer of the Army, an officer of the Department of Agriculture, and a citizen residing in the State, preferably a competent horseman. In purchasing remounts, no discrimination should be made against mares; colts should have been castrated at the breeder's expense, preferably between 1 and 2 years of age.

ORGANIZATION.

The breeding work would be administered by the Bureau of Animal Industry of the Department of Agriculture through the Chief of the Animal Husbandry Division. This division would direct the work under the supervision of the chief of the bureau, and keep the breeding records and the reports on the development of the foals. Not later than January 1 of each year it should furnish a report for transmission to the War Department on the actual number of 3-year-olds in each breeding district available for purchase during the year and the probable number of these that will make satisfactory remounts. A competent animal husbandman should be employed, with headquarters at Washington, as a traveling inspector of breeding stations to keep the department in close touch with the work in addition to receiving regular reports from the breeding districts.

The men in charge of the breeding districts should be obtained from the field force of the Bureau of Animal Industry. These men should be good veterinarians, with a thorough knowledge of horse husbandry. Their field experience would make them invaluable for this work, and the loss to the field service of the bureau would be more than compensated by the fact that they could handle the work better than any men who might be obtained from the outside. If the Government undertakes this project it must do so under the most favorable auspices, and no risk of failure should be run. As success would largely depend on the ability of the men in charge in the field, the best men available should be obtained. The expert assistants to men in charge of breeding districts should be animal husbandry graduates of agricultural colleges, and not veterinarians. This would balance the service in a very effective way.

The duties of these men would be to direct the work at the breeding stations in their districts, to attend to the keeping of the records, to advise mare owners on the care of horses, and, if possible, to travel through their districts before the breeding season opens and approve mares, directing how they should be bred, if necessary. Until the work is on a thorough, well-organized basis, the approval of mares should be done by the men in charge of districts or their expert assistants.

The men in charge of stallions as stud grooms should be employees of the Department of Agriculture, for whose appointment experience in the handling of horses should be the first consideration. Preference should be given men who had been honorably discharged from the mounted service of the Army and who presented certificates from officers in whose commands they had served showing their proficiency in horsemanship.

It is hardly necessary to point out the desirability of having the breeding service so organized that it will be carried on from year to year by the same or about the same corps of employees, in order that it may have a definite, stable, and continuous policy.

THE PURCHASE OF STALLIONS.

Stallions should be purchased by a board of three, composed of an officer of the Army, an officer of the Department of Agriculture, and a practical horseman, whose knowledge of breeds, pedigree, and markets and whose integrity can be relied upon.

In selecting the stallions, suitability for the purpose and freedom from unsoundness likely to appear in progeny should, of course, be first considered, and the stallions should be old enough to have shown their worth as sires of the class of horses desired. In buying Standardbreds, Saddlers, and Morgans any tendency to pace, rack, mix gaits, paddle in front, sprawl behind should disqualify, and only those stallions should be selected which come from families which show none of these tendencies to a marked degree. The presence of such faults in their get would, of course, disqualify them.

EXPENSE.

It is believed that this plan could be put into full operation at a cost not to exceed $250,000 for the first year. This will allow for the purchase of first-class stallions with proved stud records and will provide for the employment of first-class men to carry on the work. The expense in subsequent years, on the same basis of 100 stallions, would require appropriations estimated at $100,000 annually, which would allow for the replacing of stallions as necessity required.

On the basis of 40 mares per stallion the system would cost about $40 per colt produced. If the maximum of 70 mares were covered by each stallion, the cost per colt produced would be about $20. Considering the fact that the normal stud fee in the country is from $10 to $25, with a probable average of $15, it will be seen that under this system the expense would be somewhat greater than by using privately owned stallions, but it is believed that the advantages of breeding and the results in foals would more than compensate for the increase. While the increased cost would not necessarily be made up to the Central Government, the increase in State and local taxes on more valuable foals would more than counterbalance the loss under this system. As a matter of fact the resultant cost of such a careful system of breeding cannot be computed in dollars and cents, particularly as the effect of systematic effort in the breeding of Army remounts should have such a favorable influence on all breeding in this country as to be of inestimable benefit to the horse industry and far outweigh any expense that might be debited against this system.

A FEW THOUGHTS ON THE ARMAMENT AND NEEDS OF MODERN CAVALRY.†

By COUNT LAMBERG, General of Cavalry, Austrian Army.

As at the present day no difference of opinion exists as to whether or not the cavalry ought to be armed with a firearm, the only question generally discussed is that of whether to arm the cavalry with the lance or with the saber only, or with both. Much has been written about the subject; it is presumed that the ones defending the lance never can be convinced of the superiority of the saber and *vice versa*, and that both factions will always remain true to their deep-rooted convictions as to the excellence of the arm they defend. This merely shows (and such is also my opinion) that *for the attack* each one of these two arms has excellent points—always presupposing, however, that both opponents are thoroughly trained in the use of their special arm.

Different is the case when we consider one of the main duties of the cavalry, *i. e.*, the reconnaissance. Reconnaissance and everything connected therewith demands that every individual trooper is an apt horseman in the terrain who not necessarily requires a regular road for his movements. There can be no doubt at all according to my view that troopers unincumbered by lances will make better reconnoiters than those who are so incumbered. As rapid movement in the terrain, even in the most difficult country, is a main requirement for correct and valuable reconnaissance, which is demanded of the cavalry in increased measure today than was the case heretofore, I shall have to cast my vote against the lance. In doing this I, of course, should state my reasons therefor.

It takes long training and practice to enable the trooper to handle his lance with some degree of confidence and effectiveness, and for that our term of service is entirely too short.

†Translated from Kavalleristische Monatshefte, October, 1910, by H. Bell, M. S. E., U. S. Army.

Being an Uhlan grown old in the service, I know what I am talking about. It may be objected that perfectness in handling the lance may be attained within three years. That is true, of course; but consider, do our squadrons take the field with men of three years' service? Not at all; hardly one-third of the men will be three-year men, the other two-thirds being eighteen-months and six-months men. And what about the reservists? They have lost much of their former training and practice in handling the arm; it is, of course, true that they can regain what they have lost, but will they have time therefor? Hardly.

It is true that Germany has decided on retaining the lance, and the Germans can certainly not now be expected to do anything except defend that arm. But the question is, why did they decide on the lance? That we do not know. It might be highly interesting to have access to all the discussions *pro* and *con* that were had; but undoubtedly a personage high in authority finally decided the question. They have not the same trouble we labor under, for, thanks to their system of "volunteers," they have fewer one-year men (recruits) than we have. However that may be, I hold that the lance is nothing but an impediment to a horseman who is not excellently versed in its use, that is, one who has not had the time to acquire that accomplishment; I would far rather arm my men with a club and be done with it, for that anyone can handle.

I personally observed the charge of the Cuirassiers of the Regiment Ferdinand against the Uhlans of the Prussian Brigade Wnuck at Nachod (1866) and vividly recall my delight when I perceived that many of the lance points were high in the air during the charge, caused by the troopers grasping or trying to grasp the reins with the hand holding the lance. And all of those troopers were so-called three-year men.

The lance is a very imposing arm, but dangerous to the enemy only in hands thoroughly versed in its use. The case, of course, was different in olden times, when our term of service was eight and later on six years.

In the fire fight the lance is an impediment, as will be conceded by everyone; and, finally, lance, carbine and saber are entirely too many arms for man and horse. Lance without saber has too many disadvantages. Thus, then, we hold that the saber is the proper arm for the cavalry.

The question is, what kind of a saber? Although our present sabers are lighter than they used to be, they are still heavy, ugly, unwieldy things and too heavy at the point. The question is not at all of splitting single men of the opponent into two down to the saddle, but to cut and slash as many men as possible in the shortest time and thus putting them *hors de combat*. This demands a saber with which he can lightning-like cut and thrust to all sides; a saber to cut with should be a pleasure. That is not the case with our present one.

The trooper who wields the arm must be a good horseman before everything else. By this I mean a man who is perfectly at home in the saddle, for one who is not so will also find his saber an impediment and will never harm an enemy. I do not understand at all why we do not employ a very simple method in our system of recruiting, which would materially increase the quality of our cavalry; that is, attaching cavalry officers to our recruiting commissions. Any old cavalry officer, who has a love of the mounted service, who has ridden much and worried himself with recruits, can tell at a glance whether or not any particular recruit is fit for the mounted service or not. But there is nothing gained by discussing that phase of the question.

The horse ought to be the arm par excellence of the cavalryman; it is intended to carry his rider for days and nights on marches, on roads and across country, and to finally decide the day by its momentum. But the load the horse has to carry is great.* In a future war we undoubtedly will expect much of the cavalry, possibly too much, so that unless we have excellent horseflesh it may easily happen that a larger part of our troopers will find themselves afoot. It is true that our horses are better now than they were forty or fifty years ago, still there are too many inferior animals amongst them yet. The price of everything imaginable has been materially increased, but the government still sticks to the old price paid for remounts. That should be remedied. The price should be increased, if for no other purpose than to encourage the breeding of horses, which is falling into decline. The increase should not be a small one,

else no one but the contractors supplying the animals would be the gainers, and the service would not receive any better stock. Only by a very material increase in the purchase price of animals can the cavalry hope to raise the quality of the remounts.

Resumé.

1. Increase of quality of horseflesh by materially increasing the purchase price.

2. Painstaking selection of cavalry recruits by cavalry officers.

3. A light, easily handled saber and a carbine of the very best model so far existing, supplied with a hinged bayonet.

Method of Carrying Arms.—The saber on the saddle, to facilitate dismounting to fight on foot and because the trooper is already overloaded; and also to avoid the rattling and motions of the saber when slung on the belt. The objection that the trooper, as soon as he parts with his horse by a fall, is without his saber, is not well taken. Should the rider fall when not in contact with the enemy he will soon regain his saber, unless his horse should run away. Should he fall off his horse in a melee he will lose but the scabbard, for the saber itself will be in his hand.

The carbine will be carried on the trooper's back as heretofore.

REMOUNTING CAVALRY AND TRAINING ARMY HORSES FOR FIELD SERVICE.†

By Lieutenant-Colonel PICKARD, French Army.

IN training cavalry for warfare, the greatest problem is the training of its horses.

Until cavalry shall be turned into mounted infantry, its chief asset will undeniably be the horse.

† Translated from the French by M. F. De Barneville, Q. M. Dept., Fort Myer, Va.

Therefore, we must endeavor to improve the horse, just as we improve the weapons used by the cavalry, and we must also develop its usefulness if the important part played by cavalry in warfare is to be maintained in relation to that played by infantry and artillery.

However, cavalry is required not only to perform in the way it did in days gone by, but one expects even more of this branch of the service, and under such conditions as imply far greater stamina, strength and endurance in its horses.

The men are prepared to meet such emergencies as will present themselves in future wars; can the same be said of their horses?

That is the troubling question which invites all efforts and all sacrifices to be made for the improvement of the Remount Service.

Cavalry needs better horses than it did in the past and it also needs more of them: quality as well as quantity are both in demand.

Such is the delicate problem laid before the Remount Service.

The leading difficulty is in the production of horses such as are required by the cavalry of today. The production of this type is entirely inadequate, not only in France, but in other countries as well, for all nations have increased the strength of their cavalry. Therefore, in all countries there is a tendency to encourage the breeders in improving their stock.

The bulk of the horses in the German cavalry is good, at least if one considers the medium class between the very good ones and the fair ones. Those bred in Eastern Prussia, that is, east of the Vistule, are, as a rule, of very good quality; on the other hand, the horses produced in the other parts of Germany are soft and lymphatic, notwithstanding their fine appearance..

Of all countries, Russia is undoubtedly the one which possesses the largest number of horses. European Russia alone has twenty-two millions, and the whole Russian empire has no less than forty millions, while all the other European countries together barely have from sixteen to eighteen millions.

At the present time, out of its forty million horses, Russia can easily select one million saddle horses, suitable for field service.

Does the Russian horse come up to the standard type? One must naturally establish a distinction between the various breeds to be found in that country. In a general way, one may assert that all horses used by the regular cavalry, otherwise all good sized horses, lack stamina and constitute but a very poor cavalry mount. On the other hand, all the Cossack mounts, that is to say, the majority of the cavalry horses, possess a remarkable endurance, without, however, showing much development. But, it may be said, in considering the Cossack regiments, that it is with such a cavalry that one may defeat better mounted organizations.

However, the Cossack horse should not be endowed with qualities which it does not possess. Its reproduction also is far from being systematic. The old Don breed is as mongrel as the population itself. Living and breeding, as the case is, in a state bordering on that of nature, otherwise with very little judgment, it produces a great variety of subjects. But it is easy to understand that those who can resist the hardships of open air life and lack of care will possess such qualities of endurance as will be found in no other breed. The greatest fault with this horse is its slight build, and it would be a difficult and tedious task to increase it. In some sections, however, this problem is being worked out and the horses there are being raised in a more systematic way, good breeding animals being selected with a certain care.

As for Austria, one might judge from its past reputation that its cavalry would be easily remounted. But it is not so. Of course, horse-breeding in Hungary, as regards purity of the blood, has taken a considerable development and has supplied the Austrian army with excellent mounts. But the Austrian cavalry, like all others, requires quantity as well as quality, and Galicia, formerly a great horse raising district, is depleted. Hungary is drained by almost every country in Europe; France formerly stocked itself there to a great extent.

The price of horses has gone up in Austria as elsewhere, and the Remount Service, even with increased appropriations,

cannot purchase any longer the quality of stock that it used to buy. The time has gone by when, each year, regiments received a plentiful supply of horses from Radautz and Babolna; today the remount boards find it difficult to procure enough horses to meet the demand.

Italy is compelled to purchase most of its horses from other countries; it is a serious handicap, especially in time of war.

The horse production of England is too often judged from the exceptional entries in the Stud-Book, or the high-priced Irish horses which are to be found at some of the leading markets. As a matter of fact, England is in the same predicament as other nations as far as cavalry remounts are concerned. The demand for horses during the Boer war was so great that it was necessary to purchase them from almost everywhere. With the increased strength of its army, the difficulty will only become greater. There, more than anywhere else, the blooded horses and the thoroughbreds are beyond the reach of the army.

Spain complains of a similar scarcity of good horses to remount its cavalry under the present-day conditions of the service.

In Europe, Portugal is about the only country which appears satisfied with its breed of Andalusian horses, the production of which is sufficient to supply its twelve regiments of cavalry.

Every nation which has been lately engaged in war, or which is preparing for war, in other parts of the world as well as in Europe, is studying the problem of finding suitable horses.

Even the Japanese have undertaken, with the energy characteristic of novices, the improvement of their breed of horses: they come to Europe to purchase good breeders. And the Japanese officers, after the war in Corea, petitioned the government to erect a mausoleum in honor of the horses that had perished during the campaign; the supporters of this idea claimed that such a public tribute to the army horse would tend to encourage its production.

The Americans alone, who possess a large quantity of hardy, prairie-bred horses, are free from worry in solving this aggravating problem.‡

‡ The United States is in the same predicament as the other great powers as regards the difficulty of procuring suitable mounts.—Editor.

South as well as North America produces horses really suitable for war service, and, as a matter of fact, they both have supplied the European market to a considerable extent.

But the United States especially resembles Russia in its ample equine resources, and the reason of it is that in both countries horses are in use on a large scale. One should not judge the merits of the American horses from the lessons of the Civil War, as in those days the waste of horses was excessive. If the horse consumption was so high it was due not only to the duration of the war, but also to the fact that cavalry was overworked and used recklessly, sacrificing its mounts without discernment, knowing that others would be provided. Moreover, many cavalry regiments were organized hastily and their personnel was consequently inexperienced.

The American cavalry horse is a coarse animal, purchased at a low price, but whose endurance is a result of its being raised on the plains, in a semi-wild state. It knows neither grain food, stable accommodations nor grooming. Feeding on grass in all seasons, exposed to the sudden changes of a generally severe climate, it can stand extreme temperatures.

Therefore, only the fittest individuals overcome these hardships, and the quality of the strain is thus preserved by natural elimination taking the place of scientific selection.

On the other hand, we find that European stock owners make use of all their products and retain the poorest specimens as well as the finest ones. Thus, excepting in America, perhaps, where breeding is more rationally conducted, there is everywhere a demand for the improvement of the cavalry horse.

But an improvement of this kind means many years of toil, of arduous and patient work, including constant observation and recording of the means employed as well as the results attained.

We do not intend to review here the several solutions so often discussed; everything worth writing on that subject has already been written.

The object of this study is to show what is required in the selection of the horse and in its training for field service under present day conditions.

Everyone is familiar with the two foremost obstacles placed in the way of the Remount Service: the insufficiency of its appropriations and the commercial competition.

At first sight, these two might appear to be synonymous, for it is clear that in both instances money is the common basis, the breeder being on the lookout for the most profitable market for his products. If this was the only cause, it would be easy to find a remedy by increasing the remount appropriations; such sacrifices are readily made when the object is to supply the army with new rifles and guns. Anyway, such increases were resorted to before, under similar circumstances.

But the two difficulties are entirely independent of the increase in the purchase price; the trouble remains in the fact that the horse required for commercial purposes is an altogether different animal from that used by the army, its type being the harness horse, easier bred, in great demand, therefore easier to sell and more profitable, even when not fetching a higher price than the cavalry remount; while the army type, being a specialty now that civilian equitation has well-nigh disappeared with the introduction of bicycles and automobiles, becomes a useless and expensive product on the breeder's hands if the Remount Board refuses to purchase it.

As for the very good horses, either blooded or thoroughbreds, their prices are beyond anything the army can afford to pay for them, and, besides, they are retained by the breeders for horse shows, the race track, the trotting competitions, where, in addition to the prizes, exceptional opportunities are afforded to make a good sale.

Now, considering that the enlisted men are in need of good horses to accomplish their work in the field, how much superior must be the officers' chargers used in reconnoitering at long distances and on the special duties of the exploration service, requiring both speed and staying powers.

It is not only to accomplish such missions that an officer must have a first-class horse, but also to safeguard the results of his observations, for it is not only necessary for him to see, but also to report, escaping from the enemy's pursuit, when, in most cases, he will have to get away in a running race from pursuers mounted on fresh horses.

Many instances have been cited of cavalry officers thus evading the enemy's pursuit owing to the speed of their own mount.

Therefore, it is but reasonable to require cavalry officers to be perfectly mounted and to have them put the endurance and speed of their horses to a test, thereby inducing them to remount themselves with blooded stock.

Notwithstanding all the efforts made by the Remount Service, officers' mounts are still unsatisfactory, even at the price paid for them. The very good blooded horses, even the good ones are beyond its reach. It can only get hold of the doubtful ones, which the breeder is willing to get rid of, not considering them as safe investments for the race track.

The only resource, then, is for officers to supply themselves, at their own expense, directly from the breeders. But good blooded horses are expensive and therefore can only be afforded by a small minority. Moreover, these horses must be suitable for army service, that is, they must be of strong build so as to carry the weight of the officer and his regulation packed saddle, a condition which tends to increase their value.

Barring these qualifications, the officer must content himself with the refuse of a training stable, which is more harmful than beneficial; if the officer's charger should be above the average and of distinguished appearance, it must at least be fit to perform its part.

If the officer wishes to resell his horse to his regiment, a very slight compensation to him, the horse presented must fulfill all the conditions required of a troop horse when it shall be turned over by the officer for service in the ranks; in other words, it must be a suitable mount for a private or at least a non-commissioned officer. Thus, it must be able to carry an enlisted man's packed saddle and arms, which weigh much more than an officer's; it must also be quiet when ridden in ranks and not become a useless factor in the troop.

The problem of remounting officers is consequently a very difficult one and yet one that must be solved.

But remounting the enlisted personnel is no less difficult.

If, in each regiment, a fairly large number of horses is needed for the picked men whose duty it will be to accompany

officers on the reconnoitering and exploration parties previously mentioned, when speed and endurance are required, all enlisted men must have horses capable of standing the long and continuous marches inherent to the stategical role of cavalry, such horses to be fast enough to interfere opportunely and speedily in certain emergencies, especially on the battlefield.

One will easily understand, of course, that cavalry will not, as in the past, lay in wait for the propitious opportunity within a few hundred yards of the firing line.

It will be necessary to station it 2,000 or 3,000 yards in the rear of that line, out of the danger zone of artillery fire, the effects of which can in a few minutes annihilate any troops coming within its range.

So, in order to effect a charge upon a given point of the battlefield, it will be necessary for this cavalry to cover that distance before charging, and great speed will be required to get across that zone swept by artillery and rifle fire. A full gallop will have to be used to cover those 2,000 or 3,000 yards, and yet, at the end of this, the horses' whole energy and speed will be needed for the charge and the pursuit of the enemy. Anyhow, cavalry interference on the battlefield is so much a matter of making use of a passing opportunity that to bring it into action at the proper time implies both quickness of judgment and speed. Furthermore, we only refer here to a cavalry force near at hand, awaiting a signal; in many occasions it will have to come from afar, through a hostile country, thereby covering a longer distance at a great speed.

From these remarks it will be seen that cavalry must have fast mounts and the Remount Service has been called upon to furnish horses which can gallop.

This explains why, in France as also in other countries, the army has urged the establishment of running races for half-bred horses, as an inducement to the breeders to turn their activities into that channel and raise stock from which it would be easier to select good reproductors, capable of transmitting to their offspring the qualities required of an army horse.

Already cavalry drill regulations have increased the galloping gait in tactical evolutions. The full gallop (440 meters a

minute) has been adopted, and in some armies it is even carried beyond the regulation gait.

But here, of course, there can be no comparison made with race horses, from which the maximum gait is only required for a limited distance.

The problem is vastly different where army horses are concerned, for it is necessary to obtain a speed of which the whole outfit is capable while carrying the excessive load represented by the combined weight of the rider, the packed saddle and the cavalryman's weapons.

This solution of the problem should apparently be left to the training of the horse, but even then it is indispensable that the horse should be physically fit to do the work assigned to it.

Unlike a racing stable, the army cannot eliminate the unsatisfactory specimens. It is up to the Remount Service to only supply it with horses that possess or will develop the desired qualities.

In a word, the Remount Service must supply the army with horses having stamina, otherwise steel muscles.

We will not stop to consider the means of obtaining such a product; we merely recognize the difficulty inherent to this undertaking and the fact that time only will remedy the evil. However, it has been demonstrated that the evenly gaited horse possessing the highest percentage of blood is far superior to the trotter when it comes to obtaining a true saddler. As the cavalryman's ideal type is a well balanced horse with good lines, compact tissues and a high-tension nervous system, it follows that the one possessing those qualities to the highest degree is the thoroughbred; but breeding to thoroughbreds takes time and money.

Nevertheless, it must be considered that in the competition of all nations, France profits better than others, owing to the fact that all of its stock of horses breeds well to the thoroughbred, which is not the case with all the foreign species: for instance, the Russians have tried the improvement of their stock by the infusion of Arab blood and English blood, but, although they have splendid breeders, like the "tekke" horse, originally the Syrian, they meet, in spite of their efforts and expenses,

with such difficulties that the amelioration of their European strain threatens to take a considerable length of time.

Besides, the French light cavalry horses are already superior to all the other animals in that category, while the heavy cavalry and the artillery horses are as good, as a whole, as those of other nations.

But it is not merely a question of remounting the cavalry of the standing army; it is also necessary to have enough horses to fill up its ranks on the war footing and to remount the cavalry of the reserve and territorial armies.

It is necessary that upon requisition enough suitable horses be obtained possessing at least the proper fitness, if not the more desirable qualities.

On the day of mobilization there will be found plenty of draft horses, but how about saddle horses?

The shortage of cavalry horses is obvious if one considers how many will be needed in time of war. All nations are preoccupied with this problem.

Of course, the shortage varies considerably according to the different countries, but it exists everywhere and varies from 20,000 to 100,000.

It should be remembered, too, that gray horses are, as a rule, disqualified for cavalry service. What would we think of a scout, a vedette, a dispatch-bearer mounted on a white horse, when their duty is to remain unseen?

A light color does not in itself constitute a depreciation in the value of the horse; the contrary may even be seen, but one cannot break a rule dictated by common sense merely out of regard for the qualities of the horse.

This elimination complicates very much the remount question, increasing as it does the shortage of available animals to a no small extent. Furthermore, what makes the problem more complex in regard to horse-breeding is the fact that out of 1,000 colts sired by a gray stallion, 600 are of the same color as their sire; if, on the other hand, the dam is gray, 750 of the offspring are gray.

This statistical observation should lead, therefore, to the elimination of gray stallions and mares for breeding purposes.

However, there is no doubt that light-colored Arab horses are superior to dark ones. The light color is of small importance as far as horses used in Algeria are concerned, but in breeding horses to be used in regiments stationed in France the consideration of color should not be overlooked in spite of the guarantee of good blood.

Another question affecting army remounts is the distribution of horses of distinct breeds and types among the different organizations.

No one will dispute the advantage of having in the same troop all horses evenly gaited, as, in using the troop in the field, one must regulate the gait on that of the slowest horses, if these are not to be soon left behind. To lead them too fast or exact too much of them is to make their loss unavoidable, and the limited resources in horses do not allow of such a waste.

The good, fast horses will be used to advantage in the scouting and reconnoitering parties, so frequent in cavalry advance detachments, yet it is evident that the proportion of fair horses to that of good ones should not be too considerable in any one regiment, so as not to subject that regiment to the mere performance of an inferior part, not at all in keeping with that which cavalry should be called upon to play.

In some armies it has, with good reason, been deemed advisable to remount each regiment with horses originating from some particular district with a view to uniformity, even assigning the best ones to one or two squadrons, which in this way will become selected for the more arduous duties in the field.

Other regiments and squadrons, being less favored, would be assigned for duty with the infantry, as their speed would be less and the distances to travel smaller.

At last, one must consider from the same standpoint the proportion of aged and wornout horses retained in the service. The work to be performed must also be regulated according to their strength. The army life of a cavalry horse is not the same in all armies. It is important, though, not to keep in the ranks any horses that will be a burden to the troop, reduce its gait, and, at the very moment when its full quota of energy is needed, become a hindrance, owing to the reluctance of the commanding officer to leave men behind, knowing that they will be sacrificed.

Yet, one cannot expect horses to remain forever young, and the shorter their army life the greater will be the demand and consequently the shortage of available stock.

It has been suggested to turn those wornout saddle horses into draft animals; that might avoid an expense or rather a loss to the service, but it will not supply saddle horses to take their place. Moreover, draft animals are not lacking.

Another suggestion to bring horses into the service at an earlier age can only remedy the situation providing the horses will be sooner trained to do their work. No horse can be counted as serviceable until it has reached its full development. Otherwise, we would be substituting a worse evil for a lesser one, as such a system would fatally shorten the horses' army life.

It is a universal criticism that all armies have already a too large proportion of either too young or too old horses.

A German officer, who is an authority on questions pertaining to the Remount Service, said, speaking of the French cavalry: "Its regiments have in the peace footing too many young horses, hardly developed, and in no condition to stand hardships. In case of mobilization one-eighth of the horses would have to be left behind."

As we have already remarked, the French cavalry is not the only one with whom this fault may be found. It is not the shortage of 5-year-old horses alone, but also that of the 6-year-old stock that is alarming, for in most breeds the maximum strength and endurance required for field service are only gained after that age.

One will realize from this how limited is the useful period of a horse's army life, at least under the present conditions, and how complicated is the problem laid before the Remount Service.

Still, the primary factor of success is to remount the cavalry well, for one cannot expect from the cavalry more than what its horses can accomplish.

THE "ROLE" AND EMPLOYMENT OF CAVALRY.*

A précis of Colonel Aubier's article in the *Revue de Cavalerie.*

[The above-named paper appeared originally in the form of a lecture delivered at the School of Instruction at Nancy, and was made up of three articles which had already been published on "Cavalry in Modern War," Cavalry of the Napoleonic Era," and "The Cavalry in the Manœuvres of the Centre," and it is now reproduced as a whole, so that on the eve of a general discussion of a new *Loi des Cadres* the principles governing the organization and employment of the Cavalry of the *Grande Armée* may be clearly recognized.]

THE writer begins by admitting that it is scarcely to be wondered at if many thinkers and writers have begun to inquire whether—in view of the small part played by Cavalry in recent wars and of the increasing power of firearms—an arm relying purely upon shock action and upon moral effect is not at once too expensive and too useless to be any longer maintained, and whether the time is not in sight when it will disappear altogether from the field. There would seem to be a great gulf fixed between those who believe in the future of Cavalry and those who deny that any future lies before it, and in any consideration of this burning question it is not merely the relative value of any one particular arm which is under discussion, but the whole psychology of future wars, the terrible mystery of approaching battles must be studied. The author agrees that Cavalry, in common with other arms, has had to bow before the progress of modern firearms, and that by reason of the improvements in guns and small arms the approach, the attack, and the final charge by Cavalry now demand either a longer preparation or a more complete surprise. But the influence of modern fire is not specially, and still less exclusively, felt by Cavalry, and those writers who have endeavored to prove the contrary have based their premises rather upon theory than upon fact. History does not prove their contention, and it would be very difficult to explain why Cavalry was able to perform services of immeasurably greater value under Frederick and under Napoleon than in the days of Francis I. or of Louis

*From the British Cavalry Journal.

XIII., why at Auerstadt the repeated charges of the Prussian Cavalry failed to break the Infantry under Davoust, while at Marengo the charges of a few squadrons led by Kellermann put to flight masses of victorious Infantry, or why, again, at Custozza, where fire effect was infinitely greater, the charge of the brigade commanded by Pultz was enough to bring an Army Corps to a standstill. On these occasions, as on others more recent, it is not so much the power of the firearm as the ignorance or want of recognition of its *own* powers which have paralyzed the work and employment of the Cavalry. The dogma of the importance of the mounted arm rests not on experience but on theory, and in proof of the small value of purely theoretical opinions the writer draws our attention to the numerous instances in the war in Manchuria when it came to the "push of bayonet," although the utter impossibility of such ever again occuring had been almost mathematically proved by the theorists. Colonel Aubier then relates incidents from the campaign of 1813, from Gettysburg, from Custozza, from Vionville, and from the South African War in support of his contention that Cavalry is the arm of opportunity and that the moral factor is to be reckoned with no less than the material factors upon which the theorists base all their arguments: that, moreover, the moral effect of Cavalry has actually increased with the advent of the young conscript armies in place of the old professional armies, and that, despite the growth of *des forces ballistiques*, Cavalry continues to emphasize the existence and the superiority of *des forces morales*. It is idle, says the writer, to endeavor to estimate the value of Cavalry by the actual losses which it inflicts or is capable of causing. In no single one of the instances recorded above by Colonel Aubier were the actual casualties caused by the Cavalry worth considering, and yet the tactical results were immense, and for this reason he urges that in estimating the effect of Cavalry action the tactical result, and not the numbers sabered or ridden down, should alone be taken into account. It cannot be too much insisted or too often repeated that Cavalry by its property of speed is essentially the arm productive of surprise, of opportunity, of *renversement d'equilibre*, capable of creating in critical moments a moral crisis, when its opponents may be tumbled

into ruin—moments when it matters little whether the enemy is armed with flint-locks or repeating rifles.

Colonel Aubier ascribes the past successes or failures of the mounted arm to the presence or absence of commanders who have known how to get the best out of it, and in order to start upon a like base and a guide for this point, which he proposes to labor, he proceeds to go back a hundred years and examine into the causes which made the Cavalry of the *Grande Armée* so extraordinarily effective an instrument of offense. He reminds us that in 1805 the Cavalry was contained in eighty regiments—fourteen heavy, thirty-six of dragoons, and twenty-six of light Cavalry—each of four squadrons of two companies, each 100-120 strong. In round numbers there were, therefore, 65,000 horsemen out of a total effective strength of 345,000, so that in those days the mounted arm constituted about a fifth of the whole force. Neither these numbers nor this proportion, however, satisfied Napoleon, who two years later pressed for bigger regiments, for squadrons 300 strong, until in 1812 his Cavalry numbered 100,000 men. In regard to the organization of this immense mounted force Colonel Aubier reminds us that under Napoleon there was nothing answering to the present organization in Cavalry divisions and divisional Cavalry. In peace time the Cavalry *was* territorially attached to Army Corps for purely instructional purposes, but then peace was hardly the normal condition of affairs under the First Empire. As a matter of fact, in time of war there was no fixed and immutable system of Cavalry organization, but at the commencement of each campaign the Emperor apportioned to each corps a body of light Cavalry, the strength of which varied with the importance of its mission; it was not, however, definitely attached for good and all, and changes were often effected in the course of the campaign, and particularly on the eve of a battle. But the whole of the remainder of the Cavalry formed a huge reserve under his own hand, often containing from 100 to 150, and even to as many as 250, squadrons. Thus in 1805 the 1st Corps (Bernadotte) had four regiments of Cavalry attached to it; the 2nd and 3rd Corps (Marmont) had three each; the 5th and 7th (Lannes and Augereau) had each one only. On the other hand the Cavalry

reserve under Murat numbered 128 squadrons. Again, in 1809 the corps of Bernadotte and Lefevre had each five regiments, while Oudinot and Massena had each only two squadrons; in the reserve, however, there were 170 squadrons. By "reserve" is not meant a force retained for the close of a battle, but rather a reservoir of disposable forces, and it was altogether separate and distinct from the true Cavalry reserve, formed from the Cavalry of the Guard—a supreme reserve, rarely employed with success, as at Austerlitz, Eylau and Wagram, and less happily at Borodino and Waterloo.

The Emperor further recognized and insisted upon the special characteristics and scope of employment of his three descriptions of Cavalry. "The Cuirassiers, Dragoons and Light Cavalry," he wrote to his War Minister, "are to be looked upon as composing three separate arms, and no officer should ever be transferred from one to any of the others." To Murat he wrote: "I am sorry to see that the Light Cavalry and the Dragoons are not kept separate; they are two different arms." Lassalle, Colbert, Pajol, Curely, Meda, Pire and others were exclusively light Cavalry officers, as D'Hautpoul, Nansouty, Latour-Maubourg, and Caulaincourt were magnificent leaders of heavy Cavalry. Napoleon's light Cavalry was more generally employed on detached duties of all kinds—on advanced guards, reconnaissance, etc.—while the heavy Cavalry regiments were carefully held back for serious efforts and decisive moments. The Dragoons, again, were used to support either of the other Cavalries, sufficiently mobile to follow the light and of sufficient weight to, occasionally, take the place of the heavy Cavalry. The Emperor had also formed the intention of creating a fourth description of Cavalry in the *eclaireurs d'infanterie*, who were to be mounted on small horses and relieve the Cavalry of all duties which removed it from its more legitimate employment; of these a squadron of 360 men was to be allotted to each Infantry division.

The strategic Cavalry was never sent by Napoleon on any vague missions; Murat and Lassalle were always told where and how far they were to go and exactly what was required of them and their commands. See Napoleon's orders during the deployment on Ulm, after capitulation, and during the advance

on Vienna, and again in 1806. His employment of his Cavalry was characterized by *l'audace et la force;* his Cavalry reconnaissances were conducted by specialists; he knew how to adapt his means to the end, and prior to Austerlitz and Jena, while his Cavalry was still young and inexperienced, he was careful to see that his detached parties were numerically superior to those of the enemy. Later, when he was satisfied that his Cavalry had the upper hand, his measures were bolder, while after 1812 he returned to his former and more prudent methods. But Colonel Aubier insists that it was the excellence of his Cavalry during his chief campaigns and the methods of its employment which enabled the Emperor to discover betimes the plans of his opponent, to veil his own, to maneuver on a clear field, to keep the initiative in his own hands.

So far as the tactical *role* of his Cavalry was concerned, when the various *corps d'armie* had received their allotments of Cavalry, the remaining squadrons were grouped and employed in from one to three masses, according to the situation and requirements. These masses were placed in immediate proximity to the line of battle, and frequently, as at Eylau and Borodino, remained under fire. By keeping his squadrons in such close proximity to the point of probable action they were more quickly available, and their charges and intervention in the fight were more decisive than if they had been held back further from the scene. The actual position varied with each battle; at Austerlitz the Cavalry was massed on the left, only the Cavalry of the Guard—the true Cavalry reserve—being behind the center; at Eylau the whole of the Cavalry was in rear of the center, while at Friedland the Cavalry was contained in four groups, of which the largest—the divisions of Espagne and Grouchy—was behind the left wing. But if the Cavalry was well placed for action it was employed with equal energy and vigor: at Austerlitz the charges under Murat, Rapp and Bessieres; at Eylau Murat's final charge at the head of eighty squadrons; at Essling the help afforded Lannes and Massena by the Cavalry under Lassalle, Nansouty and Espagne; at Wagram the charge of Nansouty's Cuirassiers; and at Borodino the resistance of the Russians finally crushed by the Cavalry charges which cost the lives of Montbrun and Caulaincourt, who led them. While,

we see again, when the Cavalry of the *Grande Armée* had disappeared or deteriorated, the victories of Lutzen, Bautzen and Dresden remained indecisive.

The battle tactics of the Cavalry of the First Empire were simplicity itself. Placed close to the front, it was drawn up in successive lines of regiments or brigades, with the Light Cavalry in front, behind them the Dragoons, and in rear of all the Cuirassiers. The lines thus placed one behind the other formed *une colonne serree.* It attacked in successive lines of regiments or brigades at varying intervals, according to the course of events. After the charge or the *melee* the rally was to the flanks, where column was rapidly formed in order, if necessary, to advance again by passing through the intervals of the supporting lines. There was little occasion for maneuver, owing to the proximity of the Cavalry to the front, but all movements were executed at the trot, the gallop only being sounded for the last 100 or 150 yards. Practically the only maneuver attempted was to take ground to the right or left and form again to the front; the success of the charge was due to the irresistible onset of the successive lines and the skill in the *melee* of the individual swordsmen, the whole constituting a moral factor of the first importance and value. The writer then passes in review the Cavalry commanders of the Napoleonic era, from Murat—a fantastic figure uniformed *en tambour-major*—to the minor satellites who revolved around him and who were worthy leaders of the magnificent Cavalrymen who followed them.

Colonel Aubier then asks himself the question, Why, the Cavalry arm having attained such super-excellence under Napoleon, has it come to pass that in none of the succeeding wars from 1815 to 1870 is there any trace of the same *emploi intensif?* The same thing had already been before noticed in the Prussian Cavalry of Frederick: in both Cavalries there was a period of uniform success; in both of them when at their zenith the principles of organization were simple, the distribution supple and elastic, the commanders young and brilliant, and the employment of the arm was the actual embodiment of the offensive spirit. Either Cavalry attained its apogee, followed by a period of decadence; each in turn was content to rest upon

its past fame, to rely merely upon tradition, until reverses and disaster led each in succession to examine into and correct the causes which had resulted in its overthrow. The author finds that during long years of peace men fall back upon mere formula, trust to theory rather than to practice, consult schoolmen rather than leaders; that during peace time the natural tendency is to place undue reliance upon regulations, form and *dilettantisme tactique*, while overlooking the factors of energy and overpowering moral force which, through all material changes in armament, must ever remain among the keenest weapons of Cavalry. In proof of the errors into which even brilliant Cavalry leaders have been tempted when induced to try and put into rigid formulas the solution of the questions which have confronted them for instant decision in the field, Colonel Aubier mentions the Cavalry regulations of 1804, drawn up, or at least signed by, men like Nansouty, Klein, D'Hautpoul, Kellermann and others, and which constituted a very monument of form, a *vade mecum* for mere schoolmen rather than a doctrine for the guidance of leaders. It took the Prussian Cavalry sixty years of patient labor to return to the main principles of Cavalry employment, and even then their teachers—Wrangel, Prince Frederick Charles and von Schmidt—did not succeed in evolving a Cavalry of high ideals. In spite of the inaction and lack of initiative in the French Cavalry in 1870 the strategic employment of the Prussian horsemen effected nothing, since they never left the neighborhood of their armies, while they effected even less when employed tactically. Rezonville is given as the only occasion when the Prussian Cavalry achieved a real tactical success, and then they were used by the higher command for a definite purpose and at a given moment—all in the old Napolenoic way. Bredow's charge immobilized the corps of Canrobert, that of Redern overthrew the Artillery of the 2nd Corps, the Dragoons of the Guard checked Cissey's division, and Rheinbaden threw his opponents into disorder. These results, moreover, as Aubier is careful to point out, were effected with a loss which is as nothing to that suffered on occasion by the cavalry of the *Grand Armée*. The eighteen regiments engaged had one thousand casualties—that is to say, they lost a tenth of their effectives. Indeed, of the 65,000 German

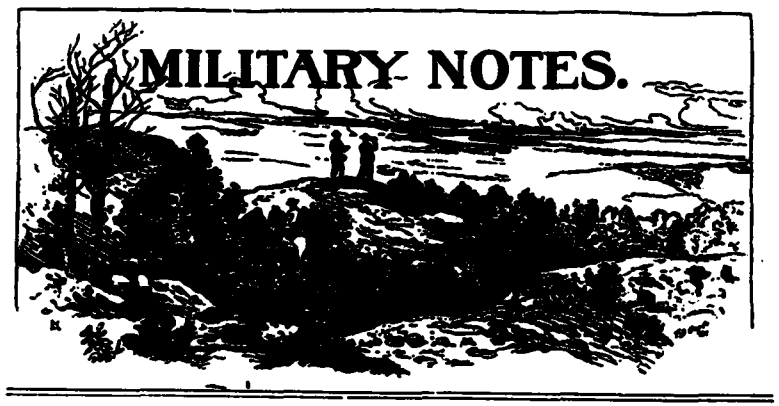
horsemen who crossed the frontier into France in 1870 no more than 3,000 were killed and wounded during the war. Compare this with the Cavalry losses in Napoleonic days: at Eylau and Essling, at two battles, and in the days of flint-locks, the French Cavalry sustained greater losses—divided, moreover, among some twenty regiments—than were endured by the whole body of German Cavalry during the war of 1870. How are these facts to be reconciled with the statements of those who would have us believe that the superiority or impotence of Cavalry depends upon variation in the armament of those opposed to it? "Hypnotized by the dogma of the power of small arms, the Cavalry often hesitated in the war of 1870 to venture across the bloody threshold of the gate of victory."

After the war of 1870 men stated that Cavalry was no longer a weapon for the battle, that all that could be asked of it were certain vaguely defined duties of reconnaissance; it was then recognized that opposing Cavalries must meet and fight, and by both German and French authorities it was conceded that the first duty of Cavalry is to defeat the Cavalry of the opponent, while many efforts were made to formulate a doctrine of profitable employment. This heroic age, when it seemed that Cavalry should be employed again in masses and by shock, was followed by the Russo-Turkish, the South African, and the Manchurian campaigns, where such methods were impracticable, and a reaction set in in favor of the employment of smaller units and of fire action. But, in regard to the value of abnormal experience, Colonel Aubier's remarks may be quoted in full and in the original: "*ce qui s'est produit au Transvaal et en Mandchourie, ou il n'y eut jamais de terrains ou d'operations presentant l'analogie même la plus lointaine avec les terrains et les opérations d'un théatre deguerre, curopêene; on d'antre, part, il n'y eut de cavalerie que d'un seul côte; oie l'emploi de cette cavalerie fut manifestment défecneux, ne pourrait constituer qu un enseignement purement négatif.*" We, he declares, have not to consider abnormal conditions, or to propound abstract theories, but our duty is to hold ourselves ready at all times for every portion of our *role*—not to confine ourselves to exploiting some novel and narrow doctrine.

The writer then draws attention to certain paragraphs in the new German Cavalry regulations, whereby it is clear that while admitting the need for frequent intervention in the fire-fight the doctrine of employment in mass and mounted is preserved intact; that while there may be occasions, limited by circumstance and by *terrain*, when dismounted work must be done, there will frequently be others when they will simply not be enough time available to prepare for the fire-fight in face of a mounted opponent resolved to come to close quarters.

Colonel Aubier then reminds us anew that Infantry must breathe an atmosphere of security, and that Cavalry alone can insure this for that arm; that, in order to retain in our own hands the complete control of the operations, a well-trained and numerous Cavalry is absolutely essential; that mainly by shock must the opposing Cavalry be swept aside; and that Cavalry must, in the future as in the past, remain the arm *de renseignement et de bataille*. He then devotes a long and searching criticism to the different methods of employment of French and German Cavalry—the Cavalry tactics of Frederick as modernized by Moltke, and those of Napoleon; of the line as opposed to the *échelon*. He shows that by the year 1876 each of these Cavalries had evolved normal types of combat which were practically the same; then they thereafter diverged, and that they have recently again arrived, by devious paths, at methods of Cavalry employment which in both letter and in spirit are to all intents and purposes identical.

The author concludes by affirming again that the foundation of the tactics of Cavalry is not to be found in the text of regulations, but in the brains of the leaders and in the hearts of the men, and that the real strength of this arm lies in a proper understanding of the importance of the moral factor and in guarding jealously *l'idée de la guerre*, which last is in danger during peace of becoming distorted or obscured, or even altogether lost in the mists of rule and formula.



REORGANIZATION.

Editor Cavalry Journal:

Your favor of recent date in regard to the reorganization of our cavalry, coming at a time when almost everybody, in and out of Congress, is advocating remedies for curing the ills from which our army is supposed to be suffering, led me to wonder whether we really have an army or not, and if we have how it has managed to exist as long as it has. The army is not quite so bad as it is painted, and, in my opinion, defective organization is by no means the greatest evil from which it is suffering today, unless we give to that term a scope far beyond its ordinary meaning.

Armies are created and given an organization so as to be able to fight when war comes. If at the critical moment they fail, then evils exist calling for remedy. It should be remembered, however, that while improvement and progress require change, change does not necessarily mean progress.

In our service I should say that the paramount evil is the inability of our army to pass from a peace to a war foot-

ing without practically destroying, for a time, the efficiency of the whole fighting machine. Either we must keep our units practically at war strength, or a reserve of both *personnel* and *matériel* must be maintained so that a change from a peace to a war footing can be made with a minimum of disturbance. A fifty per cent. increase of untrained men is fatal so far as immediate military operations are concerned, and no change of organization will help matters so long as we adhere to this pernicious principle.

If we really are to improve the condition of our military establishment, we must consider many questions not ordinarily regarded as affecting the organization of units as small as a regiment. So intimately related are the subjects of organization and tactics, we are accustomed to say that the former grows out of and is dependent upon the latter. This is in a great measure true, but there are many other questions that have a bearing and about which military men differ. In the end, therefore, when our organization leaves the hands of the law-makers, we shall find it to be more or less of a compromise and not wholly satisfactory to any one.

What is the military policy of the United States? Can we devise a satisfactory organization for any arm of the service without a knowledge of this policy? Is it wise to attempt a reorganization of the cavalry in advance of a consideration of the needs of the whole military establishment? In other words, is Congress disposed to continue piecemeal legislation for the army when it has under advisement a Council of National Defense? Can the cavalry be properly organized along lines independent of the scheme of organization adopted for the infantry? Shall we adopt an organization that will permit the incorporation of units of the organized militia into regular cavalry regiments? Do we want small cavalry regiments? If so, why? If we adopt the small regiment, is not the regimental band too great an impedimentum for service in war? What is the genius of our people so far as warfare cavalry is concerned? Is our system of recruiting satisfactory, or would it be better to have local regimental recruiting and corresponding depots? These are some of the questions, but not all.

Gradually one conviction has been forced upon my mind, a conviction that seems most natural when time is taken to consider the history of our attempts to reorganize or increase the regular army. As a rule, no logical or consistent policy has been followed, the several corps, arms and departments having been increased or reorganized from time to time in accordance with the interests and influence of the officers most concerned. The result is not unlike the now famous patchwork quilt, the difference being that the army is never completed, each piece added calling for another somewhere else. An increase in one branch accelerates the flow of promotion in that branch and leads to efforts in other branches to secure in some way a like advantage. Harmony in the service cannot exist where conditions are such that the personal interests of the individual become the paramount consideration. In other words, no satisfactory organization of the army, or any part thereof, can be *devised and maintained* without first establishing, for peace, a parity of promotion throughout the combatant branches.

Furthermore, to secure efficiency the flow of promotion must be reasonably rapid. It is all very well to say an officer should do his duty irrespective of the question of promotion, but human nature is human nature the world over, and is changed but little by the coat or insignia a man may wear.

To determine the organization most suitable for our cavalry, we must study our history, the traditions of our people, and the most probable requirements of our service. Take the best that Europe or any other country may have to offer, but don't blindly follow a custom simply because it is in vogue in the army of some militant power. Custom may be responsible for faulty conditions that only the test of war can change.

The European cavalry regiment varies from 500 to 900 men, and the tendency seems to be in the direction of increase in size. There is here, then, little argument for reducing our cavalry regiment, for we shall seldom have regiments 1,000 strong, even with our present organization. Personally I have always been in favor of the three-platoons, three-troop, three-squadron regiment. This organization

seems to be tactically sound for small bodies, and would enable us to meet other conditions that must be considered. Some of our best officers argue for the retention of the four-troop squadron, but with the advent of the machine gun, and the possible addition of a depot unit, the regiment becomes too large, and the proportion of junior officers too great. Promotion is too slow now. The adoption of the three-troop squadron would liberate forty-five troops and enable them to be formed into five new regiments. This would give a flow of promotion consonant with the needs of our service; but, as stated above, and this is said without a spirit of criticism, any attempt to bring about such an organization would meet with opposition from the other arms, unless an equal promotion were accorded them. Perhaps by providing that the five new regiments should be commanded by lieutenant-colonels, this organization might be secured.

The personnel of such a regiment would be as follows:

Squadron.	Regiment.
Headquarters, Three troops, each of about 90 men.	Headquarters { headquarters detachment, band.
	Three squadrons, one machine gun troop, or whatever organization the new machine gun may require.

At war strength this regiment would consist of about 1,000 officers and men. A depot unit would, of course, be in addition to this.

It is claimed that the tendency of our cavalry is towards fighting on foot. This tendency must be combatted and the spirit of shock action rigorously maintained. Shock action, however, requires weight, and this calls for regiments of good size. Again, with the same cavalry strength, the greater the number of regiments, the greater the cost in officers and in the service of supply. These matters must be taken into consideration, for it is certain Congress will not increase the cost of maintaining the cavalry.

As to the smaller units, nothing could be worse for service in war than the two-troop squadron. As to the three or four-troop squadron, each has its advocates, but for reasons given above, I am in favor of the three-unit idea.

In conclusion let me say that I do not think it wise to attempt a reorganization of the cavalry unless it be part of a general scheme for reorganizing the whole army. More than this, I believe we should oppose by all honorable means any attempt to increase any arm, corps, or department, unless such increase be in pursuance of a comprehensive policy for increasing the efficiency of the whole military establishment.

D. H. Boughton,
Lieutenant Colonel, General Staff.

War College, Washington, D. C., June 18, 1911.

THE CAVALRY SABER.

To the Editor Cavalry Journal:

Seeing that some discussion is now being had regarding the proper shape of the blade of our cavalry saber, I send herewith a cut of a saber which answers the requirements as I see them.

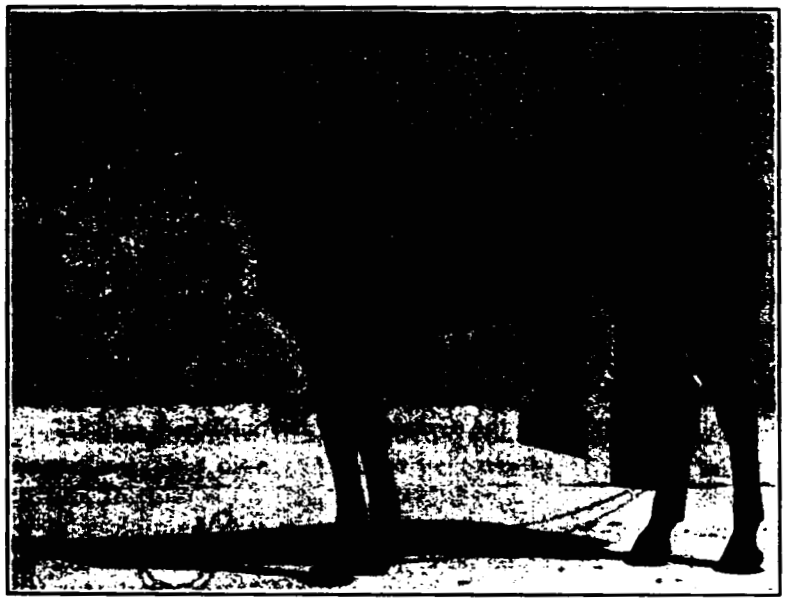
The cut is taken from the report of Captain George B. McClellan's report of the Crimean War, published in 1857.

It will be noted that the blade is quite straight except near the point, where the curve is very pronounced. The effect is to give the greatest cutting component at the place where the blow is most apt to fall, while the blade is straight enough to give sufficient thrusting effect.

Alonzo Gray,
Captain Fourteenth Cavalry.

THE INTERNATIONAL HORSE SHOW AT OLYMPIA.

While our cavalry officers that represented the United States at this, in many respects, the greatest of horse shows, did not carry off the honors that it was hoped they might win, yet the published reports of the show indicate that they



"POPPY."

A Government mount from Fort Riley Mounted Service School. Entered in the London International Horse Show Jumping Class. To be ridden by Lieutenant A. R. Chaffee, Jr., 15th Cavalry.

did creditable work and have no reason to be ashamed of the results. It was undoubtedly due to the inferior mounts furnished them, the short time which they had to train and become accustomed to these mounts and possibly to their limited experience in such shows that they did not appear higher in the list of prize winners.

Of them and their work, *Bit and Spur*, in the July number, has the following:

"'Poppy,' ridden by Lieutenant Adna R. Chaffee, gave an almost faultless performance in the jumping contest, and 'Ottawa' and 'White Marsh,' ridden by Lieutenant Johnson, performed well, as did also 'Roustabout,' ridden by Captain

"DUKE OF ASHLEIGH."

A nine year old gelding purchased for $2,000.00 from Roger Bayley of Virginia. Entered in the Charger Class in the London International Horseshow.

George Vidmer; but Americans have not figured in the jumping prizes to the last advices, the Belgian, German, French and Russian officers, being even more successful than the British"

Herewith are reproductions of photographs of three of the horses entered and ridden by some of our officers at this show.

E. B. F.

"YELLOWSTONE REGENT."

Owned by Major Henry T. Allen, General Staff, U. S. A. Winner of blue ribbon at the Washington Horse Show. Entered in the London International Horse Show

THE MONTREAL HORSE SHOW.

The following is a brief extract from a report of the horse show held at Montreal, May 9–13, 1911, in which several horses from the Tenth Cavalry, at Fort Ethan Allen, were entered:

"Three public horses selected one each from Troops "A," "F" and "G," were shown by Lieutenants H. R. Adair and E. M. Whiting, in classes 93 and 95, and those from Troops "F" and "G," in class 94. These classes were all shown over four jumps, post and rails, stone walls, triple bars and regiment of soldiers, all four feet high, twice around.

They were open to officers of all nations. Classes 93 and 94 to regular or militia forces, ownership or description of horses not required. Class 95 was restricted to officers of permanent forces, and to horses owned by the officers, or their government, and used for military purposes.

In class 93 the horses made a creditable performance, but were not placed.

In class 94 the pair secured honorable mention, fourth place.

In class 95 Lieutenant Adair, riding the horse from Troop "A," won first prize, blue ribbon and cup.

Lieutenant Bruce Palmer took a leading part in the selection and schooling of these horses, but owing to a fall in schooling, resulting in a broken wrist, was unable to attend the show.

Two polo ponies were also shown by Lieutenant Muller and one by Lieutenant Adair. They made a creditable performance, but were not placed."

RANK IN FORMATIONS.

Cavalry Drill Regulations, paragraph 593, that in squadron formation troops shall be arranged according to the rank of their captains. Also, if captains are absent their troops take places according to the rank of the officers present in command of them. Also, if a captain is absent for a few days or commands the squadron for a few days, his troop retains its place according to his rank, unless otherwise directed.

In paragraph 746 the same idea is carried out for the placing of squadrons in the regiment, though the colonel may direct such order as he pleases.

In paragraph 810 seniority determines the positions of the regiment in the brigade, unless otherwise directed by the general.

This is confusing in the case of paragraph 593, as an absence of a few days is not definite, and in all cases is poorly conceived. Regiments in camp should have companies placed alphabetically. Then there is never any confusion. Also at all formations "A" troop should be on the right, "B" troop next and so on. There is not enough preference to pay for worrying over position. Squadron commanders are frequently coming to adjutants to know where their squadron goes because some major is sick or absent a *few* days.

When troops go into formations alphabetically, squadrons and regiments numerically, no confusion ever exists. A commander can always tell where a particular organization is and adjutants and messengers go at once to the proper spot to deliver orders. This will have no effect whatever on the order of march and the changes necessary from day to day for advance guard and other duty. On going into camp it is easier when every one knows exactly where to go. The Quartermaster, who may get into camp in advance and who may be ready to distribute supplies, can throw them along the line at the proper places without looking up the adjutant to see in what order troops are to be encamped.

Let the writer of the next drill regulations remember this and revise accordingly for simplicity.

LOONY TROOPER.

IMPORTANCE OF NOW DECIDING UPON ARMS TO BE CARRIED BY CAVALRY.

The time has arrived when every effort possible should be made to modernize our Cavalry, organized and armed as no other cavalry in modern history has ever been, and wholly at variance with the practice of all the civilized world, including oriental nations. The reorganization can be properly effected only by legislation, but the determination of its arms is an administrative measure.

The more progressive elements of the Cavalry are keen to eliminate the revolver, save for officers and non-commissioned officers, leaving in the ranks a first-class rifle (or carbine) and a saber that can be effectively used for cutting as well as thrusting.

The conservative elements reason as follows: We cannot train in all our weapons (horse, two shooting arms, and saber); we cannot give up the saber, and we don't want to give up the revolver.

There are probably a few who would drop the saber and keep the revolver. There are also a few who are awaiting evidence and additional experience.

It is in vain to hope that the cavalry service (or any other army contingent) would fully unite upon any important measure. To postpone action in case of the revolver for further trial would be fruitless, and would eventuate solely in conserving the *status quo*. Had the establishment of the General Staff Corps been left to the vote of the army, it is safe to say it would have been turned down by a considerable majority. The same policy that brought into existence a corps that all advanced nations possessed should operate in the present case. The practice of all nations approves the measure, and it is supported by the following: The Assistant Secretary of War, General Murray; Inspector General Garlington, Generals Crozier, Allen, Macomb, Colonels McClernand and Parker, and various others.

At present the greatest complaint as to successful cavalry training is the excessive time required for target practice, and, while the effort to standardize cavalry training and reapportion the time required therefor is under consideration, it is advisable to determine what its arms shall be. This is doubly important for the Cavalry Equipment Board, which assuredly should know in advance what to equip for, and, therefore, how to adjust the weight.

Since the regular cavalry is to serve as a model for the organized militia and volunteers, there are yet stronger reasons for simplifying the armament and bringing it within the limit of modernity and practicability.

There has not been offered any substantial argument against the statements made in the original memorandum, nor is it believed it can be effectively answered. Furthermore, the arguments advanced in behalf of retaining the revolver might almost equally well be made in behalf of hand grenades or of any other destructive instrument or tool that might have been put in the hands of the Cavalry.

H. T. A.

THE RUSSIAN SOLDIERS' BARRACK LIFE.

BY AN OFFICER ABROAD.

In winter the day starts, not with reveille, but by the men being awakened in barracks at 6 a. m. by an orderly, when they rise at once. Those on duty then proceed to police up the quarters and to bring in wood for the stoves and hot water for the morning tea. All clean up for the day and each section is inspected by the N. C. O. in charge, who is required to devote particular attention on one day to the condition of the uniform, on the next to the arms, on the next to the boots, and so on. No regular breakfast is served, but hot tea is on hand and can be had up to 8 o'clock—this with black bread constitutes the morning meal.

At 8:30 a. m. the military exercises for the day begin. They consist of rather elementary gymnastics, drills, use of the arms, including pointing and aiming drills. When the weather is cold these are held in covered sheds for the infantry or in the riding halls for the cavalry; when practicable, they are supposed to take place in the open air, but one never sees this actually carried out in the Russian winter.

Dinner is served at 11:30 a. m. in the common dining room and consists principally of cabbage or some other soup served in big basins or bowls. Each bowl contains the ration for four men who gather around it. No plates are used and each of the four gets busy with his spoon in the common bowl. Pieces of meat are distributed, spiked on sticks, to each squad of four, who will agree among themselves how to eat it, either separately or cut up and put in the soup. Gruel, usually barley, and bread are given almost without limit. After dinner the men are free to do what they like till 1:30 p. m. At this time the afternoon work is taken up, the first hour being a continuation of the morning exercises. From 2:30 to 3:30 p. m. is the daily school, at which the junior officers are required to be the instructors. Owing to the large mass of the conscripts being from the peasant class and illiterate, this schooling is quite elementary. The lessons consist in learning to answer by heart and in unison questions regarding military service. A standard question is: "Who are our enemies?" In one regiment this is answered: "All who do not belong to our Holy Mother Church," in another in reply to the same question all reply together: "Our enemies are divided into two classes, first the external enemies, second the internal enemies"; to the question, "Who are our eternal enemies," they reply: "The Germans and the Gentlemen English"; "Who are our internal enemies?" their answer in unison is: "First the Jews, second the Poles, third the students."

Besides these, the regimental history is outlined to them and some little attempts are made at reading and arithmetic. At 3:30 the day's work is over; in the cavalry an extra hour is devoted to the care of the horses, stables and equipment.

From this time the men not on some special duty are free till supper, which is served at 6 o'clock. The food at supper

is the same as at dinner, but without gruel; unlimited tea is given. After supper the men are free to do as they like, receive visits, or, with the permission of the sergeant major, to leave the barracks till 9 o'clock. At this hour the daily roll call is held, details and any special instructions for the next day are given out.

During leisure hours chess is played in some regiments, in others there is music or some sport. What form the amusement may take depends very largely on the initiative of the officers. In certain of the regiments there is a billiard room, but this is reserved for non-commissioned officers.

On Sunday there is compulsory attendance at church service, and in the afternoon there are, for some, conversation lessons with the priests; the others are allowed out on pass, if they so wish, till roll call. For an extension of leave special permission is required.

After the daily roll call at 9 p. m. tea is usually again served till 10 o'clock, when the lights are lowered, and, after joint prayer, the Russian soldier goes to bed.

A LETTER BY NAPOLEON.*

Physical activity—the question of retirement.

The repeated efforts of the lamented General Brun to eliminate from the army every weak element—every officer not capable of field duty—are well known.

Last October a famous circular by him, calling the attention of corps commanders to their duty on this subject, established the corner stone of the structure which the law should erect in the matter of the retirement of general officers.

It was justly thought necessary to warn the minister against those officers who, feeling the heavy responsibility of the regulation, would be unwilling to report a moral inferiority

*Translated from La Francaise Militaire, April 9-10, 1911, by Major W. C. Davis, for the Committee on Military Information.

or a physical incapacity, unless it were such as to contravene seriously the purpose of the regulation.

When the law which he had prepared was about to come up before the Senate for discussion, our readers saw with interest the unedited letter which Napoleon, on February 22, 1814, addressed to Marshal Augereau, who is acknowledged to have been one of his most energetic marshals. This masterly admonition, whose every line breathes the spirit of fight and displays the superhuman energy of the man who could compose it between two combat orders, should indicate to our chiefs for all time their most sacred duty, and should sound like a clarion blast the unalterable law: "If your sixty years weigh too heavily upon you, get out!"

In reading this, one understands still better the irresistible ascendency of this man, who, imperturbable himself under shot and shell, obtained from his soldiers "whatever he wished."

Nogent-upon-the-Seine, 21 February, 1814.

To Marshal Augereau, Duke of Castiglione:

My cousin, the Minister of War, has shown me your letter of the 16th. This letter gives me much pain. What! six hours after having received the first troops coming from Spain, you are not already in the field! Six hours of rest should suffice for them. I fought at Nangis with a brigade of dragoons from Spain, who had not unbridled since leaving Bayonne.

The six battalions of the Nismes division, you say, need clothing and equipment and are uninstructed. What bad reason do you give me there, Augereau? I have destroyed 80,000 of the enemy with battalions composed of ill-clad conscripts without cartridge boxes.

The national guards, you say, are pitiable. I have here 4,000 of them, from Algiers and Brittany, wearing round hats and sabots, without cartridge boxes, but well armed; they have rendered me good service.

There is no money, you say? And how do you expect to get money? You cannot get any until we have wrested the revenues from the enemy's hands.

You lack wagons; take them everywhere.

You have no stores; it is too ridiculous.

I order you to take the field within twelve hours after the receipt of this letter. If you are still the Augereau of Castiglione, heed the order; if your sixty years weigh heavily upon you, get out, and turn over your command to your senior general. The country is threatened and in danger; it can only be saved by audacity and cheerful self-sacrifice, and not by vain temporizing.

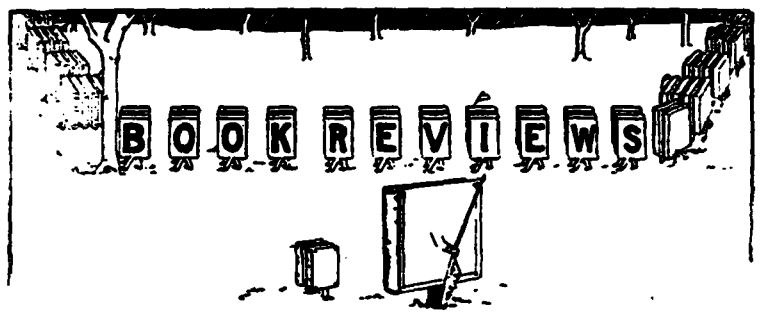
You must have with you a nucleus of more than 6,000 elite troops. I have not as many; nevertheless, I have destroyed three armies, captured 40,000 prisoners, taken 200 pieces of cannon and saved the capital three times. The enemy fled from all sides to Troyes.

Take your place on the firing line. It is no longer a question of acting as you would in former days; put on the boots and regain the resolution of '93. When the French see your plume on the firing line and note that you are the first to expose yourself to fire, you may do with them as you like.

Upon this, etc.

NAPOLEON.

P. S.—Unite the troops at Grenoble with the 7th Division, and keep the enemy out of the Vaud country.



Yin-Kou and San-De-Pu.*

The fifth volume of the German Official Account of the Russo-Japanese War bears the title of Yin-kou and San-de-pu. It is up to the standard of the previous volumes and maintains the reputation of these "Accounts" as the best history of the war.

This volume is of special interest to cavalrymen. It is about the only authentic account of Mischtschenko's raid that I have seen.

The question of raids is, by some, supposed to be a mooted one, but raids have been made heretofore and will continue to be ordered and made as long as the hoped for results more than counterbalance the need of the cavalry with the army. Certainly the raids of Forrest and Van Dorn in Mississippi in 1862 which compelled Grant to abandon his movement against Vicksburg was worth many more times its cost. It settled one campaign and was equivalent to a battle. Of course, this was about the most successful raid ever accomplished, but there are other instances of raids that

* "The Raid to Yin-kou and the Battle of San-de-pu." German Official Account of the Russo-Japanese War. Authorized translation by Karl von Donat. Seven maps and six appendices. Hugh Rees, Ltd., London. Price 8s. 6d., net.

influenced campaigns. Morgan, in 1863, kept Burnside and the Tenth Army Corps so busy for six weeks that this corps was prevented from entering Knoxville until September 3d, and unquestionably prevented the junction with Rosecrans and around the latter's depot at Chickamauga. While Stuart's raids were not productive of such tangible results, yet their value can never be determined from the information gained and given to Lee. For instance, on June 12th, Stuart started and made a circuit around McClellan's army, reporting to Lee on the 16th. His information cleared up all doubt as to the location of the Federal army and demonstrated the possibility of those movements which on the 27th culminated in the defeat of the Federal right wing at Cold Harbor.

On the other hand, there are many examples of raids made at the wrong time. Grant's detachment of Sheridan during the Cold Harbor campaign was productive of no valuable results and lost the service of the cavalry to his army when it could have been of great use.

Streight's raid into Alabama ended in failure and a study of this raid shows one good example of *when* and *how* raids should not be made. (See Compte de Paris for a description of this raid.)

Raids should rarely be made in an enemy's country. Union raids during the Civil War could be made without laboring under the disadvantage incident to raiding in the enemy's country on account of the help and information given by the slaves.

Mischtschenko, also, was not making his raid in the enemy's country, although I very much doubt if he received much information from the Chinese. However, it is believed the Russians had fairly accurate information as to the points most strongly occupied by the Japanese, so, at the start, the Russian commander should have had quite a clear idea of the situation and the most vulnerable points along the Japanese line of communications. While the maps were very defective, yet the Russians had been fighting and retreating over the ground now to be raided upon.

The following is copied from the text as showing Kuropatkin's idea in ordering this raid, pages 14 to 16, inclusive:

"I am of the opinion that at the present juncture it is of the utmost importance to bring about by cavalry surprise a thorough destruction of the railway between Hai-tschin, Taschi-tschao and Kai-ping. In that case the demolition of artificial structures like the bridges at Hai-tschin and Kaiping, as well as of stations, is of especial importance. Yinkou is to be captured in addition; the supplies collected there are to be destroyed. Terror must be spread in rear of the Japanese army.

"I appoint your excellency commander of the expedidition. The raid must come as much as possible as a surprise, be carried out rapidly and vigorously. The extent of the operations as regards time and space, I leave entirely at your excellency's discretion.

"The units have received orders to carry 200 rounds per man in the pouches and 24,000 rounds in the ammunition carts of each regiment. The pack animal column is to carry explosives and in addition bread and fodder for one day. Independent of this, Major General Ogovoritsch has been ordered to form a pack-animal column with a two days' supply of biscuit, barley, salt, tea, sugar and grain fodder for the horses and to have it ready at your disposal in Szo fan-tai by the evening of January 7th. There will, moreover, be established in the village of Szo-fan-tai by the evening of January 8th a depot containing five days' supply for your whole corps. Thither, also, will be driven sixty cattle to be at your disposal.

* * * * * * * * * *

"Consider the demolition of the railroad in the portion indicated as the most important task imposed upon you. The operations against the railway line, conducting you into a territory completely exhausted, I shall add to the pack animal column another column of carts carrying two days' rations for horses and four days' rations for the men. These carts, drawn by picked horses, will not leave the corps, but serve as ambulances after having been emptied."

This order is clear and to the point. Its objective is a railroad, the only one from the Japanese army to their base. The destruction of two large bridges would most seriously cripple Japanese activity for weeks. It would seem that Kuropatkin understood what he was doing.

However, on January 7th, he ordered as follows:

"*To Mischtschenko:*—*I am sending you a map of the* country in rear of the Japanese army. Should the garrison of Yin kou turn out to be weak, an attack by surprise of that place is of the first importance."

Unquestionably, the destruction of all supplies is of more importance than the destruction of means of carrying those supplies, but it seems doubtful if all the supplies at Yin-kou had been destroyed that the crippling effect on the enemy would have been as great as the destruction of the two large bridges of the railroad. While it would have stopped action for awhile, yet activity in Japan and the command of the sea would probably have remedied the disaster more speedily than the repair of iron bridges could have been accomplished. Yet either object being accomplished, the raid would well have repaid all its losses.

The description of the raid is very good. The comments are excellent. No cavalryman should miss this work. From it he will learn what qualities are required in the leading of a raiding force and introspection will show him whether he possesses the requisite qualities. If he does not possess them, then he should school himself and obtain them, if possible.

In this case, only seventy miles were to be covered to Yin kou. If not made in thirty-six hours, under the existing circumstances, certainly forty-eight hours should have sufficed. However, we find the command making only eighteen to twenty-four miles per day, and when Yin-kou was reached much time was lost in making the attack. Then on the return, as nothing had been accomplished at Yin-kou and the detachment that had been sent to the railroad had done no damage, it was surely to be expected that a desperate effort would be made on the railroad. Such, however, was not the

case and the following remark quoted from the book is unquestionably deserved:

"General Mischtschenko, by his rapid departure, showed that he, like so many other Russian leaders, was bent less on carrying out his tasks than in keeping open his line of retreat at all costs."

One great point to be remembered in raids is the absolute necessity of secrecy, yet this raid was talked of in the Russian army long before it was made. Again, raids will not now be undertaken as much as formerly on account of the telegraph. When a raiding party can move about in rear of an enemy with little chance of its being known where next to expect it, success ought to follow, partially at least. But now, with the telegraph lines, wireless telegraphy and aeroplanes, there exists ample means of spreading not only the intelligence of the appearance of hostile cavalry but also fairly accurate conclusions may be made as to where it will appear next.

The second part of the volume is given to the bloody encounter at San-de-pu. Like all the other volumes, great details are given and excellent maps appended. As stated before, this book maintains the excellence of the previous ones and gives the most connected history of the war and one best suited to military students of any that have thus far appeared.

WHITE.

Battle of Shiloh *

The military student may hope for a dispassionate study of the Battle of Shiloh, from the pen of a participant, but there is nothing in Mr. Rich's monograph to lead him to expect it. Each actor in that terrible drama seems to have been too thoroughly inoculated with the virus of controversy to be competent to tell his story without bias or partisanship. So in the volume under review. If it had not been so stated in the preface, after read-

*"The Battle of Shiloh." By Joseph W. Rich. Published by the Iowa State Historical Society, at Iowa City, Iowa.

ing Mr. Rich's narrative, no great indictive capacity would have been needed to deduce that he had fought with the Army of the Tennessee, and is ready to champion its cause against all comers, with scant regard for the validity of any opposing claims. His attitude is made clear by the evidence which he presents, and his criticisms thereon, but more especially by the evidence which he suppresses.

As an example, it is only necessary to consider his treatment of the testimony of the principal actors and eye witnesses. Where he quotes Grant or Sherman, he accepts their utterances as conclusive, and all evidence on which their testimony can be challenged is suppressed. On the other hand, he directly attacks the credibility of General Buell as a witness, and evidence which might corroborate his testimony is ignored.

To particularize, early in the text Mr. Rich makes the following assertion:

"On one point of some importance General Buell flatly contradicts himself. In speaking of the attack near the landing Sunday night, he says in *Shilo Reviewed* that the 'fire of the gunboats was harmless.' In his official report, written just after the battle, he says that 'the gunboats contributed very much to the result'—the repulse of the enemy."

This is a fair sample of the spirit of Mr. Rich's criticism. It is thoroughly *ex parte*, and is less remarkable for what it asserts than for what it ignores. In *Shiloh Reviewed*, General Buell is careful to menton that the statement with regard to the effectiveness of the gunboat fire came from Confederate sources. He doubtless had in mind the assertions of Polk (W. R. 10, p. 140), and Bragg (W. R. 10, p. 466). These officers were better able to state what were the moral and material results of the gunboat fire than was Buell or any other Union officer, and were not apt to belittle or underestimate the effectiveness. Their evidence is therefore the best available, and was put forward by Buell, as was his duty as a conscientious chronicler. There is no self-contradiction. The contradiction comes from Polk and Bragg. But Mr. Rich, who desires to show the impregnable character of the

artillery defense behind Dill's Branch, is obliged to exclude the gunboats as elements of strength, and the statement in Buell's report, based on uncertain and insufficient data, would have served his purpose much better, if it had been allowed to stand.

Again, he attacks Buell's statement as to the hour at which the latter arrived at Pittsburg Landing, on April 6th. Buell gives it at 1 o'clock. Mr. Rich, on the statement of Henry Villard (whom he elsewhere discredits as a witness) prefers to believe that it was "between 5 and 6 o'clock." But he ignores the testimony of Rawlins, Grant's adjutant general, who states that the interview between Grant and Buell, which took place subsequent to Buell's arrival, occurred at "about 2 o'clock." (W. R. 10, p. 186.)

But unreliability as a witness is the least of the shortcomings charged up by Mr. Rich against General Buell. He proceeds to make most grave charges against his character as a soldier. He accuses him of deliberately "holding up" Grant's order to Nelson for five hours, the order in question being as follows:

"HEADQUARTERS DISTRICT OF WEST TENNESSEE,

"SAVANNAH, April 6, 1862.

"*General William Nelson, Commanding Division:*

"An attack having been made on our forces, you will remove your entire command to the river opposite Pittsburg. You can obtain a guide easily in the village.

"By order of Maj. Gen U. S. Grant.

"JOHN A. RAWLINS,
"*Assistant Adjutant General.*"

The grounds on which this accusation is made are contained in a statement in Nelson's official report, to wit: "The Fourth Division * * * left Savannah, by order of General Grant, reiterated by General Buell in person, at 1:30 P. M." "The language," says Mr. Rich, "is a little ambiguous and doubtless means that the order was 'reiterated' about noon, or later, and that the march began 1:30, afternoon." So far as concerns the hour of reiteration this is pure conjecture

and, in the absence of supplementary evidence, might be used as logically to prove that Grant did not issue the order until noon. Mr. Rich attempts to fortify his statement by the evidence of Henry Villard (a discredited witness) to the effect that Nelson received Grant's order about noon; "by which," Mr. Rich again proceeds to assume, "he probably means the reiterated order." On this flimsy basis, mainly conjectural, Mr. Rich does not hesitate to assert that "in any event, it appears that General Buell 'held up' the order to Nelson fully five hours and then reiterated it." "Why," he queries, "did General Buell do that?" He does not answer his own question, but he makes it evident that the only acceptable reply would be: "To prove to General Grant that his authority stopped short of the Army of the Ohio; to punish his presumption in giving orders to a division thereof; to risk the destruction of the Army of the Tennessee rather than abate for one moment his adherence to a military punctilio." Fortunately for General Buell's reputation, conjectures and assumptions are not proof. Mr. Rich has failed to bring one shred of real evidence to show that the order was delayed for an instant by General Buell's reiteration. On the contrary, there is other evidence, well known to Mr Rich, which will serve to explain the causes of the delay—for delay there was unquestionably—without imputing to a distinguished officer so unworthy and unsoldierly a motive.

In General Jacob Ammen's diary (W. R. 11, pp. 330, 331, 332) it is stated that on the evening of April 5th, when General Nelson first arrived at Savannah, he was visited by General Grant. General Ammen, being present, suggested that the diviston push on that evening to Pittsburg Landing. To this proposal General Grant replied: "You cannot march through the swamps. I will send boats for you Monday or Tuesday." On the morning of April 6th Grant had evidently revised his opinion as to the possibility of the swamps, as is evidenced by his order to Nelson; but he did not pause for explanations. Nelson was therefore confronted by the problem of marching his division through an unknown swamp which Grant had declared impassable. It was inevitable that the advantages of a quick and easy movement by

water should at once occur to both Buell and Nelson. Some assurance of water transportation there must have been, for General Ammen goes on to state that shortly after the first sounds of battle had been heard by the troops at Savannah "General Nelson came dashing into our camp at the head of his staff, and gives me orders to be ready to proceed to the assistance of the Army of the Tennessee at Pittsburg Landing, either by the boats or through the swamp, if the officers and cavalry sent by General Buell and himself found a practicable route through the swamp. * * * Having my arms and ammunition in order, and the men ready to march, and no orders from General Nelson, I rode to the brick house (headquarters) on the river, and there met Generals Buell and Nelson, both very impatient, as there was no appearance of boats coming down the river from the battlefield. Part of those sent to the swamp had returned and reported unfavorably. The others were anxiously looked for, and it was hoped would find a route practicable for infantry at least. * * * The boats appeared to be the only means of reaching our companions in arms." Later, at noon, "The remainder of the officers and men have returned from the swamp without success." None of this evidence appears anywhere in Mr. Rich's narrative. He apparently accepts as conclusive Grant's assertion as to the ease with which a guide could be obtained, but neglects to mention that the "large, fine looking Tennesseean" who finally piloted Nelson through the bottoms did not appear until noon. "First, be sure you are right, and then go ahead," is as good a maxim in warfare as in any other business, and it is no wonder that Buell hesitated to commit Nelson to a route which Grant had declared impracticable—an assertion which his own reconnaissances had tended to confirm. On what assurance General Nelson based his expectation of water transportation does not appear. That it was available at Pittsburg Landing is beyond question. "No explanation," writes Captain Ephraim A. Otis, "in any of the published reports or dispatches has ever been given why part of the fleet of steamboats lying at Pittsburg Landing was not immediately dispatched to Savannah to

bring up the advancing forces of General Buell, though it would seem as if this should have received immediate attention." (Papers Mil. Hist. Society of Mass. Vol. VII, pp 184, 185.) When General Ammen arrived opposite Pittsburg Landing he says "the river was full of boats, with steam up," apparently employed to no better purpose than to afford shelter for skulkers. General Grant, whose influence on the battle of the 6th was of the slightest, might have used his authority to greater effect had he cleared these vessels of stragglers and sent them after Nelson. But Grant was of the Army of the Tennessee, and on his conduct and on that of any other general officer of that organization, save the hapless Lew Wallace, Mr. Rich has no criticism to offer. If he cannot praise, he is silent.

Another point is here raised by Mr. Rich. It is his evident assumption that in reiterating General Grant's order to Nelson, General Buell was guilty of a piece of gratuitous interference. "Why," asks Mr. Rich, "did General Nelson wait to have the order 'reiterated'? Why did he not obey the original order regardless of any dilatory order of General Buell, since the contingency had arisen under which by General Halleck's instructions General Grant 'was authorized to take the general command' of both armies; namely, an attack upon his own army?" To make out a vaild case against Nelson and Buell, Mr. Rich must first prove that the subject matter of Halleck's telegram of April 5, 1862, was known to both of them. There is good reason to believe it was not. Halleck's telegram was addressed to General Grant, and there is no evidence that either Buell or Nelson was aware of its existence. In fact, the presumption is all the other way. Halleck never ordered Buell to report to Grant for duty, nor hinted that there was any contingency under which the latter should assume command of the Army of the Ohio. Furthermore, Halleck had gone to some pains to assure Buell that the President's order of March 11th would make no change in the autonomy of the Army of the Ohio. (W. R. 11, p. 32.) If on the 6th of April, 1862, Buell had had the faintest inkling of the authority conferred on Grant by Halleck's telegram, he would hardly have dared to write: "I

do not look upon him as my commander." In the absence of the knowledge imputed to General Nelson by Mr. Rich, what more conformable to discipline and subordinatian, to say nothing of courtesy, than for him to secure, before marching, the approval of his immediate commander, then actually on the spot!

Save in the case of Lew Wallace, in dealing with the generals of the Army of the Tennessee, Mr. Rich is lenient to the point of charity. That Sherman, after the war, presented an apochryphal map to the Society of the Army of the Tennessee, with the assertion that it told the story of the battle, and that Grant approved the map in question to the extent of inserting it in his memoirs, is not permitted to impugn their credibility as witnesses on any point. No effort is made to place the responsibility for the errors of omission and commission; for the lack of elementary precautions; for the false strategical and tactical position of the army; for absenteeism, that Mr. Rich's narrative shows conclusively existed in that army. Moreover, he seeks to prove that the Army of the Tennessee was not surprised on the morning of April 6, 1862. He cites a number of cases in which contact with the Confederates had been established by the Union outposts and reconnoitering parties, and proves to his own satisfaction that the proximity of the enemy was known to many, and that some few had been rendered apprehensive thereby. Now, the main object of a surprise is to catch your enemy unprepared; taking him unawares is a secondary consideration. He who is always prepared, suffers little from an unexpected attack. From Mr. Rich's account it appears that all preparation to meet the impending attack was confined to one brigade (Peabody's) out of the fifteen camped at Shiloh, and that the measures taken in this brigade were the result of a premonition on the part of Colonel Peabody, and were without the knowledge or consent of higher athority. Further comment seems unnecessary.

But Mr. Rich makes a still more startling claim. Grant, in one of his dispatches to Buell on April 6th, states as follows:

"Heavy firing is heard up the river, indicating plainly that an attack has been made on our most advanced positions. I have been looking for this, but did not believe that the attack could be made before Monday or Tuesday."

"This note," says Mr. Rich, "clearly shows that General Grant, in common with his division commanders, was expecting an early attack."

Grant's note was written at a time when the sound of battle had resolved any (unspoken) misgivings he may have had previously, and reads strangely when contrasted with certain other utterances oral or written. Grant to Halleck, April 5, 1862: "I have scarcely the faintest idea of an attack (general one) being made upon us." (W. R. 10, p. 89.)

Grant to Nelson and Ammen, April 5, 1862: "There will be no fight at Pittsburg Landing; we will have to go to Corinth, where the rebels are fortified." (W. R. 10, p. 89.)

Sherman to Grant, April 5, 1862: "I do not apprehend anything like an attack on our position." (W. R. 11, p. 94.)

Message of General Sherman to Colonel Appler, Fifty-third Ohio, who, on the afternoon of April 5th, had reported a Confederate outpost within 500 yards of his camp: "Tell Colonel Appler to take his damned regiment to Ohio. There is no force of the enemy nearer than Corinth." (Papers Mil. Hist. Soc. of Mass., Vol. 7, p. 117.)

Report of a conversation between General Sherman and Colonel Hildebrand on the evening of April 5th:

"General Sherman asserted with emphasis that Beauregard would not attack—that he knew him well, and knew the 'habit of his mind'—that he would never leave his own base of supplies to attack the Union army at its base." (Papers Mil. Hist. Soc. of Mass., Vol. 7, p. 119.)

Sherman, on the appearance of Hardee's advance, morning of April 6th: "My God, we are attacked!" (Papers Mil. His. Soc. Mass., Vol. 7, p. 141.)

Sherman's official report: "About 8 A. M. I saw the glistening bayonets of heavy masses of infantry to our left in the woods beyond the small stream alluded to, and became satisfied for the first time that the enemy designed a determined attack on our whole camp." (W. R. 10, p. 249.)

When one considers that on the afternoon of April 5th the Confederate cavalry had the impudence to sit on the fence of the Rhea field and watch the Fifty-third Ohio at drill, it is in no way surprising that the troops nearest the enemy knew of their presence, and augured no good therefrom. To have failed to deduce strong and immediate support from the assured attitude of the hostile troopers would require something less than human intelligence. But that their superior officers credited the information furnished them, or made any correct deductions therefrom, one may harbor a doubt. Things being as they were in the Army of the Tennessee, Mr. Rich does these officers no good service in attempting to prove that they expected a serious attack.

Another deduction of Mr. Rich's appears open to question, and that is the matter of straggling on April 6, 1862. This he claims has been greatly exagerated, when the Army of the Tennessee is concerned. "There were 'stragglers' from both armies," he states, "and there is no reason to doubt that the numbers were substantially equal." On the contrary, there is every reason to doubt it. It is a military axiom that, when troops of equal quality are opposed to each other, tactical cohesion is more certain to be destroyed by defeat than by victory. Disorganization may be the price of a successful assault, but demoralization is apt to be the penalty of an unsucceesful defence. Now, while the Confederates, on April 6th, had suffered numerous local repulses, their line as a whole had gone forward from daylight till dark. On the other hand, in the same time, W. H. L. Wallace had been driven from one position, Prentiss, Hurlbut and Stuart from three, and McClermand and Sherman from six.

Mr. Rich's narrative concerns itself only with the fighting of the first day. The battle of April 7, 1862, being the Army of the Ohio's victory, he dismisses in a paragraph of forty-four lines.

Mr. Rich's statement that the colonel of the Seventy-first Ohio "was cashiered for his conduct at Shiloh" is incorrect. He was cashiered for the surrender of the fortified

camp at Clarksville, Tennessee, August 18, 1862. (See W. R. 22, pp 862–865.)

Mr. Rich's monograph is well written, well printed, and attractively bound. He does not bring out any new facts, and most of the evidence he adduces can be found in the account of the battle prepared for the Shiloh National Park Commission by Major D. W. Reed. Mr. Rich's narrative is most interesting, but it is not history. It is a special plea for the Army of the Tennessee. Mr. Rich challenges the account of Mr. John Codman Ropes because "he shows a prejudiced judgment against Grant, and in favor of Buell—whom he evidently admired." Mr. Rich is open to disqualification as an impartial historian on the same ground—to paraphrase the language, because he shows a prejudiced judgment against Buell—whom he evidently does not admire. With sufficient evidence at hand to contest General Buell's claims on purely technical grounds, it is unfortunate that Mr. Rich has marred his argument by an attack on that officer's character as a soldier. The "last word" on Shiloh is yet to be said. Mr. Rich has brought us no nearer to it. S. H. E.

Editor's Table.

CAVALRY REORGANIZATION.

As will be noticed, this number of the CAVALRY JOURNAL is largely made up of articles and reports on the subject of Cavalry Reorganization.

An examination of the several reports made on the experimental organizations being tried out at the maneuver camp at San Antonio, together with the well prepared article by Captain Hanna and the timely note from Lieutenant Colonel Boughton indicate that there is no difference of opinion as to the advisability of having a two-troop squadron, no matter how many squadrons there may be in the regiment. The reasons for not desiring this form of organization are convincing.

Many, however, do favor the three-troop, three-squadron regiment, with an additional troop composed of the band, machine gun detachment, orderlies, pioneers, etc., with or without one or more depot troops. Good arguments are advanced for this form of organization for our cavalry.

Yet there are others of our cavalry officers who believe that our present organization is not as defective as some would lead us to believe, and that, barring the desirability of additional promotion which all schemes of reorganization have heretofore carried with it, a few minor changes would perfect the one we now have.

As has been so well stated by both of the above mentioned writers, it must be taken for granted that no change which involves an increase of officers or a larger expenditure

of money for maintaining the cavalry branch of the service will be seriously considered by Congress. At the same time, there is a possibility of securing changes that do not involve an increased expense to the government and that possibly any one of the two proposed schemes suggested by Captian Hanna or others might be adopted.

An important point, and undoubtedly the most important of any evolved in this discussion, is the one so forcibly brought forth by General Carter that our cavalry should, at all times, be kept practically at full war strength and that the rushing into the cavalry service of a lot of untrained recruits on the threatened outbreak of war or in any sudden emergency was demoralizing and practically crippled the cavalry. Therefore, whatever organization may be urged or adopted, this essential requirement should be constantly kept in view and other minor points be sacrificed in order to retain this one.

Personally, the writer believes that the subject of cavalry instruction is vastly of more importance than is that of cavalry reorganization, and that our first object should be to work for a revision of our Firing and Drill Regulations, and then devise a progressive scheme of instruction covering fully and completely all that the cavalry soldier should learn as regards the handling of his horse, carbine, revolver and saber.

This course of instruction should be so arranged that, while possible allowing regimental commanders a certain latitude, no one should be permitted to devote too much time to any one branch of instruction to the neglect of another—this to head off the "*cranks*" on any particular subject—and that the saber instruction or other exercises should not be sacrificed in order to make a record with the rifle or carbine.

As to the Drill Regulations, many of the close order movements, particularly in the squadron and regiment, should be relegated to the scrap heap, along with "column of fours, march from the right to the left," and the time thereby gained be devoted to practical field instruction.

SUBJECT INDEX.

Herewith will be found a carefully prepared Subject Index of the twenty-one volumes of the CAVALRY JOURNAL that have been issued to date. This index has been compiled by M. S. E. Harry Bell, Library Assistant at the Army Service Schools, and will be found of great value to the cavalry student or others who desire to look up any particular subject. For such it will fill a long felt want.

Subject Index to the Journal of the U. S. Cavalry Association

VOLUME I TO XXI, Inclusive.

(NOTE.—Roman numerals indicate the volume and Arabic numerals indicate the page.)

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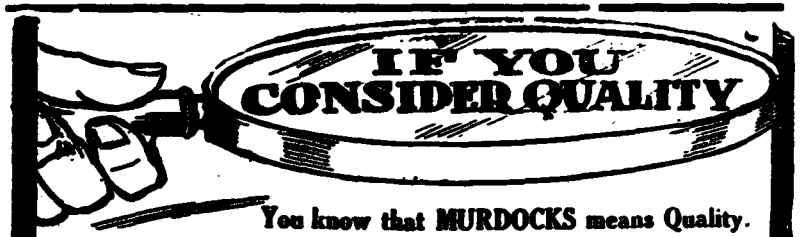

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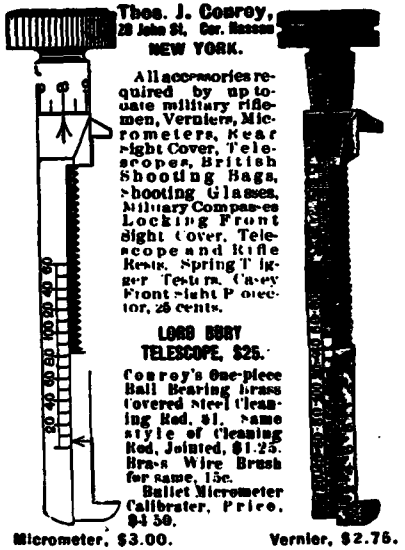

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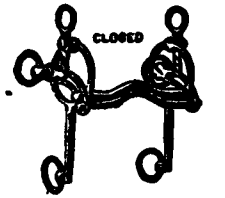

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JOURNAL OF THE U. S. CAVALRY ASSOCIATION

September, 1911.

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CAPT. GEO. VIDMER, 11th Cavalry, on ROUGEMONT.
CAPT. GUY V. HENRY, U. S. Cavalry, on ENCHANTRESS.
LT. E. F. GRAHAM, 10th Cavalry, on JUSTINE.
LT. ADNA CHAFFEE 15th Cavalry, on PUPPY.

VOL. XXII. SEPTEMBER, 1911. No. 86.

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JOURNAL

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THE OLYMPIA INTERNATIONAL HORSE SHOW.*

BY MAJOR FREDERICK S. FOLTZ, FIFTEENTH CAVALRY.

PRELIMINARIES.

ON April 24 I was detailed in charge of the team of officers selected as competitors for the International Horse Show at Olympia, London. The following officers had been ordered some two weeks earlier to Fort Myer, Virginia, and had already begun the training of a number of horses for the competition: Captain George Vidmer, 11th Cavalry; Captain Guy V. Henry, unassigned; Lieut. Gordon Johnston, unassigned; Lieut. E. F. Graham, 10th Cavalry, and Lieut. Adna R. Chaffee, Jr., 15th Cavalry.

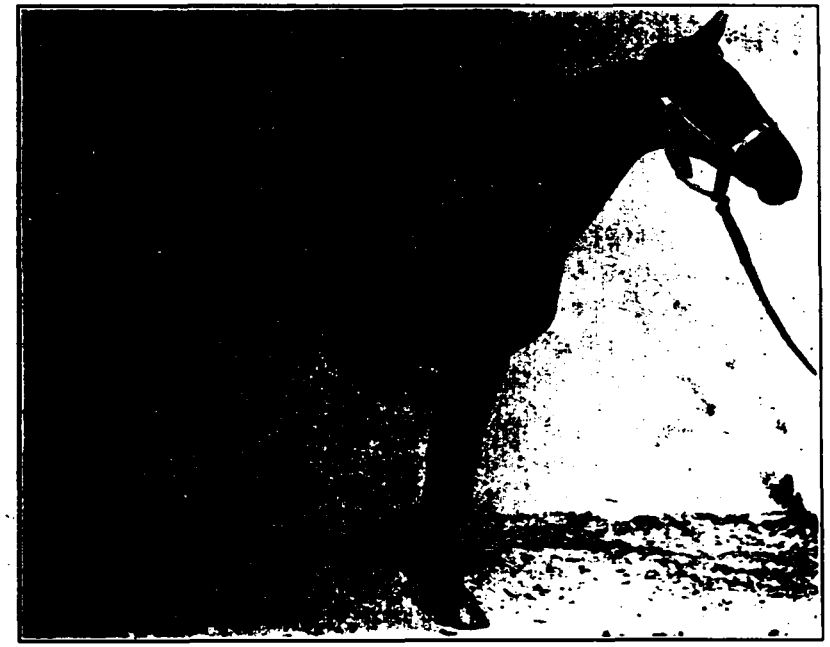
The horses were a number presented to the Government by public spirited civilians interested in our making a good showing at the competition, also a number of horses the property of officers of the Army and considered as likely to do well—a few animals from the school at Fort Riley, from the War College

*Extract from the report of Major Frederick S. Foltz, Fifteenth Cavalry, in charge of the team of officers representing the United States Army at the international competition in London, England, June 12 to 24, 1911.

detachment at Fort Myer, and one from the 11th Cavalry, Fort Oglethorpe, Georgia.

Nine enlisted men from the Mounted Service School Detachment had been detailed as grooms.

Mr. Everett Everett, Veterinarian, Quartermaster's Department, was detailed to accompany the team and placed in charge of the conditioning of the animals.



ENCHANTRESS.
Owned by Major F. S. Foltz, 15th Cavalry.

On May 18th the following horses were finally selected and shipped to New York: Duke of Ashley, Justine, Quandry, Roustabout, Chiswell, and Poppy, the property of the United States Government; Enchantress, the property of Major Foltz; Regent, the property of Major Allen; John Harper, Ottawa and Whitemarsh, the property of Lieutenant Johnston; and Cygnet, the property of Lieutenant Chaffee. These horses

were entered as follows: John Harper as riding horse, and as charger; Chiswell as riding horse, as charger, as qualified hunter (to jump), and as hunter (not to jump); Duke of Ashley as charger, as qualified hunter (to jump), and as hunter (not to jump).

All of the horses, with the exception of John Harper and Chiswell, were entered for the five open jumping competitions and for the Canadian challenge cup, for officers only; the Duke of Ashley was later scratched as unfit.

Quandry, Justine, Enchantress, Ottawa, Whitemarsh and Regent were also entered as qualified hunters (to jump).

Quandry, Roustabout and Ottawa were entered for the three high jumping competitions.

OLYMPIA.

The organization of the Horse Show is excellent and the building is perfectly adapted to its purpose, being of steel and glass and accommodating an arena measuring 320 feet by 80 feet, with ample seating capacity and room back of the seats for exhibits and sales rooms for saddle and horse equipments. Outside of the hall proper there is stabling, but no room for exercising except the narrow alleys, which are usually overcrowded.

The fact that there were 5,000 entries indicates the magnitude of the undertaking, which has now seen its third year of success. The prices charged for the seats vary from $1.25 for the seats far back at the top in a gallery (separated from the main auditorium) up to $16.00 for the best single seats down in front. This is for one performance only; there were three daily, in the morning 9 to 1, afternoon 2 to 6, and evening 7 to 11, or later.

Although the attendance was reduced during the first week by the attraction of the Ascot races, yet the second week more than counterbalanced the poor attendance of the earlier days. It was said that the original plan had been to hold this international horse show in a different national capital each year, but that the financial success of the London show and the facilities afforded by the Olympia buildings and by the organ-

ization which had been perfected, had operated to fix the show permanently in the British capital.

The lighting of the ring was practically perfect. Direct sun light was excluded during the day by screens tinted blue, and at night all electric lights low enough to catch the eye were screened by colored lanterns. A few brilliant mercury lights were used, but these were drawn into the apex of the

OTTAWA.

Owned by Lieut. Gordon Johnston, 7th Cavalry.

roof where they were so high as not to be noticed. If anything, the lighting at night was more favorable to the jumping than in daylight, bringing everything out with great brilliancy and distinctness.

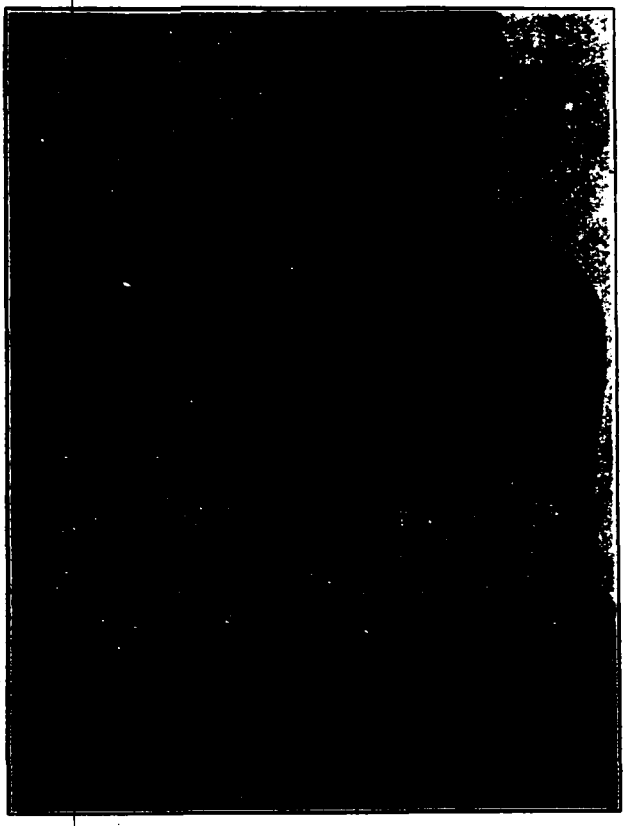
Prior to the Horse Show, Olympia had been occupied for two weeks by the Royal Military Tournament, which has been

held yearly for some twenty years, I am told, and which brings in a large profit annually for the benefit of an army and navy relief society. This exhibition, which we were able to see twice before the opening of the Horse Show, is very interesting, comprising as it does military riding and jumping similar to that at Olympia, musical rides, driving of horse batteries, competition between naval gun crews, gymnastic drills, contests mounted and dismounted, with saber, lance and bayonet, competitions in harnessing and dismounting the army transport wagon, and spectacular exhibitions, one of which we saw representing an Arab attack on a British camp, the arrival of reinforcements and the storming of an Arab town. Some British troopers, perfectly gotten up as Bedouins, gave a magnificent exhibition of tent pegging with lances, and the program concluded with a magnificent pageant representing the military and naval history of England, followed by a display overhead of the signals which Nelson flew at Trafalgar. It was even said that the signal flags used were the original ones.

THE HORSE SHOW.

The show extended over a period of two weeks, beginning Monday, June 12th, and ending Saturday, June 24th. The work in the ring began every morning at 9:00 a. m. and continued until midnight and sometimes until 1:00 a. m., with an hour interval from 1:00 to 2:00 p. m. and another hour from 6:00 to 7:00 p. m. Our principal work was in the jumping classes, which were very large, the entries numbering over 300 in each class. They were consequently broken into four sections, jumping at different times throughout the day, and as a general thing some of our horses appeared in each section. In order to get the greatest benefit from our experience, all the officers of the party were present whenever any of our horses were in the ring. This, together with the necessity of exercising the horses and giving them each such training as could be managed in the narrow alley ways outside of the building (and by sending the horses to Preece's riding academy), kept all of us thoroughly occupied, necessitating our leaving the hotel at 8 o'clock in the morning, and it was

seldom earlier than 1:00 a. m. when we returned at night. The long underground railroad trip consumed most of the hour at noon, leaving us scant time for our luncheon, which we sometimes took at Olympia itself under an arrangement made by the Horse Show authorities.



CYGNET.

Owned by Lieut. Adna Chaffee, 15th Cavalry.

The important work of the Horse Show is practically comprised in the five open jump competitions, in the Canadian Challenge Cup for officers only, and in the two Royal Cup Competitions, the George V, for performance by individual

INTERNATIONAL HORSE SHOW
OLYMPIA JUNE 12TH–24TH 1911

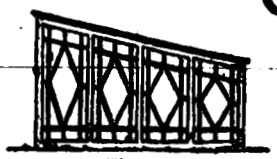
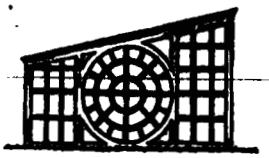

WING

DIAGRAM OF JUMPS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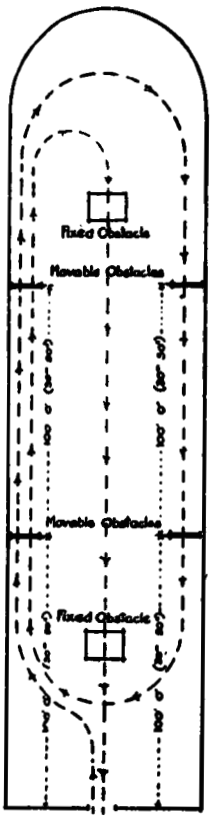
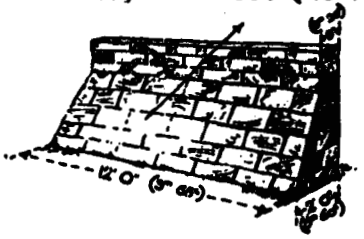
POSTS AND RAILS
Height from 4'6" to 5'0" (1·37m–1·52m)

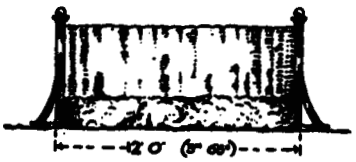
SKETCH PLAN OF COURSE



STONE WALL
Height from 5'6" to 5'6" (1·05m–1·67m)



WATTLE FENCE
Height from 4'6" to 5'0" (1·37m–1·52m)



RAILWAY SLEEPERS :
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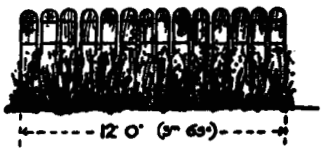

FIELD GATE
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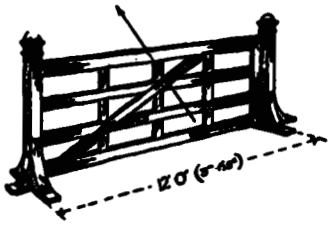

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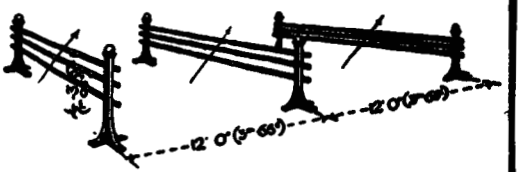

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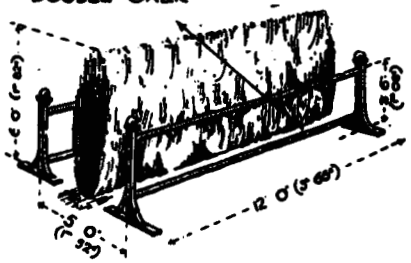
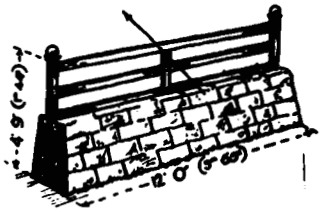
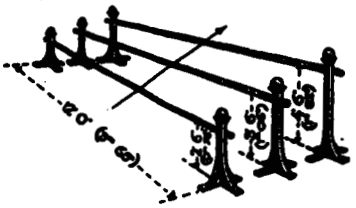


STONE WALL WITH FENCE



TRIPLE BAR



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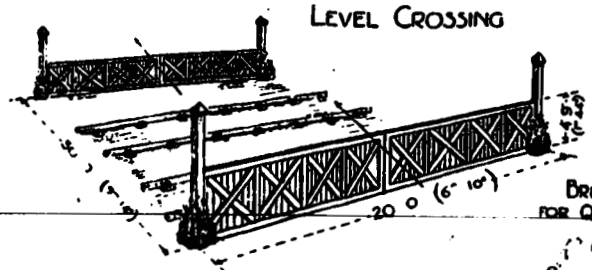

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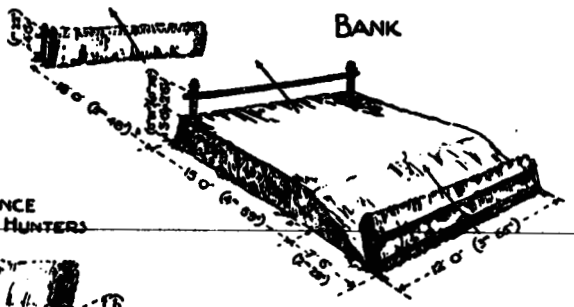
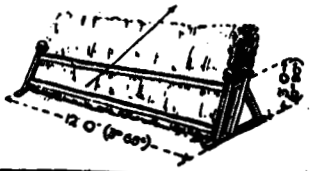


BRUSHED FENCE
FOR QUALIFIED HUNTERS



Note. The Directors reserve the right to alter, amend, or add to the above designs or course. The Dimensions indicated are approximate only and may be varied from time to time

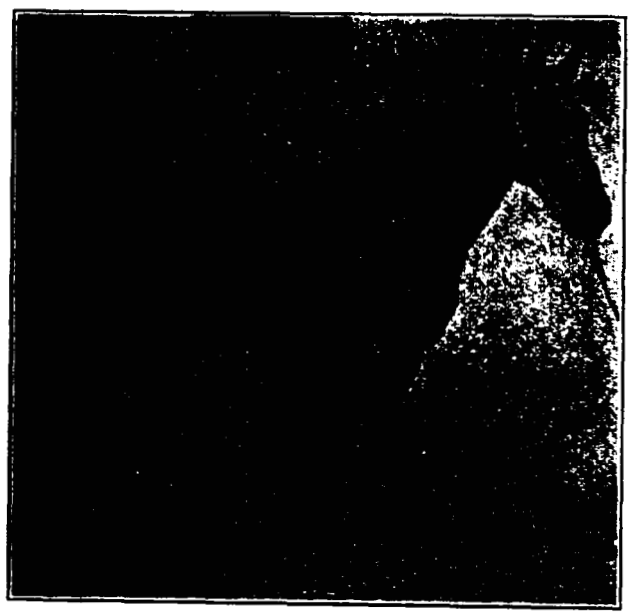
Frank E. Euren, Secretary International Horse Shows Ltd
12 Hanover Square, London W.

officers, and the Edward VII, for performance by teams of three officers. The course in each one of these competitions is practically the same. The ring measures 320 feet in length by 80 feet in width. On the sounding of a signal on the trumpet, the doors at one end of the hall are thrown open and the competitor rides into a brilliantly lighted arena, banked all the way round with growing plants. Plants and flowers also form the sides and wings of the permanent obstacles in the middle of the ring. The obstacles and the wings are painted white, and the floor is composed of a deep bed of peat moss tightly rammed, over which is spread a few inches of coarse tanbark, which gives a very firm and dustless footing.

With a start of some 100 feet, the horse takes the first jump, say, a post and rail fence four feet, nine inches in height, then a triple bar, and on the other side of the hall a stone wall and a gate. He again takes the first two jumps, and then turns down the center of the hall, jumping a three-foot fence on to a bank, and then from that bank over a two-foot, six inch wall to the ground, a drop of five and one-half feet. He then must take a three and one-half foot fence, and at the other end of the hall a railroad crossing, which is an in and out over gates four and one-half feet high; making this run inside of two minutes. The horse has thus taken six jumps on the outside track over four feet, nine inches in height, and has then taken five more of some lesser height, but of unusual character, in the center of the hall.

The obstacles were very carefully made and very light, so arranged as to be knocked down by the merest touch. A touch with either the fore or the hind feet counted one-half a point against the horse, and in order to assist the judges small light strips of wood were laid on the top of each gate or fence so that they would be knocked off by the slightest touch. The gate or fence itself was suspended by an iron pin at each end, this pin resting on another short pin set horizontally in the supporting post at either end. A very slight blow of the hoof would thus knock the suspended obstacle off the supporting pin and bring it down, scoring four points against the horse. The top blocks of the stone wall were very light, hollow, wooden boxes that were similarly easily knocked down, making an

ordinary "tip" count as knocking down the obstacle. The various other obstacles shown in the prize list of the Horse Show, such as the wattle fence, the double over, the triple post and rails, the railway sleepers, brush fence, and stone wall with fence, were substituted for other obstacles already mentioned on the outside of the track in the different jumping competitions.



ROUSTABOUT.

A Government Horse.

The result of the light construction of the obstacles, and of the ease with which they could be upset was that many of the horses, after discovering that they could strike them with impunity, did not make the effort to clear them, and deliberately tipped them, bringing them down; the result being that the prizes were won by horses that had been specially schooled by various devices to deliberate and cool performance and to absolutely clean jumping.

The scoring in the jumping contests was entirely mechanical and absolutely fair. A judge stood at each jump, and as the horse entered the ring put his number on a card. As the horse passed him he noted the score one-half for a tip (indicated by the falling of small strips of wood laid on top of the obstacle), two for upsetting the obstacle with the hind legs, four for upsetting the obstacle with the front legs or for the fall of horse or rider, two for the first refusal, three for the second refusal of the same obstacle, the third refusal debarring the horse. When the trumpet sounded for a horse to leave the ring, a messenger boy, at each judge's elbow, ran with the card to the edge of the ring and passed it in to an office below the seats, where the totaling of the score and the report of the result was made out by clerks, to be announced later.

Some idea of the severity of the competition can be gleaned from the following statement of the representation in the Canadian Cup Competition (for officers only). In the open jumping competitions, classes 100, 101, 102, 103, and 104, we competed against these same contestants with the addition of some fifty or more civilians.

In the King George V Competition each competitor could ride but one horse, and in the King Edward VII each nation was limited to a team of three.

Nationality of Officers entered for the Canadian Challenge Cup.

Nation.	No. of Officers.	No. of horses Ridden.
England	77	139
France	24	43
Russia	11	28
Belgium	9	21
Germany	9	17
United States	5	9
Canada	2	8
Sweden	1	3
Italy	1	2
Norway	1	1
Holland	1	1
Total	141	272

The French, the Russians and the Belgians had practically their own way; Germany, England, United States and Canada following with decidedly lower averages. The management of the Horse Show did not make public the scores, but as the system of judging was entirely mechanical and nothing but performance counted, it was easy for an attentive spectator to keep a score which should be very nearly accurate. From the incomplete scores kept by our party, the average faults made by each nationality during the jumping contests, not considering those horses that were thrown out for refusals or for failure to finish on time, were as follows: France 8 2/3, Belgium 11 1 3, Russia 11 2/3, Germany 14 2/3, England 17, United States 20 1/4, Canada 20 1/3.

It is to be noted that although five of the jumping competitions were open to all comers, these, as well as the classes for officers only, were practically international contests between officers, as the special schooling required put the French, Belgian and Russian officers far in advance of any civilian competitors.

In the George V competition, Russia, with 7 horses, stood first, with an average of 4½ faults, one horse being debarred for refusal. Belgium, with 7 horses, had 8¾ faults, and one horse debarred. France, with 11 horses, had an average of 11 faults, with two horses debarred for refusal. America, with 5 horses, had an average of 15½ faults. Germany, with 4 horses, had an average of 16 faults. The British, with 28 horses, had an average of 17½ faults, and two horses debarred for refusal. Canada, with 3 horses, had an average of 20 2/3 faults.

In the competition for the King Edward Cup (teams of three men twice around the course): France had an average of 6 1/3 faults; Russia had an average of 12 1/3 faults; England had an average of 13 1/3 faults; Belgium had an average of 14 2/3 faults; Germany had an average of 17 2/3 faults; Canada had an average of 20 faults, and the United States had an average of 28 2/3 faults.

In the championship jump, in which the winners of the other jumping contests competed against each other, the French made

an average of 9 1/3 faults, the Belgians 10 faults, Germans 11 faults, English 11 2/3 faults and the Russians 15 1/3 faults.

In the Canadian Cup competition an incomplete score shows:

Country	Average No. of Faults.
Holland (1 horse)	4½
France	12
German	14
Britain	15
Belgium	16
America	17
Russia	18

An examination of the scores shows that although the element of chance entered largely in the competition, yet the horses that had been for years schooling specially for this kind of work came out ahead in the long run. Russia had not, it is true, competed at Olympia before, but I learn that Russian officers had been present as spectators. We had the advantage of observing their work in the riding school, where their horses and ours were stabled, and saw that they were following the same method of schooling as the French and Belgians.

It was noted that the best horses had their off days, as for instance when the Russian, after winning the King George Cup with a perfect score, knocked down many of the same obstacles on the next day. I think it was also demonstrated that the horses that had not been specially schooled did worse and worse as the show went on, due to their discovery that they could knock the jumps with impunity.

Our horses went boldly and freely, and were much admired for these qualities. They gave us no refusals, except when at the very end of the show we attempted, as a last resort, to reduce their speed. This brought refusals in the case of Enchantress and poor jumping in the cases of Justine and Poppy. It was realized that this habit of free going could not be corrected suddenly, and holding was only tried at a few jumps as a desperate experiment in order to pull up our record. It was noted that none of the horses that went at high speed, either of

our own or other nationalities, took the prizes. The winners were animals that were thoroughly under control, cool and deliberate in their action. There were other horses besides our own Justine and Poppy which ran the course and gained applause by their broad flying leaps, but they, like our own, did not score for the prizes.

The style of the winning riders was practically that of the Saumur School of Riding, but the rider was off of the saddle by the time the horse was in the wings of the jump, and did not come in to the saddle in the normal seat until the horse had landed. The balance was preserved by means of the contact of the knees and legs, but if the neck was touched the support gained thereby was only slight, as the hands were thoroughly in control of the reins and mouth throughout the jump. A few of the civilian riders, and also some of the British and Canadian officers, supported their weight at the end of the jump on a bridge of the reins in an exaggerated effort to relieve the hindquarters and secure a clean performance for the hind feet, but it was not apparent that any good results were obtained by this. All sorts of peculiarity of seat were also to be observed in the riding of the British officers and hunting men. For instance, in some cases the body and seat was moved violently from side to side as the horse got within the wings, with the apparent object of stimulating him to a jump. In other cases the rider rode with an extremely loose seat, sliding all over the horse's back, from the rear of the cantle to well up on his neck, and although these peculiarities did not count against the horse on account of there being no marking for form, the evidence of the scores was that no good result was obtained thereby. Although we had one or two refusals, as in the case of Enchantress, and one or two cases where the horse ran out and had to be brought back on to the track, as in the case of Cygnet, Poppy and Regent, yet the behavior of our animals was on the whole excellent, and at no time gave any cause for ridicule. The riding of our officers was admittedly excellent without exception; there was no single instance in which even a stirrup was lost or the seat in any way deranged. The spirit of the audience was always sportsmanlike, and any good performance was received with liberal applause. The horses did not appear to be annoyed or dazzled by

the lights, the brilliant flower beds or the movements of the brilliant costumes of the ladies in their seats around the ring.

Although one of the French officers was seen on several occasions to throw his reins loose as the horse rose to a jump, yet this appeared to be a spectacular play made only on one particular horse, and this same officer, as all the others, usually manipulated his reins throughout the whole course, giving and taking, and changing his control, the movements of the hands being entirely independent of the seat and balance.

A word as to the methods by which the winning nations had schooled their horses for the work. We had a good opportunity of observing the Russians on their arrival at Preece's stables. Their horses were very high-class animals, of apparently great intelligence and highly trained. They jumped without the use of wings, the gate or other obstacle being held in the middle of the hall by a trooper standing at each end, and holding on the farther side of the obstacle one end of a rapping bar. This was a pole about one and one-half inches in diameter, around which was wound spirally a leather strap. Through this strap projected about a quarter of an inch the points of a row of blunt tacks. When the animal cleared the jump without touching he was patted and, as a general thing, ridden out of the ring and returned to his stable. If he touched, however little, the troopers raised the rapping bar so that it struck him on the belly or on the legs, punishing him about as severely as the striking of a prickly hedge would have done but without doing him any injury or involving any cruelty. His rider at the same time spoke to the animal sharply and brought him back for another jump over the same obstacle. The second time he would usually make a clean jump, but if not he might be brought back for a third or fourth trial, with attendant punishment from the rapping bar. These Russian horses were so perfectly under control that the rider was able to prevent their avoiding these obstacles, even without the assistance of wings. When the horse did refuse, he stopped short with his nose against the gate. The rider then held him in that position, steadied him, and backed him straight away to the extremity of the hall, and put him at the obstacle again under the whip. The animal was not allowed to turn around in coming back from

the obstacle in order to leave the straight track that he had followed in approaching it. The work was done rapidly and with a dash, one horse being ridden after another, and the morning's exercise was thus finished in a very short time, to be repeated probably in the afternoon.

The French and the Belgians, and some of the Germans and English, also used the rapping bar in the alley-way at Olympia over portable obstacles which they had brought with them for the purpose. A modification was the use of a one-inch light iron gas pipe as a rapping bar. This gave a sharp blow, but was too light to do any damage. Its merit seemed to be that it was so inconspicuous that the horse did not notice it when jumping at the white painted gate, and that the rap he received probably led him to think that he had struck the gate itself, and impressed him with the idea that the obstacle was higher than it appeared to be. Both the French and the Russians had mechanical appliances for raising this bar with greater accuracy and precision than could be obtained by hand. These were supports running up and down in hollow posts and raised by means of cords (running over pulleys), led off to one side, where they were manipulated by an attendant.

In the early days of the show, when the Russian horses were attracting great attention by their fine work, I asked one of the Russian officers how they had selected their mounts, and he told me, perhaps with more or less humorous intent, that they had started in with a lot of horses capable of jumping six feet and then by careful work trained them to jump five, meaning that they had placed more importance upon certainty of performance than upon occasional brilliant work. This was borne out by the record of the work of their horses, for though even the best, the winner of the King George Cup, made a bad performance the day after the perfect one that won the prize, yet these off days were rarities.

Altogether, I think that the showing made upon our first attempt is not at all discouraging. With a year to correct faults in training, I do not see why some of the same horses that we used this time should not be probable winners in another contest. It may be found, of course, that some of them cannot be trained to jump at a slower speed, but I think that if they are

all put through a thorough course of charger schooling and brought under perfect control, it will only be an exceptional one that does not respond with an improvement in his jumping record.

Our riders, at the same time being relieved of the preoccupation as to the absolute mastery of their mounts, will be free to study the more delicate manipulation of the reins and the more perfect balance of the seat at the jumps. The Russian officers all used a peculiar saddle which they told me they had copied from the Italians. The panels of this saddle are very thin, and allow the rider to get his knees and legs into the horse's side, but in front of the knee and above it the panel was thrown suddenly outward by a padding six inches thick between the front of the panel and the horse's shoulders. By long use the leg of the rider had formed a depression in this panel, in which the knee moved as in a ball and socket joint, giving a perfectly fixed point of support and enabling the rider to keep clear of the saddle and preserve his balance with more security, perhaps, than in the ordinary saddle.

I am not satisfied that the advantage of this saddle is important, but as a matter of interest and in order to experiment with it I have had it copied by one of the best London saddlers, and have brought it over for a thorough trial.

The Italians were not officially represented in this contest, although one Italian officer was riding in civilian dress, and, in the Canadian Cup Contest, in uniform.

HUNTERS, CHARGERS, ETC.

In the competition for qualified hunters (to jump) to carry from 168 to 196 pounds, Enchantress and Ottawa were awarded commendation, with white ribbons. In this competition, although the horses were required to jump two four-foot brush fences and two four-foot post and rails, performance to count 50 per cent and conformation and manner 50 per cent, yet small consideration seemed to be given to performance, the certificate of the master of hounds that the animal was qualified and conformation and manners being given great weight. It seemed to be a fact that size was a great advantage, as even in middle

weight and light weight classes the big horses seemed to get the ribbons.

In class 75, riding horses over 15.1 capable of carrying 196 pounds, Chiswell was awarded the green ribbon and fourth prize of five pounds.

After watching the performances of the foreigners, our entries for class 105 (jumping competition, two officers jumping abreast), we scratched our entries, as we had not had sufficient time or facilities for schooling for simultaneous performance. Similarly, after watching the first competition for the high jump, which was won by a clean performance over seven feet, we scratched our entries. It is believed that by specially schooling Roustabout we might have done fairly, but at the expense of his performance in contests for our main objectives, the kings' cups. We would in no case have taken the blue ribbon at the high jump.

In the officers' charger classes the ribbons were given to parade horses distinguished for beauty, fire, style and size rather than for training. The fact of one horse being unable to change lead without coming to a halt seemed to be entirely overlooked by the judges in awarding the ribbons. The competitors entered the ring together, and moved around the track for some ten minutes, while the judges looked them over; they then sent out of the ring all but fifteen without any trial as to their schooling. Our horses were among the rejected. The others were then called upon in turn to give a few minutes' exhibition of their training, changing lead and showing that the horse was not afraid of the saber. Some of the horses were handsomely caparisoned with silver mounted bridles, horse tails on the throat latch and hussar trappings, and some of the officers carried the saber. The first prize in the light weight charger class went to a German horse, the second to a British horse of the Life Guards, the third a German, fourth a German, fifth a British of the Royal Horse Guard, sixth a British, with commendation for three British horses, one German and one Russian.

The success of the German horses in the charger classes was made the subject of a congratulatory announcement by the German Emperor. On a later day, as a special compliment to

the King, who was present, the Germans gave a riding display which they had prepared for class 84, in which they exhibited twelve perfectly trained remounts, said to be from the Emperor's stable, and ridden by twelve instructors from the Hanover Cavalry School. This performance was of such a high class that all the other nationalities immediately scratched their entries from the riding display, leaving the Germans alone in this field. As an illustration of the perfection of the training of these twelve horses, it may be noted that while they were cantering to the right on a circle they executed right about by trooper, and maintained the false gallop on the circle for one complete round before they changed to the true gallop simultaneously at command. The seat of the German riders in this exhibition was not, however, favorably regarded. The body was bent forward at the waist, the knees carried to the front and the heels to the rear, giving what was considered a stiff, unnatural appearance, although every rider conformed perfectly to the model adopted. It was noticeable, however, that in the jumping competitions the officers did not use this rigid seat, and that their style resembled that of the French.

THE INTERNATIONAL HORSE SHOW AT THE HAGUE—1911.*

By CAPTAIN GUY V. HENRY, U. S. Cavalry.

I HAVE the honor to submit the following report of the International Horse Show, held at The Hague, Holland, July 2d to 9th, 1911:

This show is in its ninth year, and is under the management of the Society for the Improvement of Horse Breeding in Holland, Colonel K. D. Punt, of the Holland army, being President, and Mr. Van Hoboken, General Manager. Both of these gentlemen were very kind and courteous to me.

The show is an open air affair, being held in a large paddock about 250 yards by 150 yards. This paddock is surrounded on two sides by spacious grandstands and on four sides a light white rail fence three feet high. Outside of this paddock is a large exercising ground and long frame stables used by the Show.

The harness and saddle classes were about the same as in most shows. The military classes, jumping and charger, were, however, quite different.

JUMPING CLASSES.

Of these, there were eight individual ones over the regular course, one for teams of three officers of each nationality over the course, and one high jump.

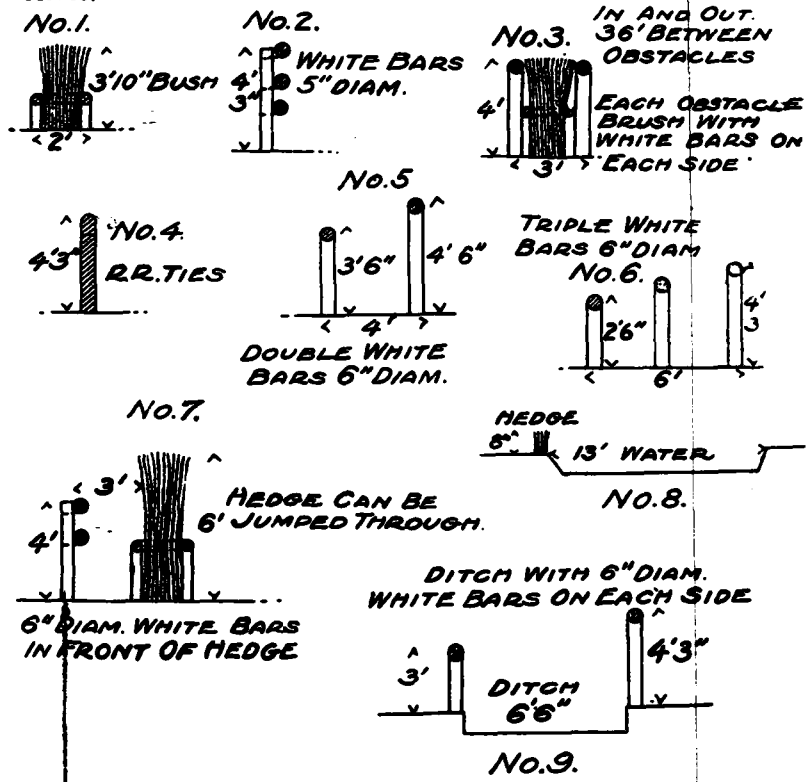
The average number of entries for individual classes was 35, with officers representing England, Canada, Holland, Belgium and Germany. Five prizes were given in each class. All were cups or medals, averaging in value from $80.00 for first prize down to $10.00 for fifth prize, there being four or five of these fifth prizes given.

*Extract from report made to Major Frederick S. Foltz, Fifteenth Cavalry, in charge of the Olympia Team.

The rules for scoring were about the same as usual, with the following additions: "Riders will be expected to take the jumps at a fair hunting pace. Too slow a pace may be counted as one-half a fault, stopping between two jumps two faults."

"Making the same number of faults, the rider wins who went over the course in the shortest time."

One end of the jumps was placed against the enclosure fence three feet high; on the other end was placed a flimsy wing made of a little strip of wood one-half inch by one and one-half inches and eight feet long; a few potted plants placed under this strip. This wing was considerably lower than the jump proper. Thus the fence on the outside and the little strip on the inside formed wings averaging a foot lower than the obstacles themselves.



OBSTACLES AT THE INTERNATIONAL HORSE SHOW AT THE HAGUE.

While the positions of the above obstacles were changed from day to day and some exchanges were made, their character remained the same. All were built in a substantial manner, and rather hard to knock down. Light strips were, however, laid on top for the purpose of scoring touches, the knocking off of one of these strips being a touch.

The riders started at a line, time being taken from this line until the last jump was crossed.

The riders as a rule took a rather slow, free gallop. Where the pace was increased to a fast gallop, the horses as a rule lost points by tipping their jumps. All, however, rode fast at the two center jumps in order to clear them.

Horses that jumped the wings instead of the obstacle were given a refusal, the judge at the obstacle calling the rider back for another trial.

As a rule, about one horse in each competition would make a clean score, two horses would make one fault each, and the average horse would make about eight faults.

The course was thoroughly practical and eminently suited to officers' chargers. It was, however, intended for the best of them, for it was a hard course to ride. Each obstacle required a different speed; obstacles Nos. 7, 8 and 9 required considerable speed and the turning of the horse away from the entrance or stable. These conditions, together with the absence of any practicable wings, required constant control of the horse.

The work of both riders and horses was very good indeed, but not of such a high order as at the Olympia.

CHARGER CLASS.

Conditions: Must be broken chargers.

The following scale of points will govern in judging:

30 points for horse and its paces,
50 points for breaking and manners,
15 points for jumping.
5 points for standing music and firing.

There were eighteen entries in this class, the type of horses being entirely different from the corresponding classes at Olympia, in that these animals were presented for their service qualities while those at Olympia were presented for parade qualities.

Conformation was judged as usual.

In breaking and manners each rider was brought into a small enclosure and given five minutes in which to demonstrate his horse's training. Some riders did practically nothing, while others put up beautiful exhibitions, covering the following:

The walk, trot, canter and gallop; changing gaits; circles and figure eights; two track work; backing; turning on haunches; leads in the gallop; changing lead and the counter gallop.

Jumping was judged by putting the horses over three of the regular jumps in the diagram given.

Music and firing by the beating of a drum and firing of a pistol in the vicinity of the assembled horses.

The winning horses were beautifully schooled and thoroughly serviceable animals, mostly of the heavy charger type.

One English and one American horse (N. G., N. Y.), which had just won ribbons in the charger classes at Olympia, apparently received little consideration as chargers from the viewpoint of the Continental judges.

The ribbon winners were of the service type that we have recently been attempting to select in our horse shows.

The prizes given were similar in number and value to those given in the jumping competitions.

RACES.

One afternoon of the Show was given over to races. In addition to harness races the following were held and were taken part in by many of the horse show participators:

Steeplechase, Officers, 3,200 meters, $200 and cup, $30, $10.

Paper hunt, over steeplechase course, Officers and Gentlemen, 2,400 meters behind a leader. A halt was then made and the field divided into two classes for a flat race finish of 600 meters.

First class, thoroughbreds and halfbreds that had been raced, $40, $16, $10.

Second class, halfbred horses, $40, $16, $10.

These races were excellent and the riding displayed in making the finishes of a very high order.

In the paper-chase, about thirty started and were required to stay behind a leader for 2,400 meters over the steeplechase course. A halt was then made, and the horses divided into two classes for the finish. The leader set a very fast gallop for the 2,400 meters and also finished third in the flat race of the first class. This leader, by the way, was one of the winning charger horses.

This type of race has much to commend it for our service, where we are beginning racing. The leader can set a fast or slow gait, as is best adapted for the horses and riders. In this way the riders can be taught pace and how to control their horses and jump in a crowd. It reduces to a minimum the danger of novices jumping at speed, but gives the element of a race by allowing a flat race at the finish. There is no necessity for halting before the start for the finish if all the horses are of the same class. Instead of halting, some point is fixed after crossing the last obstacle where all the riders may come abreast of the leader and get a start for the finish. The leader, however, should drop out after giving the word "Go," as in this case he would have an advantage over the others.

This type of race is used on the Continent for teaching steeplechasing. It was used at the Mounted Service School in 1908 with both interest and success.

The Hague Horse Show was both interesting, instructive and practicable. Its jumping contests, charger classes and races are suited to our conditions and worthy of adoption; also most cavalry posts have the facilities for carrying them out, the parade ground for the show and the drill ground for the races.

If an American team again goes to the Olympia Horse Show, I should suggest that it also visit The Hague, principally as a matter of education for officers. The show is held about one week after the Olympia. The financial condition of the Show will not permit of their giving financial assistance to visiting military teams. The cost, however, of transporting a team from London to The Hague and return to London would be comparatively little. For horses and grooms, about $17.00 each. Hotel accommodations for the officers would be about the same price as in any large city. The duration of the show is usually nine days. Stabling is $5.00 per horse for the entire period and forage about 30 cents per day per horse.

HISTORY OF THE McCLELLAN SADDLE.*

By CAPTAIN EDWARD DAVIS, Thirteenth Cavalry.

IT is said that the very complete revision of cavalry equipment, which is now approaching its conclusion, will result in the disappearance of the McClellan saddle from our list of equipment. If this be so, it is appropriate to recall certain interesting facts regarding the origin of the McClellan saddle and its long career of hard service.

From old documents it appears that a board of officers, convened in 1847, adopted what was called the Grimsley saddle, which appeared to serve with considerable satisfaction until approximately 1855. About that time there appeared on the scene a number of gentlemen, each of whom had invented or designed a saddle which he deemed entirely worthy of adoption for use by the cavalry of the United States. Among these were the Hope saddle, which found favor in Texas; the Campbell saddle, which was adjustable by springs, and the Jones saddle, which was adjustable by the use of hinges. These rival claimants appeared to possess business ambition in connection with inventive genius and the War Department was persuaded to purchase, for experimental purposes, several hundred saddles of the above mentioned varieties. At the same time, Mr. Grimsley, who had been furnishing the Government with the saddles which bore his name, did not neglect to remind the authorities that they ought to stand pat and not abandon his saddle for any of these new models.

Just about this time the saddle competition was intensified by the introduction of a model which was presented by Captain George B. McClellan, First Cavalry, who was later to gain distinction as a Major General. Captain McClellan had just re-

*The procurement of certain data, indispensable to the presentation of this subject, was greatly facilitated by the interest taken in the matter by Brigadier General Alfred Mordecai, retired.

turned from a tour of Europe, where, as one of a commission of officers, he had observed the operations in the Crimea and had also made an extensive study of the armies of Europe. In addition to his saddle, he suggested new models of other articles, and, after consideration by a board, an ample supply of the saddles and other articles was issued to the service for purposes of experiment and comparison.

To show the extensive tests carried on by the Ordnance Department in order to select the best saddle out of the varieties above mentioned, the following quotations from reports* of the Chief of Ordnance are pertinent: "October 25, 1855. * * * The duty of furnishing horse equipment having been transferred from the Quartermasters to the Ordnance Department (G. O. 5, W. D., 1855), these articles now come under the designation of ordnance stores. * * * * For the purpose of testing practically the merits of different patterns of horse equipments, the cavalry regiments have been supplied with those known as Grimsleys, and also with those prepared after the pattern of Campbell—the latter having been examined and recommended by a board of cavalry officers." And the following about three years later: "July 19, 1858. * * * I may add that there is no regularly prescribed pattern for cavalry or dragoon horse equipments, the various patterns in use, viz.: Grimsley's, McClellan's, Jones' (Campbell's ?) and Hope's, being all experimental. * * * It seems proper that the pattern should be selected by a board of officers of rank and experience representing each of the five mounted regiments * * * ."

As a result of the experiments above referred to, which were carried on during the four years 1855-58, a board of officers was convened in January, 1859, to make a final selection of a service saddle and appurtenant equipment. The three senior members of this board were Colonel Philip St. George Cooke, Second Dragoons; Lieut. Colonel Robert E. Lee, Second Cavalry, and Lieut. Colonel Joseph E. Johnston, First Cavalry, an array of recognized military ability which compels confidence. This board, after examining and experimenting with the various saddles above referred to and after considering the reports of

*Ordnance Notes No. 2.

officers covering experiences on marches of 1,000 and 2,000 miles, decided to recommend the McClellan saddle. The War Department approved the recommendation, and thus, after four years' experimentation with five different kinds of saddles, the McClellan was adopted and its service career of more than half a century was initiated.

The origin of the McClellan saddle has at various times been vaguely characterized as "Crimean," "Russian," "European." etc.; but no facts have been presented—at least not in recent years—in substantiation of these vague allusions. From one who is best situated to know General McClellan's personal claims as to the origin of this saddle, we learn that: "he always claimed it as his own invention," but whether it was a modification of a European saddle is not positively known. In a letter referring to his models of saddles and other articles, Captain McClellan said under date of December 25, 1856: "I cannot pretend to say that this equipment is by any means perfect, but I feel safe in asserting that it is an important step in the right direction; that it is not a copy of any European model and that it is superior to any equipment I saw in Europe. I am content to allow it to rest on its own merits, and I believe that it will, in its most important points, meet the approval of our cavalry officers." In the same letter, after referring to a method of girth attachment which he then favored, he said: "I am not aware that we are indebted to any foreign model for any other part of the saddle"; and again, speaking of the shelter tent, "it is made rather larger than those used in Europe," and, with reference to the curb bit, "it is a modification of the Russian"; further, with regard to a girth, "the idea * * * is derived from the French."

By carefully analyzing the above quoted statements from the letter of December 25, 1856, as they stand, we find that the following is proved, viz.: The McClellan saddle, and its appurtenant equipment, as presented, was not a copy—viz.: not an exact *reproduction* of any European model, but that the idea of the girth was from the French, the bit a modification of the Russian and the shelter tent similar to but larger than those of Europe.

A logical inference from the above is that Captain McClellan's European observation may naturally have influenced his ideas as to saddle construction even if his saddle was not actually copied from any European model. It was likewise natural that he should have made his letter somewhat aggressive in its pointed exclusion of things European, because from other documents of those days it is apparent that there was some criticism of the proposed McClellan saddle because of its suspected European origin. Then, as now, there flourished in our midst an admirable and modest brand of patriotism which assumed that all things American were, *per se*, superior, and that anything European should be disdained as of tainted origin.

As everyone knows, any saddle of worth must embody a number of good points taken from saddles of prior origin. The question arises then: What saddle did Captain McClellan have in mind as the one upon which he could best base his ideas of improvement? Let us search further and take up "The Report of Captain George B. McClellan, First Cavalry, one of the Officers sent to the Seat of War in Europe in 1855 and 1856," published as a Senate Document in 1857. This report, in addition to a review of the Crimean operations, includes a series of valuable observations on the armed forces of France, Great Britain, Russia, Austria, Prussia and Sardinia, as well as certain recommendations regarding the army of the United States. Under this latter head, on page 283, we find: "I would recommend that the shelter tent be adopted as a part of our system. A specimen, slightly altered from the French, will be submitted with the *saddle* shortly to be forwarded."

Studying the observations on the cavalry of the European nations above enumerated, we find reference to equipment in each case, but only two saddles are described in detail. One of these is the Hungarian saddle, a type which is of no interest in this particular research. On page 246, under the discussion of French horse equipments, we find the following remarks and the sketches which appear next below: The new saddle (*i. e.*, new in comparison with another French saddle) is the invention of Captain Cogent, director of the saddle factory at Saumur. The tree is cut out of a single piece of white wood, the cantle only being glued on; a piece of walnut, the grain running across the tree, is let into the pommel. * * * The whole is covered

with wet raw hide, glued on and sewed at the edges; no iron bolts or fastenings are used."

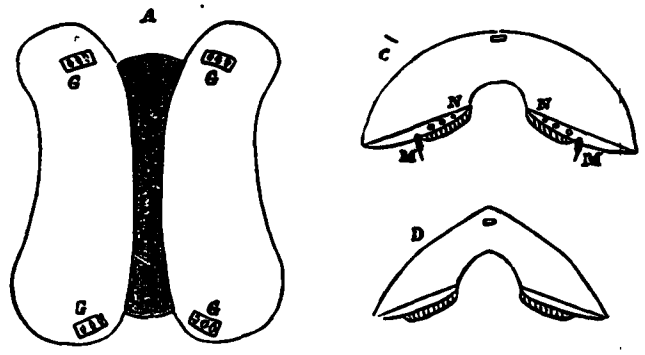


FIGURE 1.
Side Bars, Cantle and Pommel of Saddle designed by Captain Cogent, Saumur. (McClellan's Report, page 246.)

The earliest official description and drawings of the McClellan saddle are thought to be those contained in the Ordnance Manual of 1861, and are here reproduced:

"Saddle-tree—wood (beech); 1 pommel, made of 2 pieces framed together at top and glued; 1 cantle, formed of 2 pieces like the pommel; 2 side-bars (poplar), each made of 3 pieces glued together. * * * The tree is covered with rawhide, put on wet and sewed with thongs of the same and held in place by stitches through the wood along junction of the pommel and cantle with the side-bars, etc." * * *

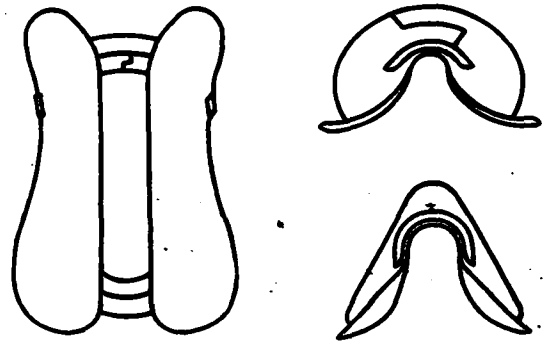


FIGURE 2.
McClellan Tree. From Ordnance Manual of 1861.—Plate 22.

A comparison of the preceding sketches and other data, together with a consideration of all the circumstances, leads us to the conclusion that the McClellan saddle may have been suggested by the saddle of Captain Cogent of Saumur. This fact—or coincidence, as the case may be—is a welcome though rather unexpected addition to the growing association between our service and the famous French school of equitation, the methods of which are being incorporated to a great extent into our own general scheme of instruction.

An important feature of Captain Cogent's saddle, which certainly was not incorporated into our service saddle, was his manner of arranging it so that a single size would suffice for all horses, or for the same horse as his condition of flesh varied. This was effected by attaching to the under surface of each side-bar a thin strip of cork which was faced with a layer of felt on the side next to the horse and by a leather pocket or flap on the side next the saddle. Lateral and longitudinal adjustability or changes of fit were attained when necessary by inserting additional strips of felt in the leather flap. Looking back from the present vantage point of increased experience and information, it is apparent that our service saddle would have given better results if it had been equipped with felt pads for the side-bars.

The writer has made considerable inquiry with a view to discovering the original model of the McClellan saddle in order that the above and kindred questions might be further investigated. Departmental museums and similar repositories offered no trace of the original tree, but it was discovered that the model was undoubtedly manufactured by the firm of Lacey & Philipps of Philadelphia. This clue ran out in the discovery that Lacey & Philipps went out of business about forty years ago and that all traces of their product had disappeared in the obliterating growth of a great city. Possibly these lines may be read by someone who can provide the desired information.

In 1879 the McClellan saddle had a narrow escape from elimination. The Equipment Board of that year (see G. O. 76, 1879) recommended that the McClellan be discarded and the Whitman substituted. They remarked: "* * * the board, while remembering that the McClellan tree has been of great

service, is satisfied that a change is now necessary. This conclusion is due in a measure to the experience of the board, but chiefly to the opinions of a great number of officers who are riding saddles of various kinds. * * * The board has endeavored to find a saddle combining the merits of the various trees now in use. This, it is believed, has been done in the selection of the Whitman tree. * * *" The Chief of Ordnance did not favor the board's recommendation, stating: (1) that no reports condemning the McClellan saddle had reached his office, and (2) that 42,000 *new* McClellan saddles were on hand, left from war supplies.

General Sherman, commanding the Army, reviewing the board's proceedings, recommended the adoption of the Whitman saddle "for experiment, and for general use when the present stock of 'McClellans' is reduced below 20,000." The Secretary of War directed: "The Whitman saddle tree will be deposited with the Chief of Ordnance and in future manufacture will be adopted as the model." He also remarked that the large supply of horse equipments on hand would necessitate their use for some time to come.

Officers now in the higher grades recall that Whitman saddles were issued, some with a horn on the pommel and some without. That the Whitman saddle, as then provided, did not firmly establish itself as equal to the conditions prevailing at that time, is inferred from the fact that the McClellan pursued the even tenor of its way. The board of 1884 evidently considered that the McClellan was doing well enough to be let alone, as they contented themselves with a few minor changes, principally in the seat.

During recent years, apparently since about 1900, the complaints against the McClellan saddle have increased in volume and intensity. Possibly the considerable addition of new officers, new men and new horses resulting from the changes and increases incident to the Spanish War and the subsequent reorganization may have created conditions which accentuated the actual defects of the McClellan saddle and caused a demand for improvement—a demand which is formidable because it is backed up by facts.

So it seems we may prepare to take leave of this good old friend—for good old friend it has been to many loyal, brave and finished cavalrymen. For more than half a century it has carried our cavalry, in every variety of climate, temperature and terrain, through five wars aggregating some thirty years of service in the presence of an enemy. It will go, not as a result of mere craving for change, but after a searching investigation seeking improvement founded on the flinty stones of fact.

In extending the glad hand to the new let us bestow no kicks upon the old, for we shall thereby unwittingly betray ignorance of an honorable record. Some years from now you and I may come across a McClellan saddle in an unfrequented corner of a dusty museum. It will bear a tag on which he who dusts may read its name and the period of its service. Let us then add to that tag the words "Well done, thou good and faithful servant."

THE BEST COLOR FOR HORSES IN THE TROPICS.

By Lieutenant Colonel CHARLES E. WOODRUFF, Medical Corps, U. S. Army.

SINCE the publication in 1905 of the book, "The Effects of Tropical Light on White Men," a persistent search has been made for data which would confirm or disprove any of its statements. A few facts were unexpectedly encountered of more than ordinary value to horsemen in the tropics, and it is with a view of eliciting exact statistics that this paper is written. If practical experience confirms the theoretical deduction from the facts so far known, it means that an increased efficiency and a very great saving will be possible by selecting proper colored horses, mules and draft cattle for the tropical stations. Before giving the facts, we must briefly explain the general principles governing the natural selection of animal colors. They are detailed in the above book in a manner not possible here, and it may be stated that among the thousands of notes made in the last six years, there are none which disprove any of those generalizations and though several minor matters might be changed there is only one gross error in the book—that part advising sunshine in tuberculosis, for subsequent investigation failed to reveal any proof that light does good and much evidence that if excessive it does so much harm that the results are the best in cloudy mountain places like the Adirondacks; especially in the least pigmented cases.

Every character of a "species" such as color or size is now known to be a result of natural selection of the fittest variations and the destruction of those unfit for survival. Consequently every species is limited to a very restricted environment and is injured or killed if it emigrates to another place where there are adverse factors against which it has no defenses. So we have ceased to consider "characters" as useless, much less harmful,

and when we do not know the use, it is our problem to find it. In particular the coloring of animals has been receiving very much attention of late, as the subject has been found to have enormous agricultural economic importance.

The longest known use of color is concealment through resemblance to the background. No one on the yellowish plains, for instance, can see a coyote until it moves, or a white animal on the snow, or a red or green parrot among the red and green flowers and leaves of a tree. Domestic animals have no such needs, for man guards them, and this side of the matter may be dismissed from the discussion. From a military point of view, of course, conspicuous horses are undesirable as they draw fire, and for invisibility we should have those which most closely resemble the color of the average landscape, and luckily that color is the dun or sorrel as later explained. There is even a report that in the South African war, the white horses had to be dyed a neutral tint.

Over 25 years ago Dr. Robert Wallace, then as now Professor of Agriculture in the University of Edinburgh, made the significant discovery that the skin of all domestic animals in the tropics was black, no matter what the color of the hair, white skins being the rare exceptions; hippos, rhinos, elephants, and all the antelopes except the bush-buck which lives in the shade of trees and is much lighter skinned than the others. Huxley and Helmholtz both acknowledged it to be a general condition but could not find the cause. Wallace himself tried to explain the matter at a meeting of the Edinburgh Royal Society, Dec. 9, 1887 (see Proceedings, p. 64, Vol. XV.), but at that time little was known of the lethal effects of light, and the phenomenon was considered solely a benefit in heat radiation. We now know that light rays are fatal to every form of living substance on which experiments have been made, and that every animal is protected by skin pigment, hair or feathers;—even plant cells are killed if naked, like a bacterium, so they too are pigmented or shaded by hair or bark. The delicate filamentous rootlets are in the dark of course and few people realize how the light kills them. White ants are killed by light and they too must live in the dark, and finally many unprotected animals, mostly insects,

can venture out only at night. So the black skin pigment of tropical animals is a protection against light.

Not all kinds of light have an equally injurious effect, for their power varies with their wave frequency, the ultra-violet being the strongest; but they all have some effect and even the weakest or red and infra-red are deadly if strong enough. Even in the far north, where there is supposed to be less light, the snow glare is really terrific, but none of it can penetrate the thick white coats of the arctic animals, and the exposed surfaces like the tip of the nose and the retina are heavily pigmented. Insufficiently pigmented men in the arctics are severely sunburned and also suffer from serious eye diseases due to the excessive light, while the pigmented Eskimo escapes.

It is necessary to keep in mind the reasons for variations in light according to latitude and elevation. The air itself is not entirely transparent, and in addition it is made still more opaque by its suspended solids and dissolved water vapor, so that the more oblique the sun's rays the more air they transverse and the weaker they are, and the rays are of course much stronger in the upper atmosphere. A great many actinometric observations have been made abroad (see La Lumiere et La Vie by Dr. Thomas Nogier) and they show that until the rising sun is 10 degrees above the horizon it has scarcely any actinic effect and even after it is above 10 degrees its effect increases very slowly until it is 65 degrees high, after which it augments very rapidly, being of course at its maximum at the zenith. We consequently find that more than half of the total light at any place is received between 10 a. m. and 2 p. m. and more than seven-tenths between 9 a. m. and 3 p. m. For some unknown reason the amount of light transmitted by the air varies slightly with the temperature, so that hot days are really lighter than cool ones, other factors being equal, and for equal sun elevations the afternoons are lighter than the mornings.

In high latitudes, therefore, where the sun's rays must travel obliquely through a long distance of air, the actinic effect is proportionately less, often too little to do the chemical work in plant leaves even if the temperature is high enough. Nevertheless, it often happens at any one place, that though in summer, the light is greatest, most of it is absorbed by the green vegeta-

tion around us, but that in winter though the sun is least intense more of it is reflected from the snow into our faces, as though we were looking at the sun itself. The Eskimo therefore needed more pigment protection than the forest-living New England Indians. The noon sun in midsummer in Chicago is about 20 degrees from the zenith and is about as strong as the December noon sun on the equator, facts which must be kept in mind in discussing climate. Even at Edinburgh at 56 degrees the summer noon sun is 33 degrees from the zenith and has nearly the strength of the midwinter sun in the northern tropics, for equal cloudiness, but the north has strong light only a very short time and the tropics all the time and of greater power. The number of possible hours of sunshine is practically the same the world over, only at the north pole it is in one long day and at the equator in 183 periods of 12 hours each.

For these reasons the blackest pigment is needed and the blackest animals exist near the equator, and as these places are also hot the animals are at a very great advantage in another respect, for the laws of radiation show that black surfaces radiate heat to cooler bodies very freely but white ones do not. All these animals therefore are much cooler for their blackness when the air temperature is less than that of their bodies, as usually is the case in the tropics where the air is never at blood heat in natural conditions. But black animals are at a fatal disadvantage where the surroundings are hotter than they are, for by the laws of absorption dark bodies absorb heat very freely in such conditions, the familiar black tea kettle heats up and cools off sooner than the bright tea pot. To avoid the danger, black animals hide in the day time;—some are nocturnal and hide in caves like the cat family, or in shaded jungles like elephants or in water like the hippopotamus and carabao. If we force them into the heat, they suffer from thermic fever with more or less delirium—a familiar sight with carabao if they are not allowed to bathe every two hours.

A wild animal that must go forth in the day time has another protection,—a thin hairy coat of light colored material to reflect as much of the sun's rays as possible. The most effective is white and this color is quite common in tropical birds,

cattle and horses, but the usual one is some shade of yellow—a most important provision for horses, as we will later show. Feathers of all colors, even white, being opaque, there is no need of skin pigment in birds. I have no data as to skin color of fur or wool clothed animals, but believe that it is generally white, for the light does not penetrate the coat.

The amount and kind of clouds are most important considerations, for they may reduce the light very materially if they are between us and the sun, but increase it if so situated and fleecy that they reflect more sun's rays to us. Sky glare is sometimes found to give more light than the sun itself, so that the total light received may be much greater than if the sky was cloudless. Thick mist, fogs and clouds are very effective in excluding light, and as the northwest corner of Europe is notoriously cloudy and foggy, it is found that the domestic animals developed there, have so little need of pigment that some of the breeds have "white" skins, which are never colorless, by the way, for the red blood shines through as a rule and somewhat protects the lower tissues. Nor are they albinos either, for they have pigment where needed—in the eye, for instance. They have simply stopped forming skin pigment because the light skin is a tremendous advantage in conserving body heat in cold surroundings. Arctic animals are the warmer during the long nights for their white coats, and as they cannot get any sun's heat in the days, they do not need "warm" dark clothes. Similarly a white hog will thrive where a black one will freeze and a white man also thrives in cold where a negro cannot. It must be noted that the blackest men and the blackest animals can not and do not exist in the hottest parts of the earth.

The black animals are thus very much more restricted as to range of temperature than white ones, for they can stand neither heat nor cold. It is a mistaken idea that the negro can stand heat that is much higher than that of his blood, for in such conditions as fire-rooms he absorbs heat and suffers much more from thermic fevers and allied conditions than the white men working with him, and our statistics show that black soldiers have much the highest percentage of cases of both frost bite and sun stroke. In his natural home he is mostly nocturnal and

the air is rarely over 90 degrees; at least he avoids the midday sun, and when he must go abroad he dons white clothes like the Arab. The black horse shows the same temperature restrictions as the black man, for it cannot stand the cold like the light colored horses of cold countries, and needs warmer stables and more blanketing to survive. Moreover, I find that in the tropics the black horse is more liable to "blow-up" as the teamsters say; —that is, on a hot trail it gets thermic fever with more or less delirium and dies where the white horse is comfortable. But in moderate temperatures, below blood-heat, black men and black animals are at a great advantage. There is not only much evidence that in cold conditions, both black men and black horses are more easily "chilled" but both suffer more from "colds" and pneumonia than the lighter colored. On the other hand Captain A. C. Nissen informs me that at Camp Stotsenburg in 1902-3 he commanded a troop mounted on beautiful sorrels which had been personally selected and brought over by General Earl D. Thomas, and that it was remarkable how well these horses retained condition while the dark bays and blacks were having a dreadful time with surra and all other diseases. This was due to better fitness of sorrels to the hot climate, for there is no evidence that disease-bearing insects are attractive to one color more than another; though that is a point deserving further investigation.

Now all our domestic animals except the turkey, an American product, the cat, an Egyptian, and Arabian horse, come directly from this cloudy northwest corner of Europe where they have been for thousands of years, and even the Arabian horse is probably a variety of the European breeds. Remotely all the European domestic animals including the cat were domesticated in Asia from wild species and imported into Europe or Africa, in neolithic times (see Williston in Pop. Sc. Mo., Dec., 1910). Though they may have been protected from light originally they have largely lost the skin protection, in a cold cloudy environment which made it not only unnecessary but an actual disadvantage. Agriculturists are therefore just beginning to realize that these white skinned animals fitted for cold dark climates will not thrive in light places.

Professor Starling of the University of London called attention some time ago to the fact that the northern white skinned horse will not survive the tropics where the white-haired black-skinned Arabian thoroughbred thrives. The Honorable W. M. Hays, Assistant Secretary of Agriculture, informs me that they have never succeeded in establishing the white-skinned northern hog in our south, where the black pig thrives. Professor D. A. Gaumitz of the University of Minnesota reports a similar difficulty in the sunny middle west,* and Professor G. A. Morton of the Colorado State Agricultural College writes that in the intense sunlight of the far west, "white hogs sun scald severely. In many cases, the entire back—from head to tail—will be severely inflamed and covered with scabs and scurf. This affects the well being of the animal so that it is difficult to keep white pigs thrifty and growing. We now advocate in this State only black or red hogs for the reasons given above." Long ago Darwin found that the white pig dies out in a few years when crossed with the black.

Recently I have found that white skinned northern hogs will not thrive in the Philippines and one raiser actually kills all white ones in a litter. Similarly, white skinned bull-terriers and fox-terriers are short lived in the tropics and subject to all kinds of diseases, even when given the utmost care. They are being

*"The large improved Yorkshire is a white hog, both the hair and the skin. These are grown in Ontario where there is considerable foggy weather or cloudy days. In Minnesota these hogs are not grown quite as easily and in the west down through Montana, Wyoming, Colorado, and in the south where there are very few days that are not sunshiny and bright, it is impossible to grow these hogs at all. Prof. Cotterell, formerly of the Colorado Experiment Station at Fort Collins, Prof. Morton, who is there at the present time, and Prof. Carlyle, who is now at Moscow, Idaho, all noted this effect on the Yorkshire hog. These men were attempting to grow bacon hogs and to show the people the correct types. They worked with the Tamworth, a sandy colored pig, the Berkshire, a black pig, and the Yorkshire, a white pig. The Tamworth and the Berkshire did fine, but the Yorkshire hogs all became affected with some skin trouble, mange, or something similar, and as soon as affected ceased to grow. Protection from the sun helped in growing them, but the hogs never did well and they were given trials year after year with some of the best stock obtainable. Eventually the growing of them was given up entirely because they do not withstand the sunlight.

"The same observations have been made of Chester White hogs here in the state and it is believed that these are not more popular than they are on this very account."

constantly imported, but do not leave a trace even in the native cur of mixed blood.

The same story is now being told as to cattle. Tropical species all have black skins, whether the hair is black, white or a shade of red or yellow, and the imported northern white skinned breeds do not flourish. The skin is subject to the same eruption in Africa as the white pig in Colorado. Even white patches of skin are a disadvantage and I find that in the Philippines they are often the seat of these same actinic eruptions, also similar to the summer eruptions on the white noses on horses as far north as Maryland. But the total effect on the unprotected organism causes degeneration and extinction. Cattlemen in such countries are constantly importing breeders to keep up the stock. Professor Wallace strongly advises that only those breeds with pigmented skins be taken to South Africa to improve the stock for milk or meat (see publication of the British South African Company, London, 1908), and strongly approves the experiment now being made by Mr. A. P. Borden of Pierce, Texas, who introduced the Indian zebu, and who now finds that their half-breeds are bigger, fatter and more resistant to Texas diseases. (See Pastoralists' Review, Melbourne, Australia, Nov. 16, 1909, and American Breeder's Magazine, 1910.) Whether these half-breeds can be made permanent is doubtful, as the progeny will revert to one or other type if they survive. Indeed there is abundant evidence that no such crosses can be permanent even if they are vigorous. New hereditary varieties are invariably slight modifications of pre-existing varieties and not crosses. Even "crosses" in plants are bred for "points" between close varieties and are not hybrids of widely separated breeds.

What concerns horsemen is the big generalization now being made from these facts by progressive breeders;—a domestic animal which after thousands of years of natural and artificial selection has become adjusted in physique to one set of conditions as to climate, food and care, is by that very token unfit for another set. If we want to stock up a new place with animal or plant we must secure breeds from where the conditions are as nearly identical as possible, for it takes too long to develop a new breed by selection, which must be done by easy stages extending over centuries. In fact no wild animal has

been domesticated for many thousands of years, with the exception of the alpaca, llama and turkey—all in America, and every new permanent breed we are told of, is a slight modification of a pre-existing breed which has been in the same or similar place for ages.

The horse is not a tropical animal at all, but he and all his near relatives, the asses, back to their tiny five-toed ancestor, have lived in dry temperate plains. The early stages occurred in America, perhaps, but specimens drifted to northern Europe and Asia, where they survived while the American stock was killed off by some climatic change; all our present "wild" horses are due to post-Columbian importations of domestic breeds of Europe. The pre-historic native European man used these horses for food for many tens of thousands of years, but apparently never domesticated them—perhaps he hadn't intelligence enough. There is said to be a tiny remnant of this old European horse at Ile d' Yeu, Vendee (see MacCurdy, Smithsonian Report, 1909, p. 559), but every other horse in Europe or Africa is a descendant of breeds domesticated in Asia and imported during or since neolithic times.

The very sweat glands themselves of both man and horses are evidence of early northern evolution for they permit of rapid changes of temperature and cooling off by evaporation in a dry atmosphere where hair had to be retained for protection from cold shortly afterwards. Sweat glands as a rule are not developed in moist hot countries nor in animals clothed in wool or fur, as they would be useless, or dangerous, and all such animals have other ways of keeping cool,—dogs, cats, carabao, birds, etc. Consequently northern species taken to the tropics perspire unduly in conditions where the adjusted natives have dry skins—man as well as animals. If there is excessive perspiration it is evidence of lack of adjustment, for the normal skin is dry. That is why dark skinned races of men are perfectly dry and comfortable in a moderate heat, where a white man is dripping in perspiration through inability to radiate. It is amazing how the Chinese and Filipinos, for instance, can stand the oppressive heat of their houses and shops, without a drop of perspiration in evidence. Similarly the northern horse will not thrive in a moist hot country and even when he be-

comes wild as in South America he cannot get within 25 degrees of the equator, but he does better in dry Australia, even in the tropical zone. In the hot sunshine, the darker the horse the more he frets and perspires, and we can imagine his feelings by donning black clothes and exercising with him.

The single hoof too is evidence of evolution in dry countries, for the split hoof is needed for support in marshy land—a carabao's foot for instance spreads like a parachute and he can walk comfortably where a horse bogs down. There is considerable evidence that all the double-hoofed animals arose in southern Asia, and we know that all our domestic cattle were thence derived. When the split-hoofed animals take to the uplands for permanent residence, the hoofs in the course of ages dwindle to tiny points permitting of climbing on narrow ledges. As a side thought it should be stated that the hog is frequently born with fused metacarpals and a single hoof—the "mule-foot" hog. It is a "sport" or "mutation" which is inheritable and as it is supposed to be an advantage, perhaps from less danger of harboring infections, efforts are now being made to develop the breed in several of our western and southern states. The point of interest to us is the fact that the best specimens are black or red but not white skinned. (See American Breeder's Magazine, 1910.)

Now the primitive horses in their wanderings in the last two million years have frequently been compelled to change the color of their clothing according to climate and other conditions. The oldest known picture of paleolithic European horses (Smithsonian Report, 1909, p. 560), perhaps drawn 100.000 years ago, gives a distinct impression of a roan, though everywhere else in modern times the wild horse (not escaped domesticated varieties) is some shade of yellow to conceal him on the yellow plains like the coyote or lion. This color is an advantage in reflecting heat in summer and conserving it in winter, the black skin beneath protecting from light. Blacks are never found, as they would freeze in winter or "blow-up" in summer. As a matter of fact the black is a fancy product of artificial selection, and a poor one, too, as he requires artificial protection in all seasons, as previously explained. Noted racers are rarely black. Sometimes black stripes were required for better concealment in the long shadows of tall grass, as in the zebra, but on the whole they are essentially light coated with black skins.

The following is a quotation from the excellent address to the British Association for the Advancement of Science by Prof. William Ridgway of Cambridge University (Popular Science Monthly, December, 1908) on "The Application of Zoological Laws to Man." It shows that in nature slight differences of climate make great differences in the coloration and type fit to survive. In domestication similarly slight differences of climate make vast differences in type and in efficiency or fitness of displaced types:

"If we follow the horse from northern Asia to the Cape of Good Hope, we shall find that every belt has its own particular type, changes in osteology as well as in coloration taking place from region to region. First we meet the old dun horse, with its tendency to become white, the best European examples of which were probably the now extinct ponies of the Lofoden Isles. In Asia, Prejvalsky's horse is the best living instance—a dun-colored animal with little trace of stripes. Bordering on the Prejvalsky horse, or true tarpan, comes the Asiatic asses: First, the dzeggetai of Mongolia, a fawn-colored animal, the under parts being Isabella colored; then comes the kiang, of the upper Indus Valley, seldom found at a lower altitude than 10,000 feet, rufous brown with white under parts, whilst, as might be expected from its mountain habitat, its hind quarters are much more developed in length and strength than in the asses of the plains. The *Onager indicus, onager* and *hemippus* are found in all the great plains of the Punjab, Afghanistan, western India, Baluchistan, Persia and Syria, whilst a few are said to survive in South Arabia. All these are lighter in color than the kiang, the typical onager being a white animal with yellow blotches on the side, neck and head. All the Asiatic asses are distinguished by the absence of any shoulder stripe, though they occasionally show traces of stripes on the lower part of the legs. The southern Asiatic asses just described in their grayer color and smaller hoofs approximate to the wild asses of Africa, especially to those of Somaliland, whilst it is maintained that in their cry, as well as in their color, the kiang and dzeggetai come closer to the horse, whose next neighbors they are.

"Passing to Africa, we find the ass of Nubia and Abyssinia showing a shoulder stripe, and frequently with very strongly defined narrow stripes on the legs, the ears being longer than those of the onager. But in closer proximity to southwestern Asia comes the Somali ass, which differs from those of Nubia and Abyssinia by being grayer in color, by the entire absence of shoulder stripes and by smaller ears, in all which characteristics it comes closer to its neighbors on the Asiatic side than it does to its relations in Abyssinia and Nubia.

"Next we meet the zebras. First comes the magnificent Grévy zebra of Somaliland, Shoa and British East Africa. It is completely striped down to its hoofs, but the coloration of the specimens from Shoa differs from that of those from Somaliland, and from those of British East Africa. The Grévy

zebra has its hoofs rounded in front like those of a horse, but its ears are more like its neighbors, the asses, than those of any other zebra.

"In the region north of the river Tana the Burchelline group of zebras overlaps the Grévy, and though it differs essentially in form, habits and shape of its hoofs from the Grévy, some of those in the neighborhood of Lake Barringo show gridiron markings on the croup like those on the Grévy zebra, whilst, like the latter, they also possess functional premolars.

"All of the zebras of the equatorial regions are striped to the hoofs, but when we reach the Transvaal, the Burchelline zebra, known as Chapman's, is divesting itself of stripes on its legs, whilst the ground color is getting less white and the stripes less black. Further south the true Burchell zebra of the Orange River has completely lost the stripes on its legs and under surface, its general coloring being pale yellowish brown, the stripes being dark brown or nearly black. South of the Orange River the now extinct quagga of Cape Colony had not only begun to lose the stripes of its under part and on the hind quarters, but in Daniell's specimen they only survived on the neck as far as the withers, the animal having its upper surface bay and a tail like that of a horse, whilst all specimens of quagga show a rounded hoof like that of a horse.

"In the quagga of 30°-32° S. we have practically a bay horse corresponding to the bay Libyan horse of lat. 30°-32° N.

"But the production of such variations in color do not require great differences of latitude. On the contrary, from the study of a series of skins of zebras shot for me in British East Africa, each of which is from a known locality and from a known altitude, there can be no doubt that such variations in color are found from district to district within a comparatively small area.

"In addition to the two species of zebra already mentioned, there is the mountain zebra, formerly extremely common in the mountainous parts of Cape Colony and Natal, though now nearly extinct in that area. Its hind legs, as might naturally have been expected from its habitat, are more developed than those of the other zebras, just as these same limbs are also more developed in the kiang of the Himalayas than in any other ass.

"With these facts before us, there can be no doubt that environment is a most potent factor not only in coloration, but also in osteology. No less certain is it that environment is capable of producing changes in animal types with great rapidity. Thus, although it is an historical fact that there were no horses in Java in 1346, and it is known that the ponies now there are descended from those brought in by the Arabs, yet within five centuries there has arisen a race of ponies (often striped) some of which are not more than two feet high. Darwin himself has given other examples of the rapid change in structure of horses when transferred from one environment to another, as, for instance, when Pampas horses were brought up into the Andes.

"Another good example is that of the now familiar Basuto ponies. Up to 1846 the Basutos did not possess a single horse, those of them who went down and worked for the Boers of the Orange River usually taking their pay in cattle. At the date mentioned some of them began to take horses instead. These horses were of the ordinary mixed colonial kinds, and we may be sure that the Boers did not let the Basutos have picked specimens. The Basutos turned these horses out on their mountains, where, living under perfectly natural conditions, their posterity within less than forty years had settled down into a well-defined type of mountain pony."

A white coat is the best, both in cold and hot plains, but it is fatally conspicuous in wild species. Yet when domesticated and man protects it, resemblance to the black ground is no longer a prime necessity and the tendency is for the domestic breed to turn white in extremes of climate. The "typical" Chinese pony is milk white or gray with a black skin in a cold climate, and the Arabian breed tends to white in a hot one—and it too always has a jet black skin. The classical desert picture is a white robed Arab on a white horse, and each has a pigmented skin to keep out the light while the coat reflects the heat. I have made careful observations among the small horses of the Visayas—a curious mixture of Chinese and East Indian stocks—and I have been amazed at the enormous percentage of whites, grays, and roans, nearly all the rest being of yellow shades with few light bay. About the only healthy blacks were carriage teams which are never exposed to the midday sun. Practically all colors had black skins, there being no albinos, the alleged albinos having red or yellow skins and well pigmented eyes. Similarly there are no albino carabao, for the skin of these "white" ones is red or yellow and eyes black. It is also to be noted that the light roans bring higher prices because they keep healthier on poor food, bad care and hard work. It is very significant that the best Philippine ponies, those from Southern Luzon centering around Batangas, are believed to be decended from Arabs, introduced long ago by the Spaniards, or more likely the North African Barbs which are much more common in Spain than the Arab.

The Texan native stock is running to sorrel and light bay, as the darker colors do not survive in such vigor. In the Southwest the pintos are more in evidence. On the western plains, the most vigorous and enduring are the ugly dirty yellows, which the cowboys prefer for work, reserving the blacks for show or pleasure as a rule. In the darker eastern States the farmer prefers the bay for endurance, but the Filipino finds the best are the buckskins with black stripes down the spine. From Fitzwygram's "Horses and Stables" one would presume that in England chestnuts and bays are good, but the lighter grades of any color are bad, as we would presume where there is neither great heat, cold nor light. The ass, which

is a wild dun tropical animal, has run for thousands of years to gray and white under domestication in Africa, Asia and Europe. On the other hand in Northwest Europe any color of horse will survive which gets stable protection, and as a matter of fact the white skinned ones are very common as they keep warm in winter. There is then ample reason for the almost invariable rule that our white mules have black skins, inherited either from the black skinned ass or, what is more likely still, are remote descendants of white Arabians or Barbs.

When we do take the northern stock to the tropics they must be shaded or they sicken or die. We did not know that the retina was only sufficiently pigmented to protect from the subdued light of N. W. Europe, but horsemen were so strongly of the opinion that the stock must be sunned that they could not realize that too much sunning was fatal. So in 1908 in Cuba it was necessary to prohibit unshaded picketing between 9 a. m. and 4 p. m. to prevent the eye troubles due to the light. This is the reason for the former prevalence of conjunctivitis, iritis, retinitis and blindness among American horses in the Philippines and indeed quite a number were ruined in health in other ways before we realized the danger of midday exposure. The eye is so shaded from light that a horse cannot see much above the horizontal, and high checking may cause injury from sky-glare.

So difficult is it to preserve European horses in India, that they have depended upon native cattle for transport even in the field and light artillery. I have been informed by Dr. C. G. Thomson, Veterinarian of the Philippines Bureau of Agriculture, that the best breed for this purpose has been found by experience to be the Nellore cattle which, like the Arabian horse, has a white coat and a black skin. It is said that this stock made it possible to send Indian troops to Egypt in 1801 to drive out the French. Conspicuousness was of little disadvantage compared to survival. Cavalrymen and artillerymen are unanimous in opinion that their horses must not be conspicuous or they draw fire and now we see that the color selected must be one which is best for the climate, and that in the tropics we may have to depend on the yellow colors for mounts and to abandon such concealment for the trains, using

white mules as the British have done in India for a century and a half with white oxen.

Another general law applies to the migration of northern stock and it is of very great importance. Zoologists have long known that if a species extends very far in latitude the varieties increase in size from the equator towards the arctics, and that if a genus is similarly extended the species are bigger as we go away from the tropics. There are big mammals in both extremes with special means of keeping proper temperature, but other things being equal, bulk is an enormous advantage in keeping warm in cold climates, and slenderness and small size in keeping cool in the hot. This rule applies to man also, and it has long been known that the big northerners of Europe have a much higher sick and death rate in India or Africa and even in the United States than the little men like Lord Roberts and Dr. Livingston, the explorer. Tropical horses are all small, even tiny like the Japanese, and though special breeds like the Shetland and Icelandic can be kept by man in the north where food is too scarce for big animals, yet the tendency is towards bulk in the vigorous and well fed. The Percheron is wholly out of place in the tropics and the effort to breed up big beef cattle is liable to fail. The matter is closely connected with color in keeping cool, for these huge horses are largely grays.

In passing it might be explained that there are three distinct ways in which horses change color. The first is by sunburn, as when we see blacks turn reddish brown—a natural provision, by the way, to avoid overheating in summer. This change is not transmissible, and the colts born of such burnt stock are as black as their ancestors. Black horses vary in their ability to sun-burn, and this valuable character is inheritable. The wild animal varies all over—that is, each hair is the same, and the best color is selected for survival, so that there is a tendency to solid colors, for these congenital variations are inheritable. Under domestication we have a third method, for when a solid dark color is taken to a light country, only a few hairs at a time change to white—for some reason we do not understand—and we thus have the grays from the blacks and roans from the bays or yellows. These, too, are inheritable, and as man invariably selects the best for breeders, the grays and

roans increase very rapidly where they are the best. That is, the solid colors are domestic variations of wild species and the grays and roans are domestic variations of domestic solid colored varieties.

All grays and roans whiten with age and are usually quite dark when born. By the laws of evolution such late appearing characters are the most recently evolved, and it is proof that the grays or white horses is a recent variety probably evolved in domestication as better than the concealing yellow of the wild varieties. The northern indigenous dun horses tended to turn white in winter like the fox, hare, and ptarmigan, for then it was an advantage in concealment, as well as heat conservation, and it even tended to stay white the year round, but such types even though best for climatic purposes were more conspicuous and were not established until man protected them from slaughter by carnivorous enemies.

Coat color is thus seen to be purely for heat protection or conservation, the underclothing or skin pigment is never colored but is always black or blackish brown for light protection if there is an outer thin garment of hair. Red skin is found only where the hair is thin and red, and is really not an underclothing. The color is to reflect and is useless underneath. There has never been an explanation of the scientific reasons for the experiments with orange-red underclothing. What we want are garments which do not transmit any rays, and any color will do, but as black is best for equal thickness of material, nature always selects that color for the microscopically thin undergarment of the skin pigmented layer. As a matter of fact the orange-red clothing used had shrunk in dyeing and was of heavier weight than many people wear in northern winters, and the results only show that we should not use heavy clothes in the tropics. Quicker results would have followed from issuing furs. Besides, the men often went out in their undershirts and were at as great a disadvantage as the carabao in the sun. The latest report of the dark colored khaki cloth also shows it to be too hot. White is the best but requires a black undergarment in the sun as with Arabian horses, while the yellow khaki is opaque enough without underclothing and is the color nature uses with wild horses. For night use or in

shaded houses and stables black is the best for it radiates heat and is selected by nature as the coolest for nocturnal tropical animals. White is too hot at night as it conserves heat as in polar animals, but somehow we think it cool. But black horses are cooler in summer in shaded stables than the white animals. The double canvas awning of tropical passenger ships has a white canvas on top and a dark one, generally blue, a few inches beneath it—the same arrangement as nature uses with white horses in light countries. It is exceedingly comfortable and I have successfully used the scheme in hospital tents for the tropics—a white fly over a blue topped tent—and found it very comfortable.

The Coreans dress in white for it serves the same purpose of heat conservation as the whiteness of their northern horses and arctic animals; but tropical peoples who are not compelled to go outdoors in the daytime show a remarkable tendency to don black or dark colors like the carabao, as more comfortable from the greater radiation. The main use of man's hair is to shade the brain, and in hot climates it tends to become kinky (never woolly), for greater effectiveness and also not be unduly hot. Perhaps a horse's mane has a similar use as well as a protection from insects.

The matter of color fitness to the tropics has never been brought up, consequently there are no available statistics as to the relative efficiency, health and length of life of the various colors of horses. Nevertheless in a few tropical places, I have found that horsemen have noticed that the light colors and grays are the best. The blacks are the most sickly and shorter lived, if exposed, but if carefully shaded from 9 a. m. to 4 p. m., their blackness is a great advantage in keeping cool. Here and there, I have found teams of gray horses or mules in perfect condition after years of work on hot trails without a day's sickness, in conditions which worry, fret, sicken and kill the dark ones. The only accurate figures obtainable were given me by Captain S. C. Vestal, C. A. C., who had a mounted organization at Tampa through the hot season of 1898:

"We had six blacks, sixty bays, twelve sorrels, and about seventy grays. These horses were exposed to the sun with very little protection for about two months. They were all in ex-

cellent condition when we received them. We gave them as much shelter as possible, but they were necessarily exposed during the day to the sun. Five of the six blacks died, and the sixth one must have died a short time after we turned him back to the quartermaster. Several bays died, and all lost flesh; none of the sorrels died; all lost flesh to a much less degree than the bays; none of the grays died; and, as far as we could see, they did not lose flesh. My recollection, on thinking the matter over, is that we had three or four roans that remained in excellent condition; but I cannot be certain of this. Nevertheless, it seems to me that we placed the roans in the scale of health between the sorrels and the grays."

Major A. J. Robertson, P. C., informs me that in 1903 he bought 100 Chinese mules of all colors, for the Philippine constabulary, and yet eight years later, as far as he knew, only four had survived, and they had milk white hair and jet black skin. Even in our West, the negro soldiers used to say that a white mule never dies. In Manila, it has been observed that the horses which survive all adversities and become disabled from age are almost exclusively white, gray, roan and light yellow; the whites predominating very largely. The average length of life of American horses in the Philippines is only five years. Major Robertson from his experience proposes in the future to buy only white-haired, black-skinned mules. It is quite evident that by such rapid selection the Arab horse has become white or gray to a large extent in a very short time. Yet it takes more than a year to show the relative tropical adaptability of sorrels and dark bays, which, by the way, correspond to the grades of blond and brunet in man, and the latter also do not show much difference in one year, though it is a matter now undergoing investigation for the very kind of data we also need as to horses over five years in the tropics.

What is now needed is carefully compiled statistics of horses which die or are disabled in every climate in the world to which we ship our horses and mules—including age, color, where bred, when and where purchased, how long in the new climate before death or disablement, and whether the animal had been vigorous or sickly as a rule. Even disabilities by injury

should be reported, for the best stock will survive what kills the feeble.

As yet we cannot pretend to say what colors must be selected for each place, we can only presume that in the sunny West we should take the grays, lightest bays, sorrels and yellows; in the arid Southwest, resembling Northern Africa, the grays and very light colors, and in the Northeast and Northwest the darker colors; also that blacks should be excluded from field service in the Southeast and the tropics, but in garrison they do well if shaded. Draft animals should be whites or grays exclusively. The increasing difficulty of getting the best solid colors for military uses is due to their dying out. We may have to accept grays very largely even if they are conspicuous. They seem to be increasing in number as they did in the similar condition of China and Northern Africa centuries ago.

There is some unknown causative relation between color and nervousness, for on "review," as a rule, the gray troop is actually phlegmatic, the sorrel quiet and the bays excitable and restless. There is some evidence that the most excitable of all are the blacks, though all colors furnish quiet specimens. The white horse is often the family standby and always seems to be old. It is the only kind fit for circus acrobats, but it has never been known to make a modern racer. Moreover, a thoroughbred stallion is not salable if it is even suspected that he has white relations or has had a gray in his get. On the other hand, the white is so much better fitted for the tropics that he wins an undue percentage of races in Manila. Nervousness is so harmful in the heat that, as a matter of selection, the Arab breed has developed into a quiet, gentle and sensible animal. The white is more "trainable" and is always selected for "trick" horses. So it is quite likely that the English and American thoroughbreds have totally eliminated the Arab blood, which is said to be the basis of all these strains, and by Mendel's laws of heredity the thoroughbred horse perpetuated only the nervous types of dark northern stocks, as quickness is an essential for which they were bred.* This phlegmatic

* See, also, Fitzwygram's "Horses and Stables," 5th Ed.

characteristic, of course, helps the white horses and mules in the tropics—they are slow and take life as easily as a carabao. If other places give statistics half as conclusive as those of Captain Vestal and Major Robertson, it means that by proper color selection we can save much expense and keep the stock in better condition with less sickness and get more work out of them.

Cities should furnish valuable information as to the best colors for the tropics, as a very hot wave in summer, in Chicago, for instance, kills the least fit at the rate of 300 to 500 a day, and it is safe to predict that on investigation the dark colors will predominate.

The general principles in the book, "The Effects of Tropical Light on White Men," are now said to guide the British Government in the selection of tropical servants, but we have not yet paid any attention to that matter. It is hoped that if the book proves to be the means of saving public money now spent on unsuitable horses, its publication will not be in vain, even if we have failed to profit much by it ourselves. In the last two decades, acclimatization has been repeatedly proved to be impossible, and the word is now only used by ignoramuses. A few belated physicians still profess to believe that nature made a mistake in pigmenting living forms in light countries, but that is no reason why cavalrymen should be so foolish as to injure their branch of the service by trying to acclimatize horses where God cannot do it.

Mr. W. R. Gilbert (*The Horseman*, Chicago and New York, April 4, 1911) shows that in the "earlier part of the eighteenth century, grays were, in England, the most successful horses on the turf. Gimcrack, Mambrino, Gray Diomed and Gustavus were all grays. The last named is the only gray horse which has won the English Derby. This was at a time before the Arab blood was bred out of the "thoroughbred," and these racers were slow compared to the modern, which come from Eclipse (chestnut), Matchem (bay) and Herod (bay), all of which are blended in Blacklock (bay). Even Eclipse blood is being eliminated, for the racers are now almost wholly brown and bay. Further south in France, grays are not so rare, Baron Scheckler having a line of such thoroughbreds from "Gem of Gems."

The cavalry are having difficulty in getting proper mounts even in the United States, and it is because the stock of Northwest Europe changes in our climate, and any attempt to acclimatize their more weighty, speedy and nimble horses is biologic nonsense. Even the racers with which we are so successful must be coddled in a way impossible for field service. Nor can we establish a half-breed or other cross. This may be illustrated by the experience of the Danes with hogs. The native breed gets its growth quickly but is not big enough, so they introduced the big white Berkshire to improve the stock and got exactly what they wanted: a big animal ready for slaughter in eight months. This is a vital matter to Danes, for their country is really a suburban farm supplying Londoners with ham and bacon. So they made numerous attempts to establish the new breed, but by Mendel's law the progeny reverted in time to one or other parental type. Now they constantly import breeders and slaughter all the hybrid progeny for the market, and this really makes Denmark part of the British Empire, with whom war is impossible, by the way. Some genius will some day find a cross as fit for our cavalry as the European stock is fit for foreign troopers, but it will not be a permanent type, and, moreover, it will be suited to only one of our innumerable climates. We cannot get a horse fit for every place. A black horse which must be coddled in garrison to keep it alive, summer or winter, is, of course, unfit for war, as coddling is then out of the question, and it dies like those at Tampa, and possibly also in cold countries.

Professor Wallace is preparing a work on tropical domestic animals for the new Macmillan series of works on tropical subjects, where the matter will be more fully treated.

Note to the Editor:

I have carefully read the above article and would like to get the statistics that its publication will undoubtedly elicit.

GEO. S. ANDERSON,
Brigadier General U. S. Army.

Headquarters Department Visayas,
Iloilo, P. I., May 17, 1911.

CAVALRY REORGANIZATION.*

By Captain HOWARD R. HICKOK, Fifteenth Cavalry.

WITHIN the last few years there has been a growing feeling with the cavalry officers of our service that our organization is not that demanded by present conditions. The reasons for such regard have not always been clear. In the following discussion some of these will be set forth. It is not thought that our organization, both of the regiments themselves and of the entire cavalry, with reference to the service at large, is that which will secure the greatest efficiency for duty in war.

PERTINENT FACTS OF GENERAL BEARING.

Among the various elements of a more or less political nature that must be considered in attempting any reorganization, the following may be mentioned:

Our legislative traditions habitually insist on a minimum or "peace" strength, and are historically opposed to full or "war" strength.

The tendency has always been during the continuance of a war to create additional organizations, allowing the old ones to dwindle rather than to keep up to full strength those already in existence.

Legislative prohibition prevents in time of peace the permanent organization of units higher than a regiment.

Every organization or reorganization scheme is viewed by Congress with suspicion, as being not for the purpose of increasing efficiency of the army but for the purpose of securing promotion for somebody.

Every scheme for reorganization of the cavalry and which does not at the same time bring promotion and other advantages to the other arms will be met by jealous opposition, an opposition of such a nature that cognizance will probably be taken of it by higher authority.

*This article was received just after the July, 1911, number of The Cavalry Journal—the Reorganization Number—had gone to press.—Editor.

Historical Development.

EUROPEAN.

The present European ideas on cavalry date principally from the time of Frederick the Great. When this monarch ascended the Prussian throne he found "the cavalry composed of large men, mounted upon heavy, powerful horses, and carefully trained to fire in line, both on foot and on horseback. This force was of the heaviest type and quite incapable of rapid movement. In fact, the cavalry of all European States had degenerated into unwieldy masses of horsemen, who, unable to move at speed, charged at a slow trot and fought only with pistol and carbine."

"His [Frederick's] first change was to prohibit absolutely the use of firearms mounted, and to rely upon the charge at full speed, sword in hand. He taught his horsemen to disregard the fire of the enemy's squadrons, and to rush in with the utmost vigor, and in order that this charge at speed should be as effective as possible, he lightened the equipment and armament of his soldiers, and took every possible measure to enable them to move rapidly and in good order over every kind of ground."

"Out of twenty-two great battles fought by Frederick, his cavalry won at least fifteen of them."

The Prussian cavalry consisted of cuirassiers, dragoons, and hussars. A regiment of cuirassiers contained five squadrons, each comprising two companies of seventy men each. Most of the dragoon regiments were of the same force and composition as the cuirassiers. One dragoon regiment had three squadrons and two others had ten squadrons, but these were the only exceptions. The hussars were organized in regiments of ten squadrons each, but the squadrons were not so large. Each regiment contained fifty-one officers and 1,440 horses.

The tactics adopted by Frederick were so effective against those of his adversaries that it was not long before they adopted

his organization and system of tactics. The larger organizations were eliminated and the organization of the cuirassier regiments may be considered as typical. The organization then adopted has become so strongly impressed upon European traditions that very little change has been made in it since the middle of the eighteenth century, and that organization is practically the same in all nations, the United States excepted. As indicated above, this organization was made for the purposes of mounted combat. No change has as yet been effected in it by the improvement in firearms. Many prominent European writers, while recognizing the necessity of dismounted fire action and making the necessary recommendations as to changes in cavalry tactics, make no recommendation as to changes in regimental organization.

AMERICAN.

In the early part of our national existence, legislation made little difference in organization between the mounted and dismounted forces. We find the cavalry variously designated as dragoons, cavalry, and mounted rifles. The organization, with minor differences, was that of infantry, usually ten companies to a regiment, having as field officers one colonel, one lieutenant colonel, and one major.

No permanent mounted force was created until 1833 when the First Dragoons was organized. Other regiments were added from time to time until, at the outbreak of the Civil War, there were a total of five regiments in the regular service, their general organization being that just stated.

The Act of Congress of July 22, 1861, authorizing a call for 500,000 volunteers, prescribed that the organization should be similar to that of the regiments of the regular service. This Act authorized the organization of cavalry and artillery not to exceed the proportion of one company each for each regiment of infantry called into service. As the regiments consisted of ten companies each, this Act established the proportion of cavalry to infantry as one to ten.

A sixth regiment of cavalry was added to the regular service in 1861. By the Act of July 17, 1862, the six regular regiments were reorganized, the organization being made uniform in each; each having one colonel, one lieutenant colonel, three majors, the necessary commissioned and non-commissioned staff; twelve troops, each troop having one captain, one each first and second lieutenants, and a total enlisted of 100 men each. A supernumerary second lieutenant was also authorized to each troop. In 1866 the cavalry was further increased by the addition of four regiments, the organization of the entire cavalry service remaining, with but slight changes, as it then existed.

The cavalry corps of the Army of the Potomac in 1864-1865 may be taken as a fair example of the organization of all the Union cavalry at that period of the war. The corps was composed, at the beginning of the campaign from the Rappahannock to Petersburg, of 3 divisions, of 7 brigades, of 33 regiments, 585 officers and 11,839 men, giving an average of 18 officers and 364 men per regiment, a little less than 1,700 per brigade, and about 4,000 per division. The cavalry corps of the Army of Northern Virginia at this time shows a similar organization, being composed of 2 divisions of 6 brigades, containing 23 regiments, 464 officers and 7,932 men, or an average of about 20 officers and 344 men per regiment.

The tactics in use by the Union cavalry at this time were those of Colonel P. St. George Cooke, adopted in 1861. The drill provided for the maneuver of the squadron (our troop), the regiment, and brigade. Between the squadron (our troop) and the regiment, there was no intermediate organization corresponding to our present squadron. There were no specific duties assigned to any of the five field officers authorized per regiment, except to the commanding officer. According to these tactics, two regiments formed a brigade and two brigades a division.

The infantry tactics in use during the Civil War were those of General Silas Casey of 1862. These provided for the drill of the company, of the battalion, and of the brigade. The battalion was the drill or maneuver name of the regiment, and four such battalions constituted a brigade. These features continued down through the editions of Upton's Tactics of 1867 and 1873. It will thus be seen that the organization and

drill of the cavalry and infantry of the period of the Civil War were similar.

In 1867 Upton's Infantry Tactics were first adopted. A board convened in 1873 revised these and also produced the assimiliated cavalry drill called "United States Tactics, Cavalry; 1873." The revision of Upton's Tactics and this cavalry drill book were both adopted. The cavalry tactics provided for practically an infantry double rank formation and drill dismounted similar to those of Upton's Tactics. For mounted work the battalion consisted of any number of companies from two to seven, four being considered the normal number. A field officer, rank not stated, was supposed to command the battalion. The regiment was supposed to consist of three battalions, each of four companies, but the rules of drill were applicable to a greater or less number of battalions of a greater or less number of companies. The brigade was given as consisting of three regiments. The size and composition of the division was not stated.

Already in Europe the present three-battalion system had been adopted. It will be seen from the above that our cavalry adopted for its mounted work the three-battalion system before even the infantry of our army had adopted it. The 1873 editions of both cavalry and infantry tactics were in 1891 superseded by the drill regulations adopted that year and which may be said to be those on which the drill regulations now in use were directly based. These 1891 drill regulations definitely adopted for the infantry the three-battalion system of drill. Congressional legislation of 1898 added the necessary field officers and companies to the infantry to make the three-battalion system effective.

It will be seen by the foregoing discussion that our present cavalry regimental organization is a growth; that the three-squadron system of drill was not introduced until 1873, eleven years subsequent to the date when three majors were authorized per regiment, and that the present organization and system of drill cannot be said to be based directly on our experiences in the Civil War.

It will be further observed that our cavalry holds strongly to the principles of dismounted fighting. This is an essential

difference between our cavalry and that of the rest of the world. Our cavalry has always been trained for mounted combat, but during the Civil War and in partisan and border warfare, before and since, dismounted fighting has been an essential feature of our fighting tactics. It is, therefore, traditionally impossible for us to adopt any organization that does not give great prominence and consideration to dismounted fighting, and we are not prepared to adopt the European organization, which is founded on the organization of Frederick the Great and has practically no traditions which are not those of mounted combat.

BASIC PRINCIPLES GOVERNING ORGANIZATION.

The organization should be such that the following elements will be secured, as far as practicable:

1. Facility of maneuver, both in mounted and in dismounted movements and in the charge.

2. Securing the greatest strength for the kind of fighting required; such as the number of sabers in the mounted charge, the number of rifles when dismounted and fighting on foot etc.

3. The size of the units should be suitable to the various tactical purposes to be subserved, as for divisional cavalry, contact troops or squadrons, etc.

4. Convenience of and facility for command by the troop, squadron, and regimental commanders.

5. Of a size and composition partaking as little as possible of the distinctive characteristics of the higher organizations, of which the smaller organization forms an integral part.

6. Of a size suitable for combination into higher units.

7. Organizations adapted to the probable nature of the warfare for which to be used.

8. The regiment should be the unit for detached service; not the squadron, as now obtains.

9. Simplicity of organization.

10. Regiments should be homogeneous in composition; either all regulars, all militia, or all volunteers.

The reason for this should be apparent to all concerned; yet, it has frequently been proposed in late years to form for war

mixed regiments of regulars and militia cavalry, or of regular cavalry and volunteer cavalry.

11. The regiments sould be maintained at such strength in peace that on being called into war their efficiency, as to personnel and mounts, should not have to be impaired by the addition of raw, untrained material to bring them up to war strength.

12. A system should be established whereby a constant flow of trained recruits and remounts is furnished direct to the regiments. The depot troop fills this requirement.

13. That composition and size which is most suitable for the purposes of administration, supply, discipline, and training.

14. The various subdivisions of a size, character, and organization suitable as a command for the officers of the various grades that are to command them.

15. Providing for a reasonable flow of promotion for officers.

16. The total amount of cavalry should be proportionate to the size of the force or army with which it is to be used.

17. The cavalry to be used with any force must be coexistent with that force.

It should also be noted that:

1. Small and numerous units increase the work of administration to the detriment of tactical training and efficiency.

2. Theoretical or paper strength includes all non-combatants and non-effectives, and never represents the fighting or effective strength.

3. Tactical formations or organizations having as their object large reserves for dismounted fire action are unjustifiable in the cavalry. This is due to the fact that the very nature of the cavalry dismounted fight requires that the firing line be as strong as possible from the very beginning; the reserves held out being small as compared to those required in the infantry fight.

FOREIGN ORGANIZATIONS.

In the following table is given data concerning the cavalry of the great powers of Europe, of Japan and of Mexico. Due to many details of organization, the figures here given represent as nearly as possible in small space the various organizations, as far as the data is available:

COUNTRY	No. Sqns. per Rgt.	No. per Sqn.			No. per Rgt.			
		Off.	Men	Horses	Off.	Men	Horses	
Austria-Hungary	6	5	171	156	45	1083	1021	Peace
	6	5	171	156	39	1092		War
France	5	6	156	141	44	787	734	Peace
		7	162	141	49	817	734	War
Germany	5	5	139		25	625	678	Peace
			145		25	725	678	War
		6	172					War
Great Britain	4	6	162	175	25	650	523	Peace
	3	8	158		25	528	525	War
Italy	5	4	155		34	801		Peace
	6	5	133		34	801		War
Japan	4 & 3	5	136		24	512		Peace
		5	142		24	539		War
Mexico	2	6	72					
	4	8	105	105		420		Peace
	6	5	140		30	770		War
Russia	2 to 6	5	173		30	915		Peace
	6	5	173		30	915		War

Austrian and Italian regiments each have two subdivisions corresponding to our squadrons. Except Mexico, all these countries provide depot troops (squadrons). Mexico has a few skeleton regiments in ordinary times of peace, but these have been lately expanded to the war footing. These are indicated above, under the two-squadron regiments. In the foregoing table, the total enlisted includes both the effectives and non-combatants. As a rule, the effectives number about 150 sabers per squadron. Many of these countries have pioneer and signal detachments either attached to the regiments or as integral parts of them. The machine guns are variously organized. In some

countries they form detachments and are permanent parts of the various regiments, and in other countries machine guns are only attached when needed, as at maneuvers.

Field officers in cavalry of the various countries above are as follows: Austria, with six squadrons per regiment, has three; Great Britain, with three squadrons, has five; France, with five squadrons, five; Germany, with five squadrons, from two to five; Italy, with six squadrons, four; Mexico, with four squadrons, three, and Russia, with six squadrons, four. This gives an average of approximately one field officer to each 1.25 squadrons. The regiments are all commanded by either a colonel or a lieutenant colonel. In the British service, each squadron is commanded by a major. In the Austrian and Italian services the half-regiments are commanded by a field officer. In other cases the duties of the field officers are similar to those of our lieutenant colonel when all other field officers of the regiment are present.

There are certain elements more or less similar in all foreign regiments. Among these elements may be mentioned the following:

The smallest foreign unit is the squadron. It varies in strength not far from 150 men.

The peace strength is always not very much different from the war strength. Where additional men are added for war, they are usually non-combatants of various sorts.

The number of horses in peace is also about that of the war strength.

The next higher organization above the squadron is the regiment.

The squadron is habitually commanded by a captain, only one or two cases existing where it is commanded by a major. In some cases there is a second or supernumerary captain to each squadron.

From three to six squadrons form a regiment.

Except in the Austrian and Italian regiments, which are divided into half-regiments, there is no intermediate unit that corresponds to our squadron.

The foreign squadron, therefore, corresponds more nearly to our troop.

The regiments vary in strength from a trifle over 500 to nearly 1,100 men. The lower limit is found in Japan, which has no cavalry traditions and is essentially a non-cavalry nation.

On the declaration of war, an additional officer, usually corresponding to our second lieutenant, is frequently added to each squadron.

These armies all provide for depot squadrons, the function of which is to supply direct to the regiments trained men and remounts. These depot squadrons are all regimental, except in the British service, where there are several for the whole service.

On the declaration of war, regiments are practically on a war footing and at once take the field with full strength.

It is a well-known fact that tactical organization in Europe is frequently influenced by considerations of economy, organizations assigned to the command of various officers being on this account often larger than the tactical requirements. It would be interesting to note what changes would be made by these countries if this consideration did not largely enter their calculations.

OUR PRESENT ORGANIZATION.

The principal part of the law governing the organization of the United States Cavalry is found in the Act of Congress approved February 2, 1901. Briefly, this is as follows:

"Each regiment shall consist of one colonel, one lieutenant colonel, three majors, fifteen captains, fifteen first lieutenants, fifteen second lieutenants, two veterinarians, one sergeant-major, one quartermaster sergeant, one commissary sergeant, three squadron sergeant-majors, two color sergeants, with rank, pay and allowances of squadron sergeant-major, one band and twelve troops organized into three squadrons of four troops each.

"Each troop of cavalry shall consist of one captain, one first lieutenant, one second lieutenant, one first sergeant, one quartermaster sergeant, six sergeants, six corporals, two cooks, two farriers and blacksmiths, one saddler, one wagoner, two trumpeters and forty-three privates; the commissioned officers to be assigned from those hereinbefore authorized.

"The President, in his discretion, may increase the number of corporals in any troop of cavalry to eight and the number of

privates to seventy-six, but the number of enlisted men authorized for the whole army shall not at any time be exceeded."

This Act increased the number of then existing cavalry regiments from ten to fifteen.

A part of the Act of July 28, 1866, still in force, reads: "* * * Any portion of the cavalry may be armed and drilled as infantry or dismounted cavalry at the discretion of the President."

The President may prescribe the tactics, mounted and dismounted, of the various troops, and their other duties; as, for example, that a certain troop shall be a machine gun troop or a depot troop, etc.

Our law also prohibits the organization, in time of peace, of permanent organizations higher than a regiment.

In time of peace, the regiments are, with few exceptions, organized with the minimum strength. Our Field Service Regulations prescribe an organization for cavalry regiments, which, not being that indicated in the above quoted law, will, accordingly, have to be so organized when so ordered, and which will be, if at all, most probably after the outbreak of war.

In peace, some regiments are stationed entirely at one station. Other regiments are broken up and scattered in garrisons from one troop up. In such cases there can be little or no collective training and the training in each regiment, due to the lack of opportunity for supervision by the regimental commander, will not be uniform.

Our recruits come from the general recruiting service. Some of them have had some training, usually only dismounted, before joining the regiment. In time of peace, remounts come from the remount depot. Following our custom of the past, the regiments will most probably, after the outbreak of war, be brought as soon as possible up to war strength by the addition of recruits and remounts, most of which are absolutely green and untrained. The supply does not uniformly keep pace with deficiencies, and in war there is no certainty as to the maintenance of strength within reasonable limits.

With the present peace strength and the necessities of administration, details, detached service, etc., the number of men per troop present in ranks rarely is as many as fifty, usually being

very much less. The effective strength for tactical duties is, accordingly, usually found to be, on peace footing, 100 to 200 per squadron and 300 to 600 per regiment; on a war footing, 60 to 80 men per troop, 240 to 320 per squadron, and 720 to 960 per regiment. By these figures are meant the number of men that may reasonably be expected to be present in ranks, sabers mounted or rifles dismounted.

OBJECTIONS TO OUR PRESENT ORGANIZATION.

Among the various objections to our present organization, the following have been made:

On the outbreak of war, by the immediate addition of raw men and horses, the efficiency of all organizations suddenly becomes least at the very time when it should be greatest.

Organizations, as they exist in peace, cannot take the field within a reasonable time, at war strength, efficiently trained.

Peace strength on war duties involves a disproportionately large amount of administration and a minimum of tactical performance.

Provides for no regular and certain system of recruitment, recruit training, nor of remount supply and training.

Regiments at war strength are too large as regiments, and in size are more nearly that of brigades.

The regiment at war strength lacks the maneuvering power to be expected in a regiment.

Administratively, it is too cumbersome in action, requiring orders to be transmitted to too great a number of subordinates.

Peace strength is too small for efficient collective training and training of higher units.

Regiments are usually broken up and scattered, the colonels having no influence over training and efficiency.

The law provides for no machine guns, nor for special details, such as pioneers, orderlies, clerks, etc.

It is an infantry organization.

For field service and at peace strength, a whole squadron is necessary for the duties of contact squadrons, while at a war footing a squadron is too much and a troop not enough, thus requiring either a whole squadron or too many to be used, or that a squadron be split up, thus sacrificing unity.

The present regimental organization is too large for the purposes of divisional cavalry. This is illustrated by the fact that the Field Service Regulations provide that habitually one squadron will be used as provost guard. By this provision, one-third of the cavalry with the division is immobilized for tactical purposes.

In squadron formations, all movements are delayed by having to await the arrival of the fourth troop, even though that troop move at an increased gait.

In regimental formations all movements are delayed by the necessity of having to await the arrival of the third squadron, even though that squadron move at an increased gait.

In favor of our present organization are advanced the following:

The organization is based on a long practical test in the Civil War. Although this statement is very often met with, as shown above, it does not agree with the facts.

"Let well enough alone. The present organization is one that we have and works well enough." This, of course, is not an argument. Adherence to such a policy is an absolute prohibition of progress.

With our present system of detached service for officers, the number present with the regiment more nearly agrees with the necessities of instruction for our present organization and peace strength. As a result, our men are more highly and better trained than they would be were our troops larger. There is no doubt that in late years the number of detached officers has been detrimental to immediate troop training.

PROPOSED REGIMENTAL ORGANIZATIONS.

The various proposed organizations that have so far received any considerable notice from cavalry officers are of two or three squadrons, each of two or three troops. Some have made separate provision for machine gun, pioneer, etc., detachments and depot troops, and some have not. In hardly any discussion has any consideration been given to any troop strength other than of 100 men, although no satisfactory reason has been advanced that such strength may not advantageously be larger.

The following are some of the principal regimental organizations suggested:

Regiment of Three Squadrons, Each of Three Troops.

The advantages and disadvantages of such an organization are: This organization can be effected without any change in our present laws, merely by executive order. One troop of one squadron can be designated as machine gun troop and one troop of each of the other squadrons as a depot troop. It is not thought that many cavalry officers will favor immobilizing two of our present troops for the purpose of making depot troops out of them.

It is claimed that with an organization of three platoons per troop, three troops per squadron, three squadrons per regiment, three regiments per brigade, and three brigades per division, drill, maneuvers, and tactical formations will be much simplified. There is something musical and attractive to the ear in a successive 3-3-3 combination, but it is not admitted that by such an organization drill and maneuver will be simplified and it is further certain that this organization will not meet the varying tactical requirements of active campaign.

It is claimed that the three-troop three-squadron regiment, with machine gun troop, total about 1,000 men, is a colonel's command. As to numbers this is true. But the same objections hold as apply to the four-troop three-squadron regiment; that is, it is practically a two-line organization, and organizations requiring two-line formations are, in reality, brigades.

A variation of the three-squadron regiment is one in which two squadrons are regulars and one squadron either militia or volunteers. This violates the principle of homogeneity. The chain is only as strong as the weakest link. Due to the diverse interests of the regular and other squadrons, there will be a lack of harmony and of that unity and esprit so necessary to efficiency.

The three-troop squadron is a more handy organization for drill and maneuver than the four-troop squadron. This is a point generally conceded.

Regiment of Three Squadrons, Each of Two Troops.

It is claimed that this is a convenient organization for mounted maneuvers and is a particularly good organization for the mounted charge. There is no doubt that the two-troop squadron is a very handy one to maneuver, but it is not a well balanced one. The major has only two units to command and it does not seem as if his field of action is sufficiently extensive with only two troops at his disposal. Even if the troops be kept at 100 men each, it would not seem that a major's command is sufficiently large. As a maximum he would have probably not to exceed 160 men present in ranks for tactical work. With such a regiment, the colonel, although having a command nearly commensurate with his rank, is commanding a number of very small units, and this, in itself, is objectionable.

Regiment of Two Squadrons, Each of Three Troops.

The following claims have been advanced for this organization:

That it offers greatest facility for maneuver, both in mounted and dismounted movements, to and from line and column, mass, extended and close order, in the charge, and in the fire fight.

That it enables the maximum number of men to be used from the start for tactical purposes, both mounted and dismounted.

That the regiment is of a size suitable for use as divisional cavalry without the necessity or excuse of immobilizing any part, as a squadron for provost guard, etc.

That it is a regimental form of organization, not that of the brigade.

That it is of a size suitable for combination into brigades.

The composition and size are suitable for the purposes of administration, supply, discipline, and training.

Provides a suitable proportion of field officers to provide a reasonable flow of promotion.

That with an increased number of men per troop and maintained at war strength administration will have been diminished and tactical efficiency and training increased.

Such objections to this form of organization as may exist are found inferentially in the claims advanced for the other forms.

RECENT EXPERIMENTS WITH PROVISIONAL REGIMENTS.

These experiments, conducted in the spring of the present year, were made by the Eleventh Cavalry, strength 1,140 men, organized into two provisional regiments, one consisting of three squadrons, each of two troops, and the other regiment consisting of two squadrons, each of three troops. Many obstacles were in the way of exhaustive or conclusive tests. Instead of getting out 100 men to a troop, the number usually ranged below 70. Officers were also scarce and at times there were as few as one officer per squadron for duty. In these circumstances, it was impossible to draw conclusions as to the effectiveness of the larger organizations. One of the results of the tests, indicating a lack of conclusiveness, is the fact that quite a number of officers participating recommended an organization that had not been tested either there or elsewhere, and which is still in the state of academic discussion—the three-squadron regiment, each squadron composed of three troops. There was no attempt in these experiments to work with the larger or European unit—the troop of 150 to 200 men. Consequently, the conclusions for or against any particular strength of troop and regiment cannot be said to be founded upon complete information.

But, among the officers reporting upon these provisional regiments there was a general concurrence in the following principles:

1. Like other nations, we should maintain our cavalry units in peace at practically the same strength as is demanded in war.

2. The number of units per regiment should be reduced.

3. The size of each lesser unit should be materially increased over our present peace strength.

4. There should be a reserve organization charged with the stores and maintenance of supplies, including the material and personnel for keeping the regiment in a proper state of efficiency.

MACHINE GUNS AND SPECIAL SERVICES.

The preponderance of opinion is that machine guns should now be an integral part of every regiment. On the general principle that two different arms should not be included in the same organization, machine guns should not be attached to the various troops, but should be organized into detachments of their own. A consideration of the manner in which they are handled tactically—habitually being employed either by themselves or in connection with the horse artillery to hold pivotal points while the mobile force maneuvers mounted or dismounted against the point of attack—also requires that the machine guns be given an organization of their own.

There is at present a growing tendency in some quarters to favor the so-called one-man machine guns, of which the Rexar is a type. These guns are lighter, can be handled by fewer men, fire much more rapidly than the ordinary magazine rifle, and have many points in favor of their mobility and utility as against the heavier machine guns. One objection to them is that, while more rapid than the ordinary magazine rifle, they are less so than the usual types of machine guns. But the chief objection to them is that, having no fixed mount for fire that is independent of the soldier manning them, the accuracy of fire will be influenced by all these personal factors that now affect accuracy of rifle fire and which are missing in the fixed mount machine gun. It would, therefore, seem that the fixed mount machine gun will be the type permanently adopted. The number of men required for the service of the machine guns is variable according to the gun used.

Machine guns should, therefore, be placed in an organization that is sufficiently flexible to enable the personnel to be varied according to the varying necessities of the machine gun with which the organization is equipped.

It is ordinarily considered that machine guns should be organized in pairs, commonly called a platoon. Opinion also seems to indicate that there should be as many such platoons as there are organizations which may be called upon to operate more or less independently; that is, there should be a machine gun platoon for each squadron of the regiment. Machine guns should, accordingly, be organized into a troop of as many platoons of two guns each as there are squadrons in the regiment.

The argument against separate machine gun organizations in the regiment sometimes advanced, to the effect that higher commanders may at times take them away from the regiment for use elsewhere, thus depriving the regiment of their immediate presence and assistance, would seem to be in utter disregard of the more important and broader principle that the higher commander should and must be allowed discretion as to the greatest necessities of the moment.

As to signal men, each troop should have its own men trained to signal. There is a growing demand for the inclusion of pioneers as members of the squadron or regiment. Undoubtedly, cavalry on independent operations will frequently be called upon to perform many duties ordinarily required of engineer troops and we will not always, nor habitually, have engineer troops present with the regiments. Due to the numerous and reasonable objections to detaching men from the troops for special duty, the demand for separate pioneer detachments seems reasonable.

Headquarter orderlies are now provided for by Field Service Regulations, their numbers being taken out of the strength allotted to the troops. Clerks are also necessary. These should be provided for by statute.

Pioneers, orderlies, and clerks may, therefore, well be included with the band and regimental and squadron non-commissioned staff, in a headquarters detachment.

DEDUCTIONS AS TO REGIMENTAL ORGANIZATION.

The regiment consisting of between 500 and 1,000 men is a proper size command for a colonel. Such a command, organized into two squadrons, with a machine gun troop, headquarters detachment, and depot troop, will not partake of the nature of a brigade. In other words, it will be a true regiment.

The squadron may then consist of between 250 and 500 men. As shown above, the two and four-troop squadrons do not offer the advantages of a three-troop squadron. Two hundred and fifty men distributed in three troops equals 83 men per troop, which, though nearly our present Field Service Regulation strength, is generally considered too small a troop. The three-

troop squadron of 500 men gives a strength of 167 per troop, which, according to our present view, is too large a troop. One hundred and twenty-five men per troop will give about 300 men per squadron effective for tactical purposes, corresponding nearly to the present view as to the size of a squadron. In time of war, due to casualties, sick, wounded, convalescents, detached service, etc., the effective strength will fall off. Hence, to increase the effectives, the war strength will have to be greater than 125 per troop, very properly as great as 150. Even then, there will rarely, if ever, be to exceed 100 effectives per troop present.

There should, of course, be a depot troop. This will have a permanent station and will not be a part of the regiment for field service. The machine gun troop will vary, according to the character of gun with which equipped, from fifty and upwards. Pioneers, orderlies, and other special details, and non-commissioned staff will come inside of fifty.

As to officers, there will be the colonel, lieutenant colonel, two majors, the present regimental and squadron staff, except that one captain as supply officer will, under the proposed consolidation of the supply departments, replace the present regimental quartermaster and commissary, two veterinarians, and the present three officers per troop. In war, an additional or volunteer second lieutenant per troop should be authorized. As to the replacement during war of officers on detached service a volunteer army bill, introduced some time ago, will, if ever enacted into law, provide the means.

The regiment will, under this arrangement, consist of:

Combatant officers	34
Two squadrons, each of three troops, peace strength 125 men each, total	750
One machine gun troop, not to exceed	100
Headquarters detachment and band	80
One depot troop	150*
Total enlisted, peace strength	1,080

By the addition of 25 men per troop for war, the paper strength of the regiment for field service will be the same as that above.

*Not included in the fighting or field strength.

By reference to the previously enunciated basic principles, it will be seen that this organization more nearly fills all the conditions for the organization of regiments than any heretofore proposed.

PROPORTION TO OTHER ARMS.

The total amount of cavalry should be proportionate to the force with which it is to be used. But this proportion should not be as low as that which many persons have assumed. On this point Hohenlohe states:

"There has been much writing and fighting over the question as to what proportion the number of cavalry should bear to that of the infantry. This proportion has varied in all epochs and in all armies. I consider that to attempt to lay down a hard and fast line for this proportion would be the act of a theoretical pedant. * * * The duties of cavalry are so comprehensive and so important, especially at the first moment of war, that we cannot have too many cavalry ready for service. Every effective man, and every effective horse, must be employed for the defense of the Fatherland, and thus the amount of stock of horses in the country will alone decide the number of cavalry in the army."

The principle here enunciated by this great tactician, who, having served in all three mobile arms and risen to high rank, is regarded as an authority, is one to which many persons who are unfavorable to cavalry development will not agree. Our theorists, accordingly, take as the proper proportion of cavalry to other arms, not the proportion which European nations think they ought to have, but the proportions that they actually have in service. As an illustration of the principle, the fact may be stated that even today Austria has difficulty in securing within its territorial limits the number of remounts annually required to keep its cavalry up to the authorized strength.

All nations of Europe maintain during peace their cavalry and horse artillery at practically war strength, both so far as concerns personnel and material of the individual regiments and also as to the number of regiments in service.

Under our present laws, upon the outbreak of war the organized militia must be called into service before any volunteers

are called for. (Sec. 5, Act 21 Jan., 1903, as amended by Act 27 May, 1908, and as further amended by Act 21 April, 1910.) This makes the first line for service composed of both the regulars and the militia. The total amount of cavalry necessary for service with this combined force should be co-existent with it, whether belonging to the regular service or to both the regular service and the militia.

Our regular cavalry force consists of.....	15	regiments
The militia has 69 troops, equivalent to five and three-fourths regiments, in round numbers..	6	regiments
Total cavalry now existent, round numbers.....	21	regiments
The regular infantry force consists of.....	30	regiments
The militia infantry consists of 141 regiments, nine separate battalions, and eight separate companies, in round numbers.....	145	regiments
Total infantry now existent, round numbers.....	175	regiments

At nine regiments per division there will be nineteen infantry divisions and a fraction. Field armies will average upwards of two divisions, usually from three to five. At four divisions per field army there will be five field armies. Each will require from one brigade to one division of independent cavalry. Averaging this at one division per two field armies, an average which, if anything, is too small, there will be required two and one-half divisions of independent cavalry, or in round figures two divisions and one brigade, seven brigades all told, or twenty-one regiments. Each infantry division will also require one regiment as divisional cavalry, nineteen all told. On such a basis, the proportion of cavalry required for our present first line infantry is forty regiments. As shown above, we now have twenty-one regiments, leaving a deficiency to be supplied of nineteen regiments.

Taking the organization as contemplated in the Report of the Chief of the Division of Militia Affairs, for 1910, pages 15-40, an organization of the regular troops then present in the limits of the United States proper and of the militia into seventeen divisions is contemplated. A line of reasoning similar to the above gives us the following:

Field armies.....	4	
Cavalry divisions.....	2	
Cavalry regiments in cavalry divisions.....	18	regiments
Cavalry regiments as divisional cavalry.....	17	regiments
Cavalry regiments required.....	35	regiments
Cavalry regiments available in U. S. proper...	16	regiments
Cavalry regiments deficiency.....	19	regiments

These figures may then be taken as the requirements of our present first line organization of the entire service. Coincident with the organization of additional infantry regiments additional cavalry regiments should also be organized.

It is sometimes argued that the regular cavalry should not be computed on the basis of inclusion of the militia in the first line of national defense and that on such a basis the resulting organization of the regular army is not well balanced, having too great a proportion of cavalry. As stated above, the organization should be that which will secure the greatest efficiency for duty in war. The arguments advanced in 1901 on the reorganization of the army, when the militia had not received the attention which it does now and when the laws for its use in the first line were not as clear cut and positive as they are now, which arguments assisted in securing our present organization, apply with added force now. If there be an intent to disregard the laws including the militia in the first line, the militia and the country at large are ignorant of such intent and are being continually deceived.

There is hardly a war plan for the United States involving the present force of regulars and militia which does not provide for the organizing to accompany the troops first called into service of a number of new cavalry regiments. The value of such regiments as cavalry for several months following their organization, as is amply illustrated by precedent, is nil. In formulating plans for national defense excuses and apologies are sometimes made for not providing the proper proportion of cavalry. Such excuses are usually that the cavalry does not exist at present and that to provide it is very expensive. Such excuses and

apologies only serve to accentuate the necessity of providing in advance the required cavalry organizations.

In order not to cloud the issue by the introduction of co-related subjects, such as improvement of the personnel, training, higher inspections, and general supervision of training, all of which more or less directly affect the efficiency of organization, this discussion has purposely included in a brief way only tactical elements. But in order to secure an increased efficiency a mere increase in the number of regiments is not sufficient. We must have the men in peace. Troops, squadrons, and regiments must be maintained at full strength in order that both the men and officers receive the proper training.

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SCOUTING AND PATROLLING.*

By Colonel WILBER E. WILDER, Fifth Cavalry.

IN order to insure there being available for the use of the troops of this command some systematic and progressive method of teaching scouting and patrolling, the regimental commander has prepared the following. In so doing, it has not been his purpose to give anything that is generally found in text books, but simply to supplement what is laid down in the text books by setting forth a practical progressive method of teaching your men how to do the things the text books have already taught you should be done, and with which it is presupposed you are already familiar.

Anyone who has, or thinks he has, a better method of accomplishing the same result is at liberty to follow it; but some systematic progressive method of teaching scouting and patrolling must be followed by every troop of this regiment.

I.

No service performed by a soldier in war is more important or more difficult in its accomplishment than scouting and patrolling. Upon this service depends largely the safety of his own forces, and upon it, too, must his commander rely for knowledge of the strength, location and movements of the enemy.

Like any other instruction, in order to accomplish the best results it should begin with a proper foundation and progress systematically from there onward to the last finishing touch. The first thing needed in scouting and patrolling is observation, close and careful observation of the entire landscape, so that nothing will escape notice. The next thing needed is to be able to intelligibly describe what is seen; and, third, to be able to accurately

*From a pamphlet of instructions for Squadron and Troop Commanders of the Fifth Cavalry.

locate what is seen with reference to some known point. These three qualifications, at least, must lie at the foundation of all good scouting and patrolling.

II.

As a practical method of imparting such instruction, let us start with a troop of cavalry, whose officers, it is assumed, are thoroughly instructed—at least, theoretically.

Divide the troop into as many squads as there are non-commissioned officers, and assign a non-commissioned officer to each squad. The non-commissioned officers then place themselves in front of their respective squads, which are still in line. The captain then says something to this effect:

"I am going to teach you all, both non-commissioned officers and privates, the duties of scouts and patrols; and in doing so, I am going to commence by teaching you what it is necessary for everybody to know, what it is necessary for everybody to be able to do, before they can begin scouting and patrolling; that is, to teach you how to see everything as you march along, then how to describe everything that you see, and then how to locate everything that you have seen in reference to some known point. I am going to send each of these squads about three or four (or so many) miles into the country. Now, everybody listen to my instructions, especially the non-commissioned officers, but I want the privates also to listen and remember what I say. I will tell you what roads, trails or lines of march you are to take later on, but to begin with I will explain what you are required to do. From the time you leave here until you get back every man must be on the alert, and not let a single object, whether it be a person, an animal, a bridge, road, house, vehicle, barn, clump of trees, ridge, garden, canyon, gulch, ravine or anything else escape your notice.

"Now, remember, as you march along, everyone is to keep his eyes open to everything in sight, and must not let anything appear without seeing it at once. The first one to notice a new object, such as a vehicle, a person, a building, a bridge, a ditch, a stream, or anything else, must call attention to it quietly. And it is for that reason that you will keep the members of your squad more closely together than is usual in patrolling. Each non-commissioned officer is to keep track of the first man to see each object and let me know who keeps the best watch. The non-commissioned officers will each have pencil and paper, and must make a note of everything along the route, and report verbally to me when he gets back exactly where he has been, making a rough sketch of the route, and describe what he has seen and where he saw it, and locate on his sketch all streams, bridges, buildings, etc., etc., telling in words what they are, such as dwelling, barn, school house, church, etc.; whether bridges are of brick, stone, iron, or wood; length, breadth, and state of repair.

"When a moving object appears in sight, make a note of where it was when you first caught sight of it, what direction it took and where it disappeared, and locate it all on your sketch. Speak to everyone you meet or pass on the road, but use your judgment as to whether you simply say, 'How do you do?' or ask questions. You must not disturb anyone in a way to be resented. For instance, you meet a peddler, and ask, 'How far have you come this morning?' 'Where did you stay last night?' 'What have you in your pack?' 'How far are you going today?' 'Have you seen any soldiers this morning?' etc., etc. In your verbal report mention where you met him and what he replied to your questions. If you meet a farmer, ask him about the roads, streams, where he lives and the nearest postoffice, and anything else you can think of, and report as in case of the peddler, and so on throughout your march. If you meet or see another patrol or body of troops, note where it was, and in your verbal report to me tell its strength, what organization it belongs to, who was in command, and anything else you can find out without asking questions of its members. When you come to a cross road or a trail crossing your line of march, send two men in each direction for about half a mile to look about and report what they see. Make a note of what they report and insist upon their seeing and reporting everything just as you are instructed to do. The patrols you send on cross roads and intersecting trails will move at a trot until they rejoin you. You will march principally at the trot, but will walk or halt while cross roads or trails are being examined, and will make such halts as may be necessary in taking notes and making the rough sketch of your route. When you return, report to me with your notes and sketch at (such and such place)."

explanations; the captain at the same time pointing out errors

When all the notes, which should be simply the rough sketch and brief notes made on the march, are in, the captain should have the commanders of the patrols assemble, and each in turn, in the presence of the others, should amplify his notes by verbal and omissions, helping the non-commissioned officers in their language when necessary, teaching them the correct terms to apply in their descriptions, and how to accurately locate with reference to some known point everything that is reported.

The object of this preliminary work is to cultivate the faculties along the lines needed in scouting and patrol duty; that is, to cultivate the powers of observation and the ability to describe and accurately locate what has been observed.

A patrol should see everything; so, in this preliminary instruction, they should be required to report everything, omitting nothing, whether of military value or not. It is only by the reports that the captain can tell how thoroughly observations have been made. A man who has the habit of seeing only a part of what is going on will be about as liable to miss what is important as what is unimportant. What must be cultivated is the habit of noticing everything. The distances passed over should be comparatively short, because not only is everything to be observed, but everything must be reported. If the distances are too long, the work becomes tedious in the extreme and will inevitably be slighted. Distances should not be so great in the beginning but what the round trip can be made in three hours, including halts.

Too many instructions should not be given at the first lesson. They can be added to each time.

Keep up this preliminary instruction until the non-commissioned officers can make proper intelligible reports of what they have seen, and until the men have a fixed habit of observing everything and can accurately describe and locate what they have seen in reference to some known point.

III.

After these preliminary exercises, as the next step, the captain should increase the distances somewhat; and while insisting on close observation, reports upon matters of military importance only should be required, and he should go more into details of conducting the patrol under varying conditions of topography, should have it take proper formation, etc., etc.; and he should carefully and repeatedly explain what it is important from a military standpoint to examine into and report upon.

In these exercises of the second stage of instruction, a part of the troop may be opposed to the rest of it, one part taking up a position the location of which is known only in a general way to the opposing party, the patrols of the one operating against the patrols of the other, obtaining information and transmitting it to the commander of the side to which the patrol belongs. Or, the opposing parties may approach each other from opposite directions, or one from the other's flank. The idea in this second stage of instruction should not be for the main body of one side to out-maneuver and gain a victory over the other, but for one side to gain more information of the other in a given length of time and transmit it accurately and promptly to its commander with the least practicable exposure to observation from the other side. Any captain can originate the necessary exercises for this instruction, but he should bear in mind that their object is the instruction of the individual soldier, especially the non-commissioned officer, teaching him self-reliance and developing his resources by independent action.

IV.

As the third step in this progressive system the captain should go still more deeply into the subject of scouting and patrolling. He should explain carefully the duties of patrols that are used for security as distinguished from patrols that are used to secure information. Patrols for security, he should explain, are used to prevent surprise of our forces by the enemy; to prevent intrusion upon the part of the enemy's scouts and patrols who are ever seeking to get information of our own forces; and to keep up inter-communication between the elements of a command. As an illustration of this class of patrols, take the flankers and point of an advance guard; the patrols that keep up communication between the contact detachments or the supports and reserves of a cavalry screen, and the patrols of an outpost. Such patrols do not expose themselves to observation unnecessarily

(there is always an advantage in being unseen by the enemy), but they capture, if possible, the enemy's patrols, and fire upon them when necessary to prevent their obtaining a position from which they can gain information of our forces. They also fire to give warning of the approach of an enemy in force and the latter is delayed in its advance by the fire of the patrols from skirmish line or other formation and from positions suitable to the conditions of the terrain and the character and size of the enemy's forces.

As an example of patrols used to secure information, or in other words, reconnoitering patrols, take patrols that are sent to the front from the contact detachments of a cavalry screen; officers' or other patrols sent to reconnoiter an enemy's position, camp or bivouac or his columns when on the march. Such patrols do not fight except after being discovered, and then only when necessary to secure their escape. There is no mystery about conducting a reconnoitering patrol. It is conducted upon the same principles as though the patrol were a party of escaping prisoners trying to get outside the enemy's lines. To steal your way in you must manage just as you would if you were trying to steal your way out.

With a troop, to illustrate these two classes of patrols—the one that fights and the one that, as a rule, does not fight: Divide the troop into two portions equal or nearly so. With one portion form the point and flankers of an advance guard. Divide the other portion into patrols. Then let the patrols operate against the advance guard. The main body is imaginary and all of the advance guard except the point and flankers is imaginary or represented. The captain takes the position of the commander of the advance guard, which should pursue a route of march suitable to the purposes of the exercise. The country should be broken or wooded, or both, so that an enemy may find cover. The exercise would be of no value on an open plain. The object to be attained by the patrols is to get between the flankers of the advance guard without being seen, and therefore the flankers—depending upon the nature of the terrain—should be far enough apart to make it a fair contest between them and the patrols. A patrol discovered before it attains a position within the line or chain of flankers is defeated. A patrol or any member of a

patrol that gains, undiscovered, a position inside the line of flankers, wins.

In a similar manner a portion of a troop can form the pickets of an outpost and the other part of the troop be divided into patrols to operate against them. In this exercise subalterns and non-commissioned officers should submit reports accompanied by sketches giving the location of the pickets. Then intrenched positions should be reconnoitered and sketches made showing the positions occupied, with roads and trails that might be of use in operations against them.

The distance between opposing forces at the commencement of each exercise should not be less than four miles, and should not be known to either side.

All of these preliminary instructions should be without the hurry and skurry of a "fight." These are not problems, but exercises intended as a preparation for problems to follow.

V.

During the preceding instruction, the captain having closely observed his men, is now able to decide with a fair degree of accuracy as to which have shown the greatest amount of aptitude for the kind of work that is usually assigned to scouts; but at any period of the instruction in scouting and patrolling, when the captain is convinced that he has discovered a soldier who will make a good scout, he will detail him, whether non-commissioned officer or private, either as a scout or as a candidate for that position. At least half a dozen should be selected in each troop for special training in that kind of work.

While non-commissioned officers may be detailed as scouts, no scout has authority over another when acting as such. The movements and actions of the scout must be individual, free and untrammeled, as free as the air he breathes, "Every man for himself." In this instruction we are trying to cultivate individuality along the lines essential in scouting, to encourage independence and self-reliance along the same lines, and to give each scout confidence in his own judgment and prowess. He must not be hampered by any responsibility except that of taking care of himself and accomplishing in his own way the purposes of his mission. In scouting, cohesion is not what is needed, but individual action,

which is quite the reverse. And there you have the American Indian warrior. If he advances, he does so at his own risk and in a way that his own judgment best approves. If he scampers away, he exercises the same freedom of will and judgment in doing it, "sauve *qui peut.*"

There is no objection to pairing off or uniting voluntarily in greater numbers, but scouts must use their own judgment in regard to this. Given this individual freedom, and a generous, self-sacrificing comradeship grows up among scouts in campaign, which no amount of discipline or united action and control can equal in value in the class of service for which scouts are intended.

It must not be understood, however, that scouts attached to a patrol are not, for the time being, subject to the same control as all other members of it. In ranks, at all times, they have their regular positions and perform the duties appropriate to their several grades. It is not until detached that they act independently.

VI.

As the captain did with his patrols in the beginning, so should he do with his scouts; only the activities of his scouts should cover a much wider territory, and the exercises should not be of so elementary a nature as were the first lessons given in patrolling. Those elementary lessons have already been given, and, it is assumed, have been well learned by those selected as scouts, special aptitude manifested in the earlier exercises having been the captain's guide in making his selections.

Every scout should have a map of the territory over which he works, and the territory should be covered by the scouts for twenty, thirty or forty miles in every direction. At this station in the Island of Oahu it would be well to divide the island into three territorial sections, one of the squadrons being assigned to each section. Then divide the section to be covered by each squadron into four smaller sections, assigning one of the smaller sections to each troop. This would insure the entire island's being explored and reconnoitered in a comparatively short time. Subsequently, captains may send their scouts into other territory, as they see fit.

These exercises for the instruction of scouts are really explorations of the territory over which operations would be conducted in case of actual hostilities, and will be followed later by explorations made by the organizations themselves.

In sending out his scouts, the captain tells each where he is to go, and what feature of the country is to be made the subject of special investigation; but scouts should always in these earlier exercises be required to investigate and report upon everything of military importance. The scout should be required to trace his route as he goes along upon the map that has been furnished him, supplementing it by his own sketches of the route, should he find his map in error, or whenever for any other reason such supplementary sketches may be necessary or desirable.

Upon his return, the scout reports to the captain, who supervises the work, teaching and explaining in this more advanced feature of the instruction as he did in the earlier exercises of the patrols.

Scouts should always carry not less than two meals in their saddle pockets. In the first few exercises, however, it will be best not to allow them to remain out over night; but a scout, having once established the fact of his resourcefulness and reliability, should be sent on missions that will cover two or three days of absence from his troop.

VII.

The scouts having been trained in this preliminary work, in all subsequent exercises involving patrol work one or two or three scouts or candidates for that position are assigned to each patrol, and the scouts operate with the patrols or from the vantage points attained by them. To illustrate: Take a method frequently employed by the Boers. They were in the habit of using large patrols, which we might call contact detachments. The patrol or detachment would proceed as a body until within a certain distance of the enemy or the position to be explored, when the greater part of the detachment would halt, dismount, conceal their horses and lie in ambush. About ten or a dozen would proceed on until they considered it expedient to halt, when they would halt, dismount, conceal themselves and their horses, and lie in ambush ready to fire at any instant. Then two or three

scouts, mounted on the very best horses, would proceed forward from the vantage point thus attained to gather the information for which they were sent out. If attacked and pursued they would fall back upon the most advanced party, who would receive the pursuers with a deadly fire, which would at least check them until the advanced party could remount and fall back upon the support lying in ambush still further in the rear. The advantage in using the large patrol lies in its protection of the scouts against smaller patrols of the enemy. The scouts could thus proceed rapidly and with greater certainty of arriving, and, having so considerable a support in so advanced a position, would naturally operate with more confidence. Smaller patrols can often operate to advantage upon the same principle.

To test the capabilities of your scouts throw them out as an advanced line along the front of an attacking force or along the front of an occupied field position. The twenty-four scouts of a squadron scattered along a front with an average interval of one hundred yards will occupy a front of twenty-three hundred yards and cover still more. Send them two or three thousand yards to the front, or even farther, either mounted or dismounted, or some mounted and others dismounted, all depending upon the terrain and other features of the situation.

Individual scouts can often attain positions well advanced and advantageous in other ways without being observed, from which effective fire can be delivered as a cover to the advance of our own troops. They can always give valuable information, especially of an unknown terrain, saving many a blunder in the advance and attack of our troops. Scouts signal back from positions in which they will be unobserved by the enemy. In a situation of that sort a few cavalry hussars would be invaluable.

In covering the front of a field position scouts occupy advantageous positions before the enemy arrives; in fact, they may annoy an enemy for miles before he comes within range from the position being defended. An enemy so annoyed does not move to an attack with the morale of troops whose advance has been unopposed until they arrive within the zone of effective fire.

VIII.

Regimental scouts or independent bodies of scouts of any kind, especially when taken from the ranks, are not recommended. The very nature of the duties of scouts point to their not being organized into a command. It requires them to be scattered, and it requires independent, individual action. Again, no captain is at all likely to pick out the best men in his troop to be detached for prolonged service elsewhere. The captain, if anyone, knows the best men, and if they are habitually left with him he will always have ready, even when upon a peace footing, six well-trained excellent scouts, and they will always be found scattered along the front just as they should be, and with their own organizations behind them and backing them up and keeping track of and appreciating the value of their services. Such conditions are ideal. If any commander wants a band of scouts for any special service during an engagement or at any other time, as for instance, to reconnoiter the flanks and rear or the outposts of the enemy, he has only to turn to the nearest squadron, regiment or brigade, depending upon the number he requires, and they can be supplied at once. Each squadron will have twenty-four, each regiment seventy-two and each brigade of three regiments two hundred and sixteen. The scouts will then always be in the right place, because each organization has its proportion of them, and no matter what part of the command is in front the scouts will be there with them.

When cavalry is on screening duty, rarely more than one squadron to the regiment will be on the line of contact, the other two squadrons being in support from two and one-half to five miles in rear. It is the squadron in contact or seeking contact that leads "the strenuous life," and the scouts of that squadron are its most active members. Scouts are human and need rest and relief from this, the most exacting and fatiguing work that falls to the lot of a soldier. When the squadron is relieved its scouts should be relieved with it and replaced by the scouts of the relieving squadron; otherwise they will be worn out physically and mentally by unceasing exertion and strain, and will no longer possess the very qualities that recommended them for

selection as scouts, and will be little better than any other tired or exhausted soldier.

Leave the scouts with the troops, to be detached only in emergencies. When on duty as contact troops, the scouts are needed with their troops and the information they obtain should be sent back through the regular channels of their troops. This method will best insure the prompt arrival of information at its destination, where only it can be of use.

The scouts of a troop in campaign should be given much liberty and many privileges to compensate for their greater exposure and more arduous duties and to make the service more attractive. Men who are fit for the work take a pride in it, and enjoy it up to the limit of their endurance, and must be trusted. The number instructed need not necessarily be limited to six to a troop; the more there are who possess these special qualifications, the better; but as a matter of expediency the liberties and privileges accorded scouts can not be extended to any but those regularly detailed as such.

If a non-commissioned officer, or anyone else, understands clearly what he has to do and has been thoroughly instructed in the proper method of doing it, what he can accomplish is only limited by the possibilities of the situation. But, with an imperfect knowledge of what is required or of the proper method of accomplishing it, desired results cannot reasonably be expected. So, when a patrol or a scout is sent out upon any mission it is clearly essential that the one to whom it is entrusted should be given the situation as completely as it is known to the one who sends him, and should have clearly explained to him what it is that he is expected to accomplish.

DEVELOPING A RESERVE ARMY.

By JOHN S. BARROWS, Late Captain First Squadron Cavalry, M. V. M.

ONE of the great problems which confronts the friends of the Army of the United States is how to secure a citizenship of trained soldiers without increasing the burden of expense of maintaining a greater army than is needed during times of peace. Several solutions or partial solutions are offered; notable among them the development of rifle clubs among civilians, to be fostered by the National Government; the extending of military training among school boys, conscription, etc.

None of these plans meets the requirements or would serve to make soldiers. The rifle clubs would result in preventing the enlistment of smart young men in the militia; the so-called military training of school boys will have to be revised and remodeled if it is to make soldiers, as the present methods, except in strictly "Military Schools," keep young men out of the militia, or they gladly forget all they learned as quickly as possible; conscription has been proved a failure, as no man fights sincerely with a halter about his neck.

There remains to be tried some method of training men to be soldiers, and then retaining them in reach for service should necessity arise; a method of granting leave for extended periods, with little restraint. Such a method is herein proposed.

It must be understood that there is no better school of the soldier than in the ranks of the soldiers. The military schools are limited in their opportunities, and the school battalions are of little value to the required end. The man must do a real soldier's service in order to fully understand the requirements and methods of service. To this end compulsory service in the militia should be required of all men qualified or

not exempted by the needs of society and government. The exemptions of certain professions should always be respected; the inability of certain individuals to perform such vigorous service will always prevent a certain number, but there remains a large number of able-bodied citizens who should not be excused from learning the duty of a soldier, as they would learn the duty of any citizen.

The liberal protection of a republican government, giving to citizens the widest fields of life, under the easiest conditions, is entitled to a return from the citizen, beyond the mere payment of a poll tax. The advantages of living in a free country are such as to demand a cheerful remuneration in some manner best adapted to the possible requirements of the country. The military service as today administered affords a liberal education in common sense which should make a citizen of more value to himself and his community than had he not received this training. Therefore service in the militia or citizen-soldiery of the states should be required of all able-bodied men not otherwise and by statute exempted.

The period of liability to service should be as now exists in the states: between the ages of eighteen and forty-five years, with every preference for the youthful years. At the same time it is understood that this period is the period of most active effort in developing mind and body, and the high tension of the times gives scant time in which to become fitted for profession or trade, and to crowd into this period any military service may seem to be requiring too much, but under the proposed method the school and college curriculum must be adapted to permit the military training to have a part, even if some pet branch of scholastic effort be set aside; at the same time, the time devoted by the student to military drill and service is the necessary diversion and relaxation from study which will help to keep a sound mind and sound body in tune.

Granting, then, as is perfectly possible, that the conditions of youth may be made adaptable to military training, the term of compulsory military service should begin at the age of twenty-one. If the young man desires to anticipate by entering the service at eighteen years, so much the better, but by the time the citizen has reached his twenty-first year he is to be

enrolled and assigned to duty. He will be mustered into the service for three years, unless sooner discharged for cause, and therefore will be twenty-four when he is entitled to his first discharge; even the young man who enlists at eighteen will not be entitled to a discharge before he reaches the age of twenty-four, and this three years of compulsory service with weekly drills and at least one week each year in field service will constitute the citizen's lawful military schooling.

At the age of twenty-four the period of reserve duty begins. The army of the United States should be classified as follows: The regular or professional establishment will be known, as at present, as the United States Army, though that term would comprise all the land forces in time of war. The part of the army which was maintained by the states, in which compulsory service will be required, will be the United States Army Reserves, until called into service with the regular soldiers, and the association would be as is now provided for amalgamation of the two branches of the army.

The *"Reservist,"* having completed his three years' service, may reënlist should he so desire. but should he prefer to give the remainder of his time to his life-work he would be transferred to the *"National Guard,"* in which he would be retained for a period of six years, the only requirement for service being that he shall report at two dates each year, at certain places, for inspection and further correction of his enrollment.

Having completed the six years' service in this division of the standing army, and being thirty years of age, he would then be transferred to the *"State Guard,"* for a period of five years. In this division he would be obliged to report but once during each year.

Being now thirty-five years old, he would be transferred to the *"Municipal Guard,"* in which he would be enrolled for five more years, responding to one assembly each year.

On completion of this service, and being forty years old, there would follow five years of service in the *"Home Guard,"* and at the age of forty-five he would receive his final discharge and exemption from further service, or military obligations of any kind.

The duties of these various divisions of the enrolled service would be of this nature: the *"National Guard"* would represent the volunteer army under the present conditions; the body of soldiers to be raised for war service after the indraught of the *"Reserves"* had been exhausted, but differing from the present volunteers in the fact that they would all have had three years' military training, and would therefore require less delay in mobilization camps and depots, they would be ready in a very short time for service with the army in the field, a possibility not for the volunteers under the present conditions. The service of this division in times of war would be for the war, and without further mustering, but they would not be called for until the emergency demanded their service.

The division known as the *"State Guard"* would not be required for service outside the borders of the state in which they were residing. Nothing would prevent them from volunteering to join the *"National Guard"* in time of war, but as a division they could not be required for active service outside the home state. That they might be ordered for active duty to resist invasion might be possible, manning the coast-line to meet a foreign enemy as supports to the United States Army already in the field.

The *"Municipal Guard,"* which is to be composed of the men of thirty-five to forty years, would be admissible to the war army as individual volunteers, going into the *"National Guard,"* but as a division of the standing army of the country their service would be limited to the city or town of residence, being liable to call to sustain and supplement the police in times of local disturbance, and, being men of mature age and thought, would be a marvelous steadying power in times of conflagration and misfortune, assisting in maintaining order, suppressing insurrection.

It would be improbable that many individuals from the *"Home Guard,"* that division of those men of forty years and above, would seek active service in the war army, but they would be of immense value to the nation as furnishing relief bodies for the care of the soldiers in the field; in providing sanitary relief, and looking out for the comfort of the war

army. Being men who have had military training at an earlier period of their lives, they would undertake any service with system and method, which would be established with unusual promptness. This division would provide and equip hospitals and ships, furnish to the soldiers in the field literature, food, clothing and the comforts to lighten their service and make easier the sacrifice. Attention to the families of soldiers would come to this force, and it would be an army of angels-of-mercy, though if the strenuousness of the situation was such as to have taken out the *"Home Guard"* into the field, provisional companies to supply the place of the *"Municipal Guard,"* or even of the *"State Guard,"* in which case the division would act under the orders peculiar to that service.

In order to encourage reënlistment in the *"Reserves"* a method of gaining time on those who did not could be adopted, working out as follows: the man who at the age of twenty-four had completed his first three years' service if reënlisted for three years, at the age of twenty-seven when discharged, should be passed into the *"State Guard,"* thus gaining three year on his fellows towards a more limited service.

Should he reënlist again for three more years, at the expiration of service, being then thirty years old, he should be passed into the *"Municipal Guard,"* thereby gaining five years over the others, who by the ordinary course would not be eligible for transfer until they were thirty-five years old.

Carrying it still further, by another enlistment of three years he would be transferred to the *"Home Guard"* at the age of thirty-three, having secured that still more limited service seven years in advance of the ordinary time.

In the case of officers who were obliged to quit the *"Reserves"* for sufficient reasons, they could be carried as officers of the other divisions, their apportionment being according to the age standard, fitness, etc.

The maintenance of these divisions would be made possible by the compulsory reporting of the men at the stated times and places. Those reporting would receive indorsement of the fact on their papers. In each town and village the post office would accept the papers. At all elections presentation of these

papers would be necessary in order to receive the ballot, and the lack of indorsement, showing neglect to report at the proper time, would subject the bearer to an established fine, before liberty would be granted, immediate imprisonment being inflicted if the fine was not immediately paid. Men who feel that their physical condition might be such as to warrant their discharge from the service before the age limit, could secure examination by military surgeons, and such rejections would entitle the man to *Invalid Exemption*, with a nominal pension for life. Rejection for the good of the service, which might follow arrest for misdemeanor or other trespass of civil rights, would deprive the man of certain civic privileges, or subject him to fine or imprisonment or both.

There would be no limitations of locality. The man who began his service from one town in one state might receive his indorsements in any other locality, there being no duplication possible, so the number of men enrolled would always be correct.

In all localities where military organizations exist, the headquarters would be the rallying and reporting place of the graded reserves, and the local commander would be the officer in charge of all inspections and assemblies.

Once this system became established, it would be practically a method of a military census rather than a mobilization. The reporting of the individuals would be as much for their benefit as for the advantage of the military authorities. The future location of the man would be known to a reasonable extent; his physical condition would be ascertained, and his retrogression from grade to grade would be accomplished with but little clerical effort. Each man, on completing his service in any grade, would be given a discharge showing therein his assignment to the next grade, and indicate the natural rallying place and time for reporting. Inability to reach that appointed place would permit the man to report at the nearest point where his papers would be indorsed.

In order to outfit these reserves, supply depots of arms and equipments would be established at certain convenient points. At all times the *"Reserves"* would be supplied with

the same arms and equipments and uniforms as the regular establishment, and a supply sufficient for the *"National Guard"* could be kept at the depots. For the *"State Guard"* the best obsolete weapons would be deposited at their centers, and the more obsolete arms could be retained for supplying the needs of the other divisions should they be required.

The plan suggested and indorsed by some officers of the regular establishment of organizing and maintaining by Government patronage citizen gun clubs, under the present conditions, is most ill-advised, because it cheapens the advantages of the State military organizations, but under these proposed conditions would be a correct effort, for the encouragement to be marksmen would then be given to those men who at present would not take interest, and at the same time the practice would not injure the efforts of the other grades. The entire result would be beneficial, for it would result in greater care in the use of firearms, in improved eyesight, in better health and increased activity and renewed vigor of manhood; at the same time there would be a marked influence on the future generations, causing rifle ability to become an inherited accomplishment, making the future soldiers born soldiers in every sense of the word.

The expense of maintaining such an army on paper would be considerable, for they would require payment on all assemblies and inspections. The payment should be nominal and approximate to the sum paid for jury service. The payment should be by cheque issued by the military or Government representative, on presentation of the papers of the man, the payment to be secured at a National subtreasury, and the paper to be negotiable as an ordinary bank check, but only when presented within a certain period.

The necessity of drill in tactical matters for all divisions beyond the *"Reserves"* would be unnecessary. The knowledge gained in those ranks would never be forgotten, and a few hours would recall enough for all necessary purposes, once any division was formed in ranks. The *"Reserves"* would continue as the militia of the present, performing at least forty-eight periods of drill each year, and a field service.

The result of this method of enrollment would be to make the American nation, not a military nation *per se*, but a nation of soldierly men. It would not be a nation of soldiers, all wearing the uniform, with a slavishness to the uniform that has developed such farcical conditions in certain lands, but a nation recognizing the value and use of organization, which would be an important step in education; in better respect for authority; in better administered authority; in greater respect for the flag of the United States; and it would give to the world a power that would live in perpetual peace, because it was always prepared for war, being completely walled in by a wall in which every man was a brick.

The apostles of peace go up and down the land crying for peace and disgracing the records of their ancestors and besmirching the history of their country by their efforts. Such a preparation for war would teach all men what war means, what it costs, and what would be expected of them. The great standing army of citizens would be reason enough for peace, because they know its value without the goading of demagogues.

Teach a nation what war means and there will be no war. Cry "Peace" and war will follow.

MORE RESPONSIBILITY FOR THE TROOP COMMANDER.

By First Lieutenant B. K. EDMUNDS, Fifteenth Cavalry.

CAPTAIN COOTES, in the March number of THE JOURNAL, indicates that there is too much interference with the troop commanders on the part of the post commanders. This is without doubt true, but the trouble goes much deeper than the post commander and permeates our entire service. It is the old question of a centralized system vs. a decentralized one; our authorities make rules rather than ask for results, and the post, even higher, commanders are as much the victims of a poor system as the troop officers.

Let us examine the making of the two systems as applied to the cavalry arm. Assume:

Point 1. All training in peace should be devoted to making the troops more efficient in war.

Point 2. Cavalry in war should be trained in:

a. Mounted fighting, including horse training and care of horses, the use of the mounted arms, maneuvering of the units, and cohesion at fast gaits.

b. Reconnaissance and field work, including messages, patrols, field cooking, camp sanitation, etc.

c. Dismounted fighting, including the individual use of the rifle and collective training in attack and defense.

I. "THE DECENTRALIZED SYSTEM."

Department commanders call attention of post commanders to Points 1 and 2, and state that the Department inspection in the late fall will be a general one, including all kinds of training.

Post commanders call attention of squadron commanders to Points 1 and 2, and state that the inspection by squadron

commanders at the end of May will cover dismounted training; at the end of June, individual training and dismounted drills; at the end of July, the individual use of arms, mounted, individual horsemanship and swimming; at the end of August, jumping, cross-country work, troop and squadron drills.

He also states that there will be a month march in September; that horses should be hardened to weight carrying by that time; that instructions should be given during the march in individual cooking, camping expedients, etc., and that the practice march will include problems in minor tactics.

He also states that the work after the march will be under the direct supervision of post and regimental commanders and will include maneuvers of as large commands as the size of post will allow.

II. "THE CENTRALIZED SYSTEM."

The various commanders issue orders somewhat as follows:

1. Troop commanders will see that every man has twelve hours' instruction a year in first aid.

2. Troop commanders will inspect their men's feet once a week.

3. All officers will have three hours' instruction a week in packing until qualified.

4. Troop commanders will inspect for ammunition once a week.

5. Every man shall have at least two days' instruction a year in cooking the haversack ration.

6. There will be an athletic field meet once a month in each post.

7. Each troop will have six days' instruction a month in field work. Two of these will be night problems.

8. Troop commanders will see that their horses are instructed in swimming.

9. There will be a day's practice march once a week, a three days' march a month, and a twenty-one days' march every year.

10. There will be a monthly rifle competition in each post.

11. All drills of what kind soever will be in full pack, etc., etc.

Work with a troop under the first of these systems would be a pleasure, under the second it is drudgery. Bewildered by the multitude of orders and regulations which must be complied with, the officers struggle along, their work constantly interrupted, unable to get even a week's connected training on any line without its being broken into by some arbitrary rule, which considers in no way the condition of the men and horses, or what progress they have already made. It is literally impossible to comply with all the orders issued. The first aid drill alone will take sixty hours a year of an officer's time, for there are absentees from every drill and these must all be instructed. To comply with the firing regulations in all the training laid down would take the entire practical season.

Under the first system, on the contrary, the training would be continuous and progressive, and at the end of a year a troop would be uniformly trained in all the branches, not partially instructed in a few of them. Moreover, an officer, knowing that he would be judged at each inspection by the showing made by his troop and that his efficiency report would reflect his neglect, would do his best to have his men and horses in shape. Such a system would act alike as a tonic to the worker and a spur to the laggard. I believe it was Maude, who, in one of his articles, remarked that the training in the different squadrons of the German army (in which the squadron commanders are given considerable independence) follows in each one about the same lines, and he ascribes this not to the supervision of higher commanders, but to the fact that each captain, independently, had worked out the best method.

A system of training worked out in such fashion must, indeed, be the best, and no better example could be given of the advantage of a decentralized system. Each organization commander closely watches his companions, every change made

by one is noted and tried out by the others, by whom it is adopted or rejected as it stands or falls in the actual test of service.

Under such a system we would have the brains of three hundred officers working together toward improvement, where now we have but one.

Reprints and Translations.

AEROPLANES WITH CAVALRY.*

By LIEUTENANT R. A. CAMPBELL, R. E. (Air Battalion).

THE employment of aeroplanes in war will for the present be very largely limited to tactical reconnaissance. In this *rôle* they will, of course, in no way replace the cavalry scout, whose capacity for resistance and screening they cannot imitate. Since their use will be, accordingly, supplementary to that of cavalry it is important to examine how they will best coöperate, and what organization will fit them for the work.

THE POWER AND LIMITATIONS OF THE AEROPLANE SCOUT.

Figuratively speaking, the function of the aeroplane scout will be to obtain information in "plan," while that of the cavalryman will be to fill in the corresponding "elevation."

The view of the airman is unrestricted but his military perspective is distorted. He can obtain a very accurate measurement of distances, but very little idea of height.

Thus the aeroplane scout can be properly used to obtain the relative positions of the enemy's forces and his information can be relied on in questions of numbers (at any rate, of formed bodies), but he can obtain very little indication of their "tactical strength" (less, in fact, than can be conveyed by plotting their position on a contoured map). Again, it may be laid down that "negative" information from the air can never be wholly reliable. The country needs to have been traversed

*From the British Cavalry Journal of April, 1911.

by combatant troops to be certain that it is unoccupied. "Positive" information, on the other hand, will be of greater accuracy than that of cavalry, since it will be derived from direct vision, and not from fire effect.

Thus we can expand our former statement to the following general division of duties in reconnaisance:

The aeroplane will determine the enemy's distribution in plan, while the cavalry will complete this information by obtaining his tactical elevation.

Starting from this basis we can draw the main outlines of aeroplane reconnaissance.

(1) It will be advanced reconnaissance.

(2) It will be directed chiefly to obtain the location of the enemy's main bodies and other questions of military interest beyond the reach of the cavalry screen.

(3) Its value as regards minor tactics can be but small, and it will, therefore, be of more importance to the central intelligence staff than to the local patrol leaders.

ORGANIZATION.

Paragraph (3) above will give the clue to the principles of organization necessary.

Until it is found practicable to transmit information from an aeroplane in flight by means of wireless telegraphy it must be necessary for the machines to return to some definite point easily found, there either to land with the information gleaned, or to drop a message for the cavalry to pick up. But it is through wireless telegraphy that the full value of the aeroplane will be developed, and we may assume that the war organization will be based on the distribution of wireless stations.

For work with cavalry, accordingly, it will be on the cavalry brigade headquarters, with its field wireless station, that the aeroplane will find its natural base.

We can imagine an aeroplane section detached to brigade headquaters from the central aeronautical park (with army troops). It will consist of from four to six aeroplanes, with a fuel supply and repair outfit sufficiently mobile to travel with mounted troops.

METHOD OF USE.

The aeroplanes will be dispatched under direct orders of the brigadier, with instructions as to the reconnaissance which they are to carry out.

It will probably be found best to allot patrolling areas and periods of observation based on the radius of action and fuel supply. By this means and by using relays a constant watch can be kept over a vast area. It would probably be a mistake to attach a machine to any definite reconnoitring patrol, since the chief use of aeroplanes will be found well in advance of the cavalry.

Only urgent information will be transmitted by wireless telegraphy during flight, and the remainder must be reported when the machine returns to the base for fuel replenishment and fresh orders at the end of its period of observation.

At all times the observers should be kept fully posted with latest available information and endeavors made to assign definite tasks to them rather than general injunctions to "find out about the enemy."

EFFECT OF AEROPLANE CO-OPERATION ON CAVALRY TACTICS.

Since the aeroplane will, to some extent, relieve the cavalry of their *rôle* of reconnaissance, it is possible that cavalry movements will become more definitely tactical, as less extended formations can be adopted, and "maneuver" units can be directed, as a whole, against bodies of the enemy already located by aeroplane information. The ground scouts and patrols will, however, still be essential in order to supply such information as is unobtainable by the aeroplanes, for the condition of the terrain cannot be ascertained from the air and it will rarely be possible to say whether buildings, woods, etc., are occupied unless they are examined by patrols.

Since the brigadier will still further rely on his wireless station, both for information and communication to headquarters, he will be tied more strictly to its vicinity and will not care to move it much.

MISCELLANEOUS CONSIDERATIONS.

(1) *Messages.*—The aeroplane is an excellent dispatch carrier, but the more important *rôle* should not be sacrificed for this object. It may be found convenient to have specially fast and handy machines for this special purpose, but messages to advanced patrols could conveniently be dropped from aeroplanes going out for reconnaissance trips.

(2) *Distinguishing marks.*—The aerial observers will undoubtedly have difficulty in distinguishing between friend and foe when cavalry is in contact. In case of single men and small bodies this will not matter, as they will not greatly concern the observer. Larger bodies, however, might have to carry some distinguishing mark, such as a flag held horizontally.

(3) *Alighting at Headquarters.*—Machines alighting at cavalry headquarters, as also those waiting there for orders, may render its position very conspicuous, especially to the enemy's aerial scouts. It may therefore be necessary to choose a base for aeroplanes at some distance away, yet in telephonic communication with the brigadier .

(4) *Height of Flight, Etc.*—Reconnaissance will be carried out at an average height of one thousand to two thousand feet, which should render them immune from any but special gun-fire. Cavalry staff officers can be taken up as observers if desired, but previous training in aerial observation is essential if good results are to be obtained. As a help in estimating distances, observers can be supplied with glasses with graticules adjustable for height.

THE CAVALRY FIGHT AT JUDSJATUN. MAY 30, 1904.*

By COLONEL JOSEPH BREIT, Austrian General Staff.

THE Japanese First Army (Kuroki) proceeded after the battle on the Yalu to the vicinity of Fonhuantschon and remained there nearly inactive until June 23d. The Japanese Second Army (Oku) landed in the Bay of Jentoa, not far from Pitsewo, commencing on May 26th, but in consequence of receipt of information that considerable hostile forces were advancing for the relief of Port Arthur, did not proceed toward that fortress, but faced about with its main body to offensively oppose the advancing Russian corps under General Stackelberg.

In order to gain more definite information as to strength and composition of the advancing enemy, the cavalry brigade at Akijama belonging to the Second Army was sent toward Wafangou on May 29th with orders "to reconnoiter in the direction of Wantselin and in the Piliho Valley to establish connection with the Tenth Division which had landed at Takuschan."

After the battle on the Yalu the east detachment, under General Sassulitsch, who was shortly thereafter relieved of the command of that detachment by General Count Keller, fell back to Foenschulin passes and remained there, also inactive, opposite the Japanese First Army.

On receipt of information that the Japanese Second Army had turned against Port Arthur, the decision was arrived at to make an advance in the direction of the fortress with a part of the main army assembled at Liaoyang; this decision was arrived at after lengthy discussions between St. Petersburg, the Czar's representative in the Far East, Alexejew, and the commander of the army, Kuropatkin, which latter strongly objected to such a procedure all through the discussions.

The forces designated for this move were to be assembled

*Translated from Kavalleristische Monatshefte, by Harry Bell, M. S. E., Army Service Schools.

first of all in the vicinity of Haitschoen—Kaitschou. To protect that assembly and to simultaneously threaten the communications of Oku's army, as well as to draw at least some parts of that army away, General Stackelberg, commander of the force designated for the move to Port Arthur, received orders on May 27th to immediately send the cavalry brigade under Samsonow toward Wafangou; and orders for that were issued by Stackelberg the same day.

The organization of the Russian Cavalry Brigade was as follows:

Primorski Dragoon Regiment, Colonel Woronow, 6 squadrons; Eighth Siberian Cossack Regiment, Lieutenant-Colonel Alexejew, 6 sotnias; Forty-eighth Sotnia of Frontier Guards, 1 sotnia; Mounted Jäger Detachment of the Thirteenth East Siberian Rifle Regiment (Fifth East Siberian Division), ½ sotnia; Second Trans-Baikal Cossack Battery, 6 guns; one detachment of the telegraph company of the First East Siberian Sapper Battalion, 1 detachment; besides some few frontier guard detachments of the Brigade Sykow, which had remained in the vicinity of Wafangou after the retreat of that brigade along the railroad. These detachments were composed of the Forty-second and one-half of the Forty-third Frontier Guard Sotnia, and half a Frontier Guard Company (railroad guard), which were partly at Wantselin and partly at Wafangou and Wafantien.

Thus, General Samsonow had at his disposal a total of 15½ sotnias (squadrons), one-half frontier guard company and one battery. The numerical strength of the sotnias may be taken as 130, that of the mounted Jägers as 60; making a total of 2,000 mounted men, 100 rifles and 6 guns.

The brigade started from Kaitschou on May 28th and arrived on the same day in the best of condition at Sjunotschung and at Wantselin on the 29th. All that was known of the enemy was that infantry and cavalry detachments stood on the line Pangedjan—Djatjatun, which occasionally sent patrols as far as Wafantien; according to Chinese reports a detachment of all arms was supposed to be at Latsischan. In the course of the afternoon of the 29th, hostile patrols were seen

in the vicinity of Wantselin. The intention was to have the brigade reach Wafantien on the 30th, to rest there for one day and to send reconnoitering detachments as far as the line Pulantien—Pitsewo, as well as to Futschou.

Communication with Kaitschou was kept up by means of the relays established by the frontier guards (one post to each five kilometers), as well as by the existing telegraph line.

Simultaneously with this movement the Japanese cavalry brigade (Akijama)—which, in addition to its orders, received instructions to send a detachment to Futschou and some patrols to Sjunoetschung—started from the vicinity of Pulantien toward Tschutsjatun and with its main body reached Latsischan about 4 p. m., May 29th; the squadron under Hasegawa of the 14th Cavalry Regiment had been sent toward Futschou. This brigade consisted of the 13th and 14th Cavalry regiment, 4 squadrons each, 2 machine gun detachments of 4 guns each, and 2 companies of the 11th Infantry Regiment. The numerical strength of the squadrons can be taken as 140 each; thus, Akijama had at his disposal about 1,100 troopers, 500 infantry rifles and 8 machine guns.

On the road to Latsischan the brigade commander learned of the enemy that about 200 of his troopers had been driven back not very far to the north of Latsischan by the brigade's advance guard. These troopers were a part of the Russian frontier guard, which retreated northward without allowing itself to become involved in a more serious engagement. Information was received at about 4 a. m. on May 30th that the above mentioned hostile detachment had passed the night in Tschutsjatun, and a Chinese report also stated that there were about 1,000 hostile troopers in Wafangou.

In consequence of this information Major General Akijama sent one platoon of the 14th Regiment on reconnaissance to Tschutsjatun and one of the 13th Regiment to take up connection with Hasegawa. At 8:30 a. m. the main body of the brigade started in the following order of march:

Advance Guard—One squadron of the 14th Regiment.

Main Body—One squadron and three platoons of the 14th; three squadrons and two platoons of the 13th Regiment; the

machine guns; one company and one platoon of the 11th Infantry Regiment.

Trains—Remained behind in Latsischan under guard of two platoons of infantry and one platoon of the 13th Cavalry Regiment.

The brigade arrived without mishap at Tschutsjatun shortly after 12 noon. Here the brigade commander received a report, sent at 10:40 a. m., from the vicinity of Wafangou, according to which that place was said to be barricaded and occupied by 100 men. The patrol commander sending the report added that he would continue to observe the front of the enemy and his lines of approach. Considering his decision, it appears that General Akijama had received other reports concerning the approaching enemy—these reports, however, only referring to the enemy's advance guard and advanced frontier guard detachments south of the Futschouho, for he decided to force the defile at Judsjatun and issued orders to the regimental commander of the 14th Regiment, Colonel Tojobe, to advance with the advance guard, reinforced by the remainder of the 14th Regiment, on Judsjatun; the remainder of the brigade to follow.

In the meantime the following had taken place in the brigade Samsonow:

Disregarding the already mentioned reports as to the proximity of the enemy, no special security measures were ordered to be taken for the march on the 30th of May; the general opinion being, according to a notation made in the diary by General Samsonow's adjutant general, Sipigus, that "According to information received on the 28th, which made it appear that the enemy was immobile on the line mentioned above, nobody thought an early contact possible." The marches were executed about as follows: About half an hour before the general start three officers' patrols were sent out, the center one marching along the march road and consisting of the officers, etc., to select the next quarters; the other two patrols marching on parallel side roads; the flanks of the brigade were secured by scouts. The center patrol was followed by a squadron or sotnia acting as advance guard, and this in its turn was followed by

the main body at an interval of about one to one and one-half kilometers.

The brigade reached Sjunschutun, six kilometers north of Wafangou, about 11 a. m. without mishap and without having gained any additional information concerning the enemy; here it made a short halt. When starting from there at 11:20 a. m. a cossack from the central patrol arrived with the verbal report that a fire fight was in progress at Wafangou; shortly thereafter the 42d Frontier Guard sotnia sent in a report stating that weak hostile dismounted cavalry detachments had driven back, after 8 a. m., the outposts of the 43d sotnia and had advanced as far as the Futschouho west of Judsjatun; that from there they had been driven off by one and one-half frontier guard sotnias and were now in the southern part of Judsjatun, from which position they could not be dislodged. The report also stated that the enemy was drawing up reinforcements.

General Samsonow ordered the trot to be taken up, and towards noon arrived at the crossing of the Futschouho south of Wafangou, where he issued orders to the Jäger detachment of the 13th Regiment and the 48th Frontier Guard sotnia to advance to the hills on the left bank of the Futschouho. At the same time, the Third and Fourth squadrons of the Primorski dragoons received orders to hasten toward the left to the hills at Louschagou and support the frontier guard detachments in action there. The remainder of the brigade marched into position on the level ground between Wafangou and the Futschouho.

In the meantime, Colonel Tojobe had arrived at the advance guard squadron and while that squadron and the platoon already engaged deployed partly in the valley at Judsjatun and on the railroad and partly on the hills west of the railroad for the fire fight, one and three-fourths squadrons took up the dismounted fight on the hill southeast of Judsjutan, and at 12:30 p. m. a slow fire fight ensued between the three squadrons of the 14th Japanese Cavalry Regiment and the four and one-half Russian squadrons, which had dismounted east of the Futschouho for the fire fight also. The detachments west of

that stream appeared to have taken up a favorable position under cover in the vicinity of Santsuir.

Shortly after the commencement of the infantry fire, about 12:40 p. m., the Japanese machine guns also opened fire from the small, steep hill situated halfway between Tschutsjatun and Judsjatun. The 13th Japanese Cavalry Regiment had taken a position under cover behind the group of houses in Hokaton, northwest of Tschutsjatun; the infantry remained for the present near the last named village.

About 12:30 p. m. General Samsonow received a request from Lieutenant Colonel Afanasiew, commanding the dragoon squadrons in front, to have the artillery fire on Judsjatun and the hills southeast thereof; thereupon the artillery commander was directed to select a position for his battery on the hill at Louschagou. At the same time the main body of the brigade resumed the march, crossed the Futschouho, but very soon again halted about opposite Huafangou. Here the brigade commander received a verbal report from the commander of the 42d Frontier Guard sotnia; as he could not gain a clear understanding of the situation, however, from that report, he sent his brigade adjutant, Sipigus, to the hill south of Louschagou for reconnaissance.

Shortly thereafter the battery commander reported that there was no possibility of the battery going into position on the steep hills at Louschagou, and also reported that the two Japanese squadrons were pressing the troops in Judsjatun very hard.

General Samsonow now directed the battery to go into position close to the railroad bridge, and issued orders at the same time to the commander of the Cossack regiment to send two of his sotnias to support the advanced troops in Judsjatun. The 4th and 6th sotnias, under command of Lieutenant Colonel Zeltuchin, were selected for this duty, and they started at once on the trot. They, however, could not prevent the retreat of the Frontier Guard detachments from Judsjatun; overlapped on both flanks, fired on by the Japanese machine guns (though at long range), and fired on by the hostile infantry since 1:15 p. m., the commander of the detachment fighting in the northern part of Judsjatun decided on the retreat at about 1:30 p. m. and he succeeded in assembling the larger part of half of the 43d and 42d Frontier Guard sotnias behind the northwestern slope of the hill south of Louschagou, where the three dragoon squadrons had then arrived.

On the part of the Japanese, at 1:15 p. m. one platoon of infantry prolonged the right of the 14th Cavalry Regiment in the fire fight, while the remainder of the company took position on the ridge running farther to the east. Shortly after the infantry took part in the fire fight, the retreat of the Russian detachments from Judsjatun was noticed by the Japanese. Being informed thereof, General Akijama, who was with the 13th Regiment, ordered the commander of that regiment, Colonel Tamura, to pursue the retreating enemy with one squadron. The Second squadron was selected for this task; it, however, left one platoon behind. The squadron immediately started on the trot, proceeding west of the railroad toward Judsjatun. Shortly thereafter General Akijama received a report from Colonel Tojobe, stating that the enemy at and east of Judsjatun was about two and one-half squadrons strong. Thereupon Colonel Tamura was directed to follow his Second squadron with the remainder of the regiment, and Colonel Tojobe received orders to advance farther along the hills east of Judsjatun; the infantry was directed to conform to that movement on the right, and the machine guns were ordered into a position farther to the front.

The Second squadron of the 13th Regiment proceeded on the trot without stopping at the curve in the railroad south of Judsjatun, crossed the embankment and entered that village, which had already been evacuated by the Russians. When leaving the northern part of the village the squadron perceived a small hostile detachment, about thirty troopers, which it immediately attacked. This detachment had been left behind to cover the retreat of the Russian forces from Judsjatun, composed partly of dragoons and partly of frontier guard soldiers. About 1:40 p. m., when the Second squadron of the 13th Regiment had carried its attack to about 200 meters of the foot of the hills and pushed the enemy up that steep hill,

Lieutenant Colonel Zeltuchin appeared suddenly on the squadron's left flank with one of his sotnias deployed across the embankment and the other sotnia coming across the bridge at Lunwanmjao—he and his sotnias had been enabled to get so close to the squadron under cover of the embankment. Neither party knew of the other's proximity, and Colonel Zeltuchin had no time to take up the gallop and the Japanese squadron had no chance to avoid the shock, which latter, in spite of the slow speed, had an almost annihilating effect. Fully utilizing the favorable opportunity, the pursued Russian detachment faced about to revenge itself. After a short mêlee, which, according to statements of both sides, is said to have proven the lance superior to the saber, the remnants of the Japanese squadron fled back in a southeasterly direction behind the skirmish lines of the 14th Regiment and of the infantry, which had almost reached the north edge of Judsjatun and the hills east thereof. Fired on by these skirmish lines and by the machine guns, the sotnias under Zeltuchin faced about and retreated in a northerly direction with relatively small losses. This retreat, as well as the subsequent advance of the Japanese infantry and of the 14th Cavalry Regiment, seems to have induced the frontier guard detachments and the Third dragoon squadrons to also retreat.

In vain did the brigade adjutant plead with these detachments and with Colonel Woronow, who had in the meantime been sent forward with his Second, Fifth and Sixth squadrons to support the left wing, to again occupy the hill south of Louschagou; neither his pleadings, nor his direct orders, had any effect.

Shortly after the Cossack sotnias had fled, consequently just a few minutes too late, Colonel Tamura arrived on the battlefield with the remaining two and one-half squadrons of his regiment, and the platoon which had been left behind by the Second squadron, formed in two lines. Just about when attempting to ascend the hill south of Louschagou on the western slope, which was not quite so steep, Colonel Tamura's command was fired on in flank and rear by the 13th Regiment and the 48th Frontier Guard sotnia which had in the meantime

reached a small clump of woods on the west bank of the Futschouho southwest of Louschagou. The Third squadron of the 13th Regiment, suffering most from this fire, immediately faced about and fled in a southwesterly direction; the platoon of the Second squadron alongside of it, on the other hand, covered itself as well as the terrain allowed and held the hill. Very soon dismounted troopers from the First and Fourth squadrons, 13th Regiment, and two machine guns were sent to that platoon's support, which appeared to assure possession of the hill, and the Russians made no further attempt to recapture it.

Just about that time, very nearly one hour after receipt of orders to do so, the Russian battery opened fire on the above mentioned hill from a small piece of forest northwest of Louschagou. A Japanese machine gun detachment endeavored to silence this battery, but had little success as it never got the proper range, all shots falling far too short.

Shortly after 2 p. m. the leading elements of the 12th company, 11th Japanese Infantry, arrived on the hills southeast of Louschagou, the company having advanced in connection with the 14th Cavalry Regiment, and on a broad front. The Regiment Woronow estimated these three platoons to be from three to four battalions of hostile infantry and started the retreat via Louschagou without offering any serious resistance. The Japanese company was prevented from further advance on Huafangou by the Russian battery, which had fallen back for that purpose to a position about 1,000 paces farther north. "After the range had once been gained," says the Russian report, "the dark Japanese lines disappeared from the ridge and never showed up again."

Major General Akijama remained in the different positions gained in readiness for battle until 5 p. m., drew in his advanced troops at that hour, caused Judsjatun and the nearest hills to be placed in a state of defense, and fell back with his main body to Tschutsjatun for the night.

The brigade under Samsonow fell back as far as Wafangou, leaving security detachments south of the Futschouho on both sides of the railroad bridge.

The Japanese stated their losses as one officer and twenty-five soldiers killed and three officers and thirty-three soldiers wounded, a total of sixty-two. The Russians are said to have lost a total of thirty-seven men and forty horses.

COMMENTS.

The tasks set the two cavalry brigades were entirely different. The Japanese brigade was sent to the front for far reconnaisance and for establishment of connection with the neighboring group, while the brigade of Samsonow had explicit orders to threaten, as quickly as possible, the line of communications of the hostile army, which had its back to the Russians, and to draw on itself at least parts of that army. The more the brigade succeeded in gaining room to the front, the better it would execute its additional task, which consisted in securing the concentration of the corps under Stackelberg between Haitschoen and Kaitschou.

The solution of the task set the Russian brigade required a rapid, uninterrupted advance and an offensive, regardless of consequences, when encountering equally strong or inferior hostile forces, in order to bring about as much confusion and disorder as possible in rear of the hostile army. Akijama, on the other hand, was enabled to avoid any encounter of a doubtful outcome and still solve his task by means of his far advanced "feeling" organs, *i. e.*, his reconnoitering detachments, should he be successful in driving back larger hostile cavalry forces, the further continuation of his task would naturally become more simple and easier.

The actual events, as discussed above, but especially the attitude of both cavalry forces after the engagement at Judsjatun, justify the belief that General Akijama acted entirely correct in view of his orders, although he would have done much better had he acted more offensively; and that General Samsonow did not act correctly, in consideration of the situation and his numerical superiority, during and immediately after the first contact.

It was the duty of the Japanese brigade, enjoined by its orders, and of the Russian brigade, in its own interests, to reconnoiter strategically, *i. e.*, in the most thorough manner, at least the terrain between the Piliho and the Gulf of Liaotun. In the sense of our regulations information squadrons (or detachments) and independent information patrols ought to have been sent out far to the front from the main bodies; the Russians sending at least one patrol in the direction of Kaitschou-Futschou-Pulantien, one along the railroad, one from Kaitschou along the ridge of hills as far as Ljudauhe and from there farther into the Tasaho valley, and finally one along the Piliho valley as far as Pitsewo; the Japanese sending patrols in reverse direction. General Samsonow, however, probably in consideration of the fact that frontier guard detachments were along the railroad, took no steps at all for far reconnaissance, while General Akijama did send one information squadron via Futschou, but for the rest contented himself with working with patrols—which were not sent out so very far—which served more for the purpose of tactical than strategical reconnaissance. It is unknown what measures General Akijama took to execute his task of establishing connection with the group under Kawamura (the 10th Division).

Thus it seems clear that we cannot say that the measures taken on either side were either sufficient or correct. The entire service of reconnaissance was insufficient, bringing no material results, for neither side endeavored to ascertain conditions with the approaching hostile cavalry nor the infantry bodies behind it. Akijama's sending out the two platoons at 4 a. m., May 30, was more for the purpose of tactical than strategical reconnaissance; one of these platoons was sent along a route already covered by one information squadron; a small patrol would have been sufficient, if it was the intention to merely establish connection with that squadron.

We are justified in expecting from our larger bodies of cavalry a more extended strategical reconnaissance than appears in this case; we find but very few traces of such far-reaching reconnaissance on the part of the Japanese; as, for instance, the appearance of patrols at Wantselin the afternoon

of the 29th—that is, about 45 kilometers distant from their main body—and no traces at all on the part of the Russians. Information gained through native spies, of course, offset to some extent the absence of strategical reconnaissance, but it was entirely too risky to rely on such sources exclusively.

Concerning the tactical reconnaissance, we may say that the Japanese executed that correctly and sufficiently. General Akijama timely received information of first contact with the enemy; Chinese spies gave him further information concerning the hostile group farther in rear; it is true that the latter information in regard to strength and exact location of the enemy was inaccurate and uncertain, but the main information that the enemy was already within striking distance was conveyed. It is the duty of reconnoitering detachments and patrols to prove the correctness of such information gained through spies and to supplement it, which could have easily been done by the patrols already in the vicinity of Wantselin.

The Russians were very nonchalant in regard to tactical reconnaissance. In spite of the report received that the enemy was within striking distance and that hostile patrols showed themselves near the villages where the night was to be passed, the march was carried on on the 30th, when contact with the enemy was almost a certainty, in the same manner as would have been a march in peace maneuvers; *i. e.*, only with quartermaster's detachments in front, and without having special security and reconnoitering detachments sent ahead. The security in which General Samsonow believed himself to be still on the 30th, because the enemy had been reported to be stationary on the 28th in his position heretofore occupied, is partly to be wondered at and partly inexcusable. What are forty or forty-five kilometers, which here separated the two sides, to cavalry, or even to infantry? With an opponent for the main part composed of cavalry, the situation changes not only daily, but almost hourly. The excuse that frontier guard detachments were ahead in front is insufficient as reason for not sending out reconnoitering detachments, at least during the march on May 30th.

It is a strange fact that General Samsonow received information—and correct, at that—of the presence of the hostile detachment, composed of all arms, at Latsischan only through Chinese spies.

In consequence of insufficient measures taken for reconnaisance, General Samsonow, on his arrival in Sjunschutun at 11 a. m., had no further news concerning the enemy, in spite of the fact that an engagement was in progress since 8 a. m. in the vicinity of Tschutsjatun, only fifteen kilometers distant; neither did he know that the main body of the hostile cavalry was approaching that place at that hour.

The fact that the Japanese patrol which gained contact with the most advanced Russian detachment did not cut loose from it, but clung to its heels and thus ascertained the place where it was to stop that night, may be cited as an example of the Japanese manner of carrying on the near reconnaissance. It is also a remarkable fact that the frontier guard detachments—one and one-half sotnias strong—retreated in front of an unimportant Japanese force—namely, one platoon and one patrol—instead of driving that force back, and so retreated for a distance of several kilometers without offering any resistance until Judsjutan was reached, where the intrepid hostile small detachment was forced to halt.

The following is remarked concerning the strength, composition, organization and march of the main bodies of both cavalry brigades:

The Russian cavalry brigade, in view of the fact that General Samsonow did not call on the railroad company attached to his command, consisted of only cavalry and artillery; that under Akijama, of infantry and eight machine guns in addition to his cavalry. The Russian cavalry was numerically stronger than the Japanese—2,000 as against 1,100. The presence of artillery, though it appeared very late on the scene, came very opportunely to the Russian brigade; it was the artillery which set a limit to the hostile advance. On account of late arrival the artillery was of little use during the engagement proper; it occupied a bad position; from its position on the Futschouho plain it could do but little damage to the Japanese

on the hills south of Louschagou. On the other hand, the Japanese machine guns did not succeed in doing any damage to the Russian artillery on account of the long range, 2,000 meters.

The absence of machine guns and infantry was sorely felt by the Russians. The passive attitude of the Russian brigade may be ascribed to this absence, for at the very moment when the Japanese machine guns and infantry participated in the engagement—their number being, in addition, greatly overestimated by the Russians—the Primorski dragoon regiment, which on the whole did not show much spirit in the engagement, did no longer endeavor to hold its own. This example may be cited as proof that participation by infantry in cavalry engagements, wherever that can be done, may often become of great advantage; of course, the desire to have infantry in support should never be allowed to interfere with the offensive cavalry spirit. This does not appear to have entirely been the case in Akijama's brigade, for on the 30th Akijama marched his brigade at a walk—evidently to allow the infantry to keep up; he started from Latsischan at 8:30 a. m. and arrived at Tschutsjatun at 12:00 noon, thus covering but 16 kilometers in three and one-half hours.

The unusual late start made by Akijama on the 30th may be traced back to the desire to await results of the reconnaissance ordered at 4:00 a. m., which was, however, entirely unjustifiable.

Samsonow also does not appear to have acted energetically on that day; his brigade reached Sjunschutun—fifteen kilometers from its night quarters—only at 11 a. m.; this distance could be covered at trot and walk in one and one-half hours, at a walk in two and one-half hours, thus showing that he could not have started from Wantselin before 9:30 in the first, 8:30 a. m. in the second case. Samsonow's marches were very normal ones; on the 28th he covered a little over thirty kilometers; on the 29th, twenty-nine; on the 30th, about twenty-five. On the 29th, Akijama marched hardly ten; on the 30th, about seventeen kilometers. The order of march in both brigades was normal; in the Japanese brigade it appears that the machine guns were kept too far in the rear.

Measures taken in the Russian brigade for establishment of and keeping up communications to the rear were more than sufficient.

Akijama left his train on the 30th in Latsischan; he was perfectly correct in doing so; Samsonow could take his train along to Wafangou, because the presence of the half company of railroad guards there afforded sufficient protection for it.

The situation during the noon hour of May 30th is very important and interesting for both parties; during that hour both commanders received reports having a decided influence on the measures about to be taken. It must be ceded to be entirely correct that Samsonow took up the trot when receiving the report mentioned above, at 11:20, at Sjunschutun, for the first indication of any engagement being in progress should be the signal for haste. This report and one received shortly thereafter clearly indicated that contact with the enemy would undoubtedly ensue at Judsjutan should the frontier guard detachment be able to hold its position there for some time, otherwise in the vicinity of Louschagou. As the situation stood at 12:00 noon, General Samsonow could count on the first case, the more favorable to him, as by that time his advance guard squadron could easily be in the vicinity of Louschagou and as that squadron had not yet sent in any report of the appearance of larger hostile forces. In estimating the situation in this manner, it appears to have been possible (and undoubtedly better) to have continued the advance, sending out a right flank guard. However, General Samsonow undoubtedly believed the second case about to happen, *i. e.*, contact with the enemy at Louschagou, and this caused him to order his main body to deploy immediately, *i. e.*, behind the Futschouho. This was carrying caution entirely too far, considering that the opponent was but equally strong, or, rather, inferior in this case.

On the whole, Samsonow's march into position was correctly executed; in front a strong group (four and one-half squadrons) under protection of which the artillery could go into position and protect the deployment of the main body; to the right front, for protection of the most endangered right flank, one and one-half sotnias; *i. e.*, a body not too strong, which

could be used either defensively or offensively against the enemy's flank and rear, and which could become very useful to the main body in other ways. In planning this march into position, General Samsonow undoubtedly was imbued by the following thought: If the group in front succeeds in preventing the further advance of the enemy on the hills of Louschagou, I can advance to the attack when and where I choose with my main body, secured on its right flank, across to Futschouho into the plain along the railroad; on the other hand, should the front group be forced to fall back in front of a superior enemy, the main body can attack the pursuing enemy at the most favorable moment, when he attempts to cross the easily forded Futschouho.

Although we must approve the general arrangement of the march into position, we must call attention to two errors committed; the battery, instead of going into position to the rear, should at once have been sent forward to the hills at Louschagou, and the brigade commander ought to have immediately hastened forward to his most advanced group to gain personal knowledge of the general situation, of the strength of the enemy and the general character of the terrain. Though the higher infantry commander can and even must remain in the rear to direct the battle, the cavalry commander, at the very start, should be with the most advanced group, for only thus can he estimate the situation correctly, decide quickly and act on the spur of the moment, which factors are the base of success in all cavalry actions.

Samsonow's remaining in rear may be excusable in the start, for the purpose of giving orders to the main body as to the battle formation, etc., but after that was done he should have hastened to the front, and he did not do so even after receipt of Lieutenant Colonel Afanasiew's report and that of the commander of the 42d sotnia of frontier guards, was even more than an error, was almost a crime. Starting the main body, on receipt of the first report, was, of course, correct, but the commander should have hastened to the front, to some good observation point. Sending the brigade adjutant ahead on receipt of the second report, at such an important moment, is

more disadvantageous than otherwise, especially as in this case the otherwise brave Sipigus almost lost his head and instead of riding back after complete orientation and informing the brigade commander of the situation, gave all kinds of directions and orders in the name of the brigade commander—though we must say that his measures taken were, on the whole, correct. Had these orders, or similar ones, emanated from the brigade commander himself, they would undoubtedly have been carried out more efficiently by his subordinates. Sipigus' bad action had bad consequences. He had hardly left the brigade commander's side when the latter was assailed by all manner of disquieting reports; the battery commander reported that he could not get his pieces up the steep hills, and that, anyway, the advanced troops had been driven out of Judsjatun by two hostile squadrons. It appears that the latter factor made a greater impression on the battery commander than did the steep hills. And what did Samsonow do? Instead of coming to a forcible decision and attacking the enemy in superiority—sending his main body farther ahead in the direction of Judsjatun—he took but half measures in his uncertainty as to the situation; he sent but two sotnias to attack the reported two hostile squadrons, and he believed the battery commander's report that the hills were too steep to get up, and ordered the battery into a position where his own troops masked the battery's fire for a long time.

The first half measures was soon succeeded by others; very soon the rest of the dragoon regiment was let out of the brigade commander's hands for the "support of the detachments in front," and not with the task to at least try and attack the hostile wing. This left to the brigade commander, who, it appears, remained in the dark as to the true situation—Sipigus not returning—until the close of the engagement, only four Cossack sotnias, and it is not to be wondered at that he did not throw these sotnias into the fight, as he had a report that three or four hostile infantry battalions had appeared on the field. Thus it came about that, though numerically much superior to the enemy, he could not bring that superiority into decisive play at any point of the battlefield. According to how the reports arrived that hostile detachments were appearing on

this or that spot of the battlefield, he inserted small parts of his force; there was no appearance of a well thought out plan of battle or insertion of the combined forces.

How different would the result of the day have been had the brigade commander and the artillery timely arrived on the hills at Louschagou, which fact would have also spurred the dragoon regiment to more energetic action!

The intrepid attack of Zeltuchin should be specially commended. Considering the rapid advance of the group under Colonel Tamura, Zeltuchin's participation in the fight might easily have become exceedingly dangerous to him and his command, and for the reason that under just such dangerous conditions he formed the decision for his brave action his name deserves to be preserved in letters of gold in the annals of the Cossacks. It should also be stated that in this engagement the Cossacks, so severely criticised for their behavior throughout the war, performed their duties far more cheerfully and better than did the Russian cavalry in any stage of the campaign.

The Russian Jäger command of the 13th Regiment and the 48th Frontier Guard sotnia chose the moment of their interference entirely correctly and at a very opportune moment.

At the moment when the Russian brigade started its march into position, General Akijama came to the decision to force the Judsjatun defile, inserting his entire force. According to all appearances this decision was based on the supposition that only weaker hostile forces were at that place, and that a serious battle ought to be expected to occur only at the barricaded Wafangou—therefore, his orders to Colonel Tojobe concluded with the sentence that the entire brigade would follow him. But events happened differently. It is probable that information received subsequently of the advance of three hostile dragoon squadrons on Louschagou, and later the stubborn resistance of the hostile group at Judsjatun led to the supposition that the enemy intended to accept battle not at Wafangou but at and north of Judsjatun; consequently, Akijama changed his decision and ordered his brigade to march into position in the vicinity of Tschutsjatun; that is, while still behind the defile of Judsjatun, and in such manner as has been discussed above.

Concerning Akijama's decision and the march into position of his brigade, the following should be noted: After the enemy—consisting of cavalry only—made use only of rifle fire, it appears clear that Colonel Tojobe also caused his detachments to dismount to fight on foot; for this reason it was entirely correct to hasten the machine guns to him as quickly as possible; it would have been best to have attached them, or at least a part of them, to his command in the very start. It is very remarkable that Akijama kept his infantry so far in rear in spite of the knowledge he had that a fire fight was in progress; it, best of all, could have broken the resistance of the hostile group fighting at Judsjatun. Fatigue could hardly have been the reason for keeping the infantry back, for that day it had covered only sixteen to seventeen kilometers at a slow rate of march.

The place for the 13th Regiment to march into position was correctly chosen—behind the left wing, where the cavalry had very good terrain in front; probably, however, it might have been better to have placed that regiment farther to the front, covered in a depression. The worst feature of the entire matter was that Akijama, similar to the Russian commander, remained too far in rear; he ought to also have been, at the first signs of contact, on a hill in front where he could have had a good view; and had he chosen such a point of vantage it is very probable that the entire march into position would not have taken place as discussed above, for, oriented as to the situation by personal observation, he could easily have come to the decision to execute the march into position, not in the defile itself, but rather—and which would have been better—at the entrance to the defile, which was fully guarded by the 14th Regiment.

To the fact that Akijama was too far in rear may be ascribed the defeat of the Second squadron, 13th Regiment. It was the bounden duty of the 14th Regiment, which was in front and supported by infantry, to commence the pursuit of the retreating enemy; because Akijama prematurely sent off the above mentioned squadron, the later on correctly ordered combined attack of the entire force at his disposition had no de-

cisive effect. Had the Second squadron, 13th Regiment, advanced to the attack on a line with and abreast of the remainder of the force, Colonel Zeltuchin would not have found as tempting target for attack as he did find, and the brigade, attacking combined, would have had easy work in taking the hill south of Louschagou and later on the one east of that place, for, judging by their later behavior, the frontier guard and dragoon detachments would hardly have offered a serious resistance. One thing was omitted in the well ordered attack; *i. e.*, the left flank was not secured by sending at least one squadron along the west bank of the Futschouho and the creek flowing into it at Judsjutan, to prevent surprise from this direction, which the Russians prepared for Colonel Tamura as a matter of fact. This forgetfulness is the more remarkable, as it is general rule to have a larger flank protection in battle of any larger bodies of cavalry.

Different from Samsonow, Akijama's decision was correct; the plan of battle was also correct; however, the execution was faulty.

Praise is due to the energetic attack of the Second Squadron, 13th Regiment, as well as to the correct action of the platoon attacking later on. Of course, the capture of the hill south of Louschagou and holding it until the arrival of reinforcements in the face of a superior enemy was made possible only by the passive attitude of the enemy. The ride of the squadron through Judsjatun was very dangerous, as it could not be known what hostile detachments might be in concealment; it is always more advisable in such cases to ride around the village instead of through it.

Mention should be made of the fact that the machine guns, as has been stated, were unable to do any damage to the Russian battery; it is stated that some of the bullets from the machine guns struck a few paces in front of the battery. It was either not known that the bullets fell too short, or the range of the machine guns was no greater than 2,000 meters. At such long ranges, it is certainly not easy to hit the target, neither is it easy to correctly control the machine gun or infantry fire.

As in this engagement detachments of only from one to two, or at most two and one-half, squadrons participated mounted, the assumption seems justified that this engagement does not portray a battle of larger cavalry masses, and it is also remarkable that not cavalry but infantry brought about the decision in this fight.

The faint-heartedness displayed during the entire engagement by both parties is apparent also after conclusion of the fight; Akijama does not think of pursuit and Samsonow appears to have been glad that the opponent left him in undisputed possession of Wafangou. This does not indicate the true cavalry spirit.

After Akijama had convinced himself that he had no more to fear from the enemy, he allowed his troops to go into night quarters. To remain with his troops at Judsjatun, at the exit of defile, appeared to him to be too risky and he led his main body back to Tschutsjatun; the enemy, though not entirely defeated but merely driven back, showed less apprehension, for he remained in the immediate vicinity of the battlefield.

The losses sustained were very small; the vanquished lost only 2 per cent, the victor only 3.5 per cent; the larger part of that falling to the lot of the Second Squadron, 13th Regiment.

COMPOSITION OF ADVANCE GUARDS OF ARMIES.*

TWO different opinions are held by our military writers concerning the composition and strength of advance guards of armies. One advocates advance guards composed of the different arms according to regulations and the other objects to the addition of infantry and wants only cavalry divisions sent ahead of the army corps against the enemy.

It is remarkable and interesting that both parties base their views with apparent justification on Napoleon's procedure, who always chose the composition of his advance guards according

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to the terrain, the peculiarities of the arms and the object to be attained, *i. e.*, in nearly every case he had a different formation.

Napoleon was opposed to a cast iron formation for the advance guard; his actions were based on interior reasons. We ought not to adopt a regulation formation, but should endeavor to learn to understand the presumptions and conditions governing action in war. Three questions must be answered in this:

1. What is the purpose of the advance guards of an army?

2. What means have they to attain their object, peculiarities of the different arms?

3. What changes ought to be made in the utilization of the means at hand to conform to terrain and object in view?

Opinions which have not paid proper attention to these questions are of no account, they are without any stability.

1. *The Purpose.*—It is the task of the advance guard to carry on the reconnaissance against the army and at the same time furnish the screen and security to the movements of its own army. It may be charged with delaying the hostile advance, to prepare the battle of the main body or to prevent the enemy from interfering with the deployment of the main body for battle. To this are added as a rule a series of secondary tasks, which are manifold.

As long as there is no chance of immediate contact with the enemy the main task of the cavalry will be reconnaissance. At closer approach the necessity increases for screening, which may gradually change into security service. But this sequence of these tasks is not the general rule in all cases, for the peculiarity of the strategic situation may entirely reverse it and make the screening of the movements of an army (Murat 1805) or the security service (Napoleon, June, 1807) the main task. This will be the rule at the commencement of operations where both armies march into position on fortified frontiers (frontier guards). The case that the situation may *suddenly* change should also be duly considered, as happened in September, 1813, when the Silesian army, engaged in pursuing Macdonald, was suddenly compelled to face about by Napoleon appearing on the scene; the army advance guard became the army rear guard.

Its task was to prevent the entire Silesian army from becoming engaged in a general battle. A great diversity of means to be employed naturally springs from the diversity of the tasks to be performed by advance guards (which are partly offensive and partly of a defensive nature) as well as from the diversity of the theaters of war.

2. *The Means.*—Of the three arms the cavalry is the quickest. It is the arm of surprise and as it can appear rapidly and disappear just as rapidly, reconnaissance is its main duty. It alone is suited for that, but must receive, through addition of artificial means of communication, the capability to timely furnish the supreme comander the results of its reconnaissance. By arming the cavalry with long range carbines it has become entirely independent. In addition to the charge it may resort to fire fights and can carry on defensive operations. In the employment of its firearm its celerity is put to good account in the matter of appearance and disappearance and mobility in the conduct of the engagement. Each and any schematic employment of the carbine in a confined terrain is contrary to the proper spirit of the arm, which must rely for any great success in the main on surprise. Success in a fire fight must be achieved before the enemy learns he is engaged with cavalry; fire fights lasting for hours have to be avoided by cavalry wherever possible, for its fire activity is based on far different principles than is that of the infantry, which can carry on long fire fights under entirely different conditions and suppositions. The losses sustained by cavalry, seeing that riderless horses require to be led and the leaders of them become useless in other regards, are double those of infantry, and thus every intense fire fight may become a serious crisis for cavalry which may sadly interfere with its subsequent activity in the matter of reconnaissance. As the cavalry arm is costly and as the losses are difficult to replace each and any wrong employment of cavalry is far more serious than is the case with the infantry. Cavalry must never expect from fire what it may achieve through mobility; still, proper attention should be paid to the fact that the utilization of the horse becomes more difficult with the increasing difficulty of the terrain.

Infantry, suited just as well for attack as defense, can be employed in any kind of terrain and is unsuited only to such military tasks as require celerity; it requires cavalry support in the matter of far reconnaissance, but in any task which can and must be solved dismounted it is far better suited than cavalry, not being encumbered with led horses. Another point, the infantry can utilize for operation the time necessary to the cavalry to care for its mounts, and what the dismounted arm loses in celerity or mobility it can make good by continuity. Matters of camping, quartering and subsistence are easier of arrangement for the infantry than for the cavalry and its readiness for battle is materially greater.

Artillery may be considered as a purely defensive arm, when in good position its effect is good at long range. Its employment depends on a series of presuppositions and conditions not always available. In covered terrain, at night and in foggy weather it is condemned to inactivity and needs protection then just as it does on the march and while at rest. The length of its march column causes serious difficulties and deprives other arms of part of their fighting force. Attaching artillery to advance guards can be done only under certain limitations and is possible only where conditions of the terrain allow its employment. Should the enemy offer large and paying targets, its effect may be annihilating.

For the purpose of sending back information secured we have, in addition to mounted messengers, special information troops, the lines and stations of which require protection by the other arms. Infantry equipped with cycles had best be used for that protection.

In future, aerial craft will have to be considered for purposes of reconnaissance. They are able to quickly cover large distances, and will prove of the utmost value in showing the proper route to be taken by the cavalry patrols carrying on the far reconnaissance; however, they can be seen from a very great distance and are thus more in danger from fire than the slower working patrols.

3. *The Utilization of the Means.*—Where the task of the advance guard is reconnaissance only and where the terrain

offers no difficulties, cavalry re-inforced by artillery and machine guns will be fully sufficient to attain all objects in view.

It is different where a covered and cut up terrain in immediate vicinity of the enemy demands a systematical advance from sector to sector. In this case reconnoitering cavalry requires the active support of infantry in rear, while accompanying artillery may become a drag. In especially difficult terrain, forests and mountains, where even cavalry can not be used, infantry must *nolens volens* take the place of cavalry, or it may become necessary to attach infantry to the reconnaissance organs, a measure which would be entirely wrong in an open terrain.

Similar effects are produced by the diversity of the objects to be attained. If screening, security and battle are of more importance than reconnaissance, infantry may have to be attached, which performs everything the cavalry, hastening on ahead, cannot perform, such as guarding the routes on which messages are sent, screening, protecting the rear of the cavalry, receiving the cavalry, or even supporting it in the fire fight.

This combined action of the two arms must, however, not be sought in a mechanical mixture of the arms and in keeping them locally bound together, far rather should each arm find its proper employment in the proper place, assigned it in consonance with the peculiarity of the arm, where it can be most effective.

As in 1870 the cavalry was not armed with carbines and untrained in the utilization of the arms captured from the enemy, it is not at all to be wondered at that it often called on the protection of infantry. But even at that time General v. Schmidt broke a lance for the necessity of cavalry independence and, after the cavalry was finally armed with the carbine, his views: "Cavalry has to and must protect itself and needs no infantry for this," were adopted generally. Thus, wherever infantry is attached to army advance guards it should not be considered as a particular guard or protection for the cavalry, but only as a body to relieve the cavalry of certain tasks in which the horse is out of place or not necessary. Mobility, celerity and surprise are of no use in guarding trains, on out-

posts, holding a certain locality, or in security service. Employing the cavalry for defense soon kills the cavalry spirit and for that reason alone cavalry should be sent far to the front and should not be bound down to tasks which had better be performed by infantry.

It is no reason to believe that cavalry will stick close to infantry just because some writers hold that view. A body of infantry, which does not need the protection of cavalry and which is intended to relieve the cavalry of onerous duties, is merely a drag on the movements of cavalry. Just as the cavalry must cut loose from the army, so also must it cut loose from the infantry attached to it or forming a part of the army advance guard. In cases where cavalry sticks to the infantry the fault rests not on the arm but on the leader who does not understand how to employ the different arms properly in consonance with the peculiarity of their effect. The campaign of 1866 shows plainly that it is not always easy to perceive the true peculiarity of each arm, for in that campaign the loaded down infantryman performed the patrol service, while the cavalry of the army generally brought up the rear.

As a general rule, cavalry will advance reconnoiteringly with its auxiliary arms, horse artillery and machine gun detachments; the attached infantry and its auxiliary arms, artillery and weak cavalry, will follow as a special detachment, under certain conditions at great intervals, and possibly also by rail; it performs screening duty, holds position and places, brings up and guards the baggage of the cavalry. Whether or not the infantry can camp or bivouac with the cavalry or in its vicinity, depends on conditions, but we should always strive to have it so.

We do not mean to say that the above will be the invariable rule; situations may arise where infantry will have to open a road for the cavalry as was the case in the campaign of 1805, where Murat's cavalry divisions crossed the Rhine under protection of one infantry division and thereafter went ahead of the latter into the Black Forest. However, it may be assumed that a competent cavalry leader will only in case of absolute necessity give to the infantry the honor of being first.

Objection is often raised against attaching infantry to

army advance guards, for the reason that it is unable to keep up with the cavalry. This may be true in exceptional cases, but is not the rule. The marching rate of the main body designates, during operations, the rate for the cavalry after it has gained a certain distance in front; for the rest, achievements of cavalry in a six days' maneuver cannot be taken as a guide for performance in war, unless we intend to entirely ruin our cavalry without a battle. After its march to Kimberley, French's cavalry division was not in a state of battle efficiency on its arrival at Paardeberg and it took a long time to recuperate. Such marches are infrequent, and as the question in advance guards is as a rule only one of small bodies of infantry, the utilization of railroads, or carrying the knapsacks on wagons, or carrying small detachments on wagons, is very frequently possible. A competent infantry commander undoubtedly can when necessary cover longer distances with his command, the more so as such long or forced marches will be exceptional and not the rule. Where cavalry is accompanied by baggage, which will be the case as a general rule, infantry will have no difficulty in keeping up.

Like composition, strength of the troops designated for advance guard duty is dependent on circumstances and different in different cases.

In level country where cavalry can easily deploy, move on broad fronts, and can easily be utilized for combined action in battle, the organization of divisions into cavalry corps is to be recommended, to be better enabled to drive the hostile cavalry from the field and to pierce the hostile screen. Of course, all other requirements necessary for the utilization of larger masses of cavalry must obtain. Where this is not the case, for instance, where matters of supply and subsistence are not regulated, we can no more employ larger masses of cavalry justly than we can where the difficulties of the terrain prevent it. In war only that counts which can make its effect felt; a numerical superiority which cannot be employed merely becomes a drag and may endanger success. In such cases we must content ourselves with cavalry divisions or even smaller units, several of whom then find employment alongside of each other.

Strength of infantry to be attached to bodies of cavalry will depend on the strength of the cavalry, the peculiarity of the terrain and the tasks set. Under average conditions one battalion will suffice for a division. This strength will suffice to relieve the cavalry from the above mentioned onerous details, but will not be sufficient when the task of the army advance guard is more than reconnaissance, when it requires more security or more battle power, which latter ought however to be only temporary. An army advance guard acts similar to a detached corps "less by battle actually engaged in than by the possibility of those which it *might* have engaged in; it should not stop, but regulate, the hostile movements" (Clausewitz). For carrying on delaying action (in suitable terrain) strong artillery will be required, which in its turn requires strong infantry protection, but in this case the infantry is but an auxiliary arm for the artillery, as it was originally for the cavalry, and its strength ought to be regulated by that factor. France intends to throw out the army advance guard as a sort of bait for the enemy in the hope to thus interfere with his movements, to draw his columns to a converging point, to engage them in undesirable battles and to thereby advantageously prepare the battle for its main force. The question here is of demonstrative aims, which cannot be achieved without offensive action and for which strong infantry is required. France has therefore decided to assign a full army corps to the army advance guard, to let this corps follow behind the cavalry on a broad front one day's march ahead of the army. It is evident that from this "advanced corps" France expects a task which goes far beyond what Clausewitz considers possible. We own up that such an army advance guard, provided it is efficiently led and understands its business, provided the terrain is favorable and the enemy not efficiently led, can successfully achieve its task; but will all these presumptions actually happen in most cases and will each situation be suitable to this scheme? We doubt it and believe that this is a misconception of the effect of achievements of advanced corps. They are expected to perform something far beyond their powers or abilities, which they can possibly perform in very exceptional cases only. Each and every misconception of natural conditions must, in war, lead to defeat.

After what has been said above, we believe that there should be no hard and fast rule governing the composition and strength of army advance guards, but that each separate situation should govern *such* composition, *such* strength, and *such* employment or tasks set, as will best lead to the desired result. We further believe that this maxim ought to be applied in peace maneuvers so that the leaders of army advance guards will learn to employ the different arms according to the peculiarity of their arm, for *not* local consolidation of the different arms, *not* mixing the different arms, but only correct combined utilization and action leads to the desired result. To bring this about is an art. The nature of things creates the formation.

CAVALRY MACHINE GUNS ON PACK ANIMALS OR CARRIAGES.*

By CAPTAIN H. VICTORIN, Third Austrian Dragoons.

(Translated from the Kavalleristische Monatshefte by the General Staff.)

THE question whether machine guns with cavalry should be carried on pack horses or on wheels is still being discussed in Germany, though it was decided in Austria, as long ago as 1907, in favor of pack transport. The writer of the present article has commanded machine gun sections with both descriptions of transport and has more than once contributed articles on the subject to this periodical.

The author of a book published in Germany entitled "The Latest Machine Guns" appears to be in favor of wheeled transport. So was the present writer, once. In 1907 he contributed an article to the *Kavalleristische Monatshefte*, pointing out the advantages of that description of machine gun mounting, viz., its great mobility (with a team of four horses), its instantaneous readiness for action, and capability for carrying over 15,000 rounds of ammunition with the gun. But his views

*From the British Cavalry Journal for April, 1911.

were entirely changed during the autumn of that same year.* The excellent results obtained from the Schaller pattern of saddle removed the objection, as to probable sore backs, raised against pack transport; while close study of the Russo-Japanese war proved that a machine gun must still be considered as a small arm, the principal work of which is at short ranges, within which it is difficult to handle any large carriage mounting with a team of horses.

It is worth while reproducing here a passage which occurs in an article by Colonel Köppel (cited by Captain Fleck), where he replies to the favorite argument of the partisans of carriage mounting, to the effect that if horse artillery possesses adequate mobility to act with cavalry, the same applies to machine guns mounted on wheels.

Colonel Köppel remarks:

"Field guns possess a much wider range of action. They can come into action at much longer ranges, and have a much wider choice of position, besides being able to remain in the same place for a considerable time.

"Machine guns, on the other hand, must push on to closer ranges if a good result is to be attained, while the time within which their action can be utilized is strictly limited.

"They must move by the shortest lines, get into position quickly, deliver rapid fire for a few minutes only and then dis appear again.

"Such requirements as these can only be met by a machine gun carried by mounted men."

The writer of the present article, from his own experience of practical work with both descriptions of mounting, thoroughly endorses Colonel Köppel's views. The chief point is getting into position unseen, and thus being able to open fire unexpectedly at ranges between 1000—1500 paces.

It is a very different thing for an officer commanding machine guns to know that his men can follow him wherever he himself can go, compared with the feeling that he is followed by wheeled vehicles. The writer has repeatedly jumped with

Vide the writer's article in the Kavalleristische Monatshefte, April, 1908.

his section over fences 5¼ feet high, and then opened fire within twenty-six seconds.*

In a tight place, moreover, there is no necessity for bringing up all the horses of a machine gun section. The four gun horses, leaders, and four men for each gun, etc., would suffice; *i. e.*, thirty horses in all, capable of being sub-divided into two parties of fifteen, which might well advance unnoticed carrying the respectable number of 2,000 rounds with them.

A mounted machine gun section is almost independent of the question of ground. It can get over any obstacle which an individual rider can jump, negotiate steep gradients, pass through woods, use any footpath where a single horse can pass, and so on. As Colonel Köppel pointed out in an article on the Japansese machine guns, published in the *Militar-Wochenblatt* (No. 5 of 1908), there are many paths among the smaller German mountains which would be impassable for any form of vehicle, though perfectly practicable for mounted men and pack transport.

Captain Fleck refers to the Austrian regulations as to equalizing and balancing loads (empty and full), as showing the "seamy side" of pack transport. But in actual practice that is far from being so complicated as it may seem in print. It is done in a couple of seconds, without any trouble whatever. Moreover, if time presses, the Schaller pattern of saddle is so well arranged on the horses that three or four pounds more or less, on one side or the other, cannot possibly shift it all at once.

With regard to Captain Fleck's opinion that a machine gun carried on a pack horse must take longer coming into action than one mounted on wheels, I know from my own personal experience that my own (wheel-transport) machine gun section in 1907 was able to open aimed fire from the carriage within twenty-six seconds of halting. But fire can also be opened with a pack transport machine gun within the same limit of time and the target presented to the enemy is infinitely smaller than the upstanding carriage.

The four guns of my (pack transport) machine gun section were always ready to fire within twenty-six seconds of

Vide previous articles in the Kavalleristische Monatshefte, November, 1908, December, 1909.

halting, even after the fastest gallop, and delivered well-aimed fire, as shown by the results of field firing practices.

In order to encourage quick handling of the guns, prizes were offered for competition as follows: The machine gun section would be drawn up in line. A gun leader was then ordered to gallop his gun to a given point, and there open fire upon a given target. The time elapsing between the word "halt" and the first shot was noted by an officer, while another officer checked the sighting and aiming. Credit was given for smart and quick removal of the horses to the nearest cover. Then the next gun followed, and so on. The gun team which took the least time and lost no marks for mistakes received a prize.

Thus a "record" was made on each occasion, which had to be beaten in subsequent competitions.

In this way the time was reduced to 23½ seconds between the order "Halt! unload" (followed, for example, by the words: "Cavalry 1200! Aim at the high poplar tree!" etc.) and opening fire. There was no difficulty in obtaining such results and the operation of loading up again was just as quick.

On getting into position the men leading led horses remained mounted, each holding two horses (ridden by men of the gun detachment) on their left side, in addition to the pack horses on their right.

The man leading the pack horses carrying the gun took the horses of Nos. 1 and 2, while the leader of the first ammunition pack horse held those of Nos. 3 and 4. No. 5, if not required, remained on horseback, but if necessary gave his horse over to the leader of the second ammunition pack horse. In special cases, when the gun horses alone were brought up, No. 5 (mounted) held the horses of Nos. 3 and 4.

As soon as the loads were removed the horses were galloped off to take cover.

Similarly, if the guns were not withdrawn by hand to where the horses stood, the latter would be brought up at a gallop to receive their loads.

With regard to what Captain Fleck says as to the danger of sore backs, etc., I can only say that during the Grand Maneuvers in West Hungary in 1908 my machine gun section rode over 500 miles within five weeks without one single sore back.

We also took part in a "cavalry raid" (described in the *Kavalleristische Monatshefte*, July-August, 1909), in the course of which we rode over seventy-three miles in twenty-eight hours without any casualty among the men or horses. A few days later, on May 14, the section was present in full strength at the parade held to welcome their majesties the German Emperor and Empress in Vienna.

The result of my own long experience is that, as a rule, the pack horses are fresher after a day's work than those ridden.

As to Captain Fleck's remark to the effect that constant handling of the pack loads must "worry" the men, who must, at the same time, be very good horsemen, while the leaders of horses require special training, I can only say my men showed no sign of "worry," but were always most keen on their work. Undoubtedly, the men must be good riders; but if they are not, two or three lessons are enough to teach them how to lead led horses.

NOTES ON LEE.*

By Second-Lieutenant R. H. BEADON, A. S. C.

IT IS a thousand pities that the author of "Stonewall Jackson" did not survive to write the life of Lee. Colonel Henderson had, indeed, contemplated the work, and had even collected a mass of material for it, but death intervened, and the world was left the poorer. For amid the galaxy of great leaders produced by the War of Secession surely Lee must stand pre-eminent. It would be out of place to compare him as a soldier with his great lieutenant, for, as Jefferson Davis said, "they supplemented each other and together were invincible." So let the object of this short paper be solely to attempt to awaken more general interest in a career which will so well repay study.

*From the United Service Magazine, March, 1911.

Lee had lived in a military atmosphere most of his life. Educated at West Point, of which institution he was afterwards superintendent, he had a notable career in the United States Army, especially distinguishing himself during the war with Mexico in 1847. The secession movement seemed his opportunity of further advancement. To the ambitious and rising soldier the outbreak of war is so often the long-awaited chance. And fortune seemed to smile on Lee, when, summoned to Washington by General Winfield Scott, he was virtually offered the command of the Union armies in stamping out the "rebellion."

It is difficult for Englishmen to understand the feeling which made men put their State before their Country, but it is certain that the strongest sense of patriotism and of outraged rights permeated the mass of those who fought the Union so long and bitterly. The history of the war speaks for itself. No nation or people or army ever fought well for a cause in which they did not believe. And who can deny that the struggle of the Confederacy was one of the most gallant fights ever made by a weak against a strong State? For the Confederacy was essentially weak. The skill of her leaders alone enabled her to prolong the war four years. Lee himself never, even in the hour of victory and triumph, became sanguine enough to suppose that the Southerners would be eventually successful without foreign intervention. In his own words, near the end of the war, "I have never believed we could against the gigantic combination for our subjugation make good in the long run our independence unless foreign powers should directly or indirectly assist us. * * * We had, I am satisfied, sacred principles to maintain and sacred rights to defend for which we were in duty bound to do our best even if we perished in the attempt."

It was in this spirit that the most promising officer in the United States Army resigned his commission and offered his services to Virginia—his native state. No time was lost in appointing him to command her armies. Merit in his case did not go unrecognized. For Lee, before ever he had led a great army in the field, had displayed many of those qualities which make for success in war. Morally and physically he was absolutely fearless. He was exceedingly tactful. There was little

chance of friction between him and his political leaders. Indeed, his anxiety to steer clear of anything that could lead to internal dissension might have been almost construed into weakness. This stands out all through his career. He had most excellent reasons for dealing with Longstreet very stringently after that general's conduct at Gettysburg. As one writer remarks, "Jackson would probably have had him relieved of his command and court-martialed." Not so Lee.

After the campaign closed he wrote to the President offering him his resignation, partially on the grounds of ill-health, but mainly because he thought the South could produce better men than himself. To his lasting credit, Mr. Davis refused it.

Again, from a purely strategical point of view, the employment of the Army of Northern Virginia during the last year of the war was indefensible, and as a strategist Lee opposed the policy of tying down the field army to the defense of the capital. But, as has so often happened, political reasons overcame strategical ones, and the soldier again made his will subordinate to that of the statesman. On such a vital question, however, Lee did offer some opposition, but always in the shape of advice and suggestions.

But reference to this again later.

In 1861 the most prophetic vision could scarcely have seen in Lee the genius for strategy and grand tactics which it afterwards appeared he possessed in so great a measure. That he had energy and foresight his previous career had shown. That he was loved and trusted by his subordinates was patent to all who knew him. But that he had that subtlety and that extraordinary power of insight into his opponents' plans, few could have guessed.

Jefferson Davis, a West Pointer himself, and a most capable judge of men, appointed Lee his military secretary at the outset, and while in this capacity a great deal of organization and administrative work seems to have fallen to him. In this sphere he appears to have been no less successful than he was afterwards as a commander in the field. The raw material which was to be turned into soldiers required an immense amount of patient labor, but the welding of the rough-and-ready regiments

into an army must have been a much more formidable task. Bull Run proved that the work was not in vain.

In West Virginia, however, it was evident that the hostility of the inhabitants to the Confederate cause would necessitate a vigorous campaign if the territory was to be held, and Lee was accordingly sent there. But the series of operations was a failure, and the Southern troops were withdrawn. Lee came in for some very strong press criticisms, but expert opinion backed him against condemnation, and he still held the confidence of the President, who resisted all newspaper clamor.. His faith in his subordinate never wavered, even in moments of disaster and ill fortune. Referring to Lee in this campaign he afterwards said, "He came back carrying the heavy weight of defeat, and unappreciated by the people whom he served, for they could not know, as I knew, that had his orders and plans been carried out the result would have been victory rather than defeat. * * * Yet, through all this, with a magnanimity rarely equaled, he stood in silence without defending himself or allowing others to defend him, for he was unwilling to offend any one who was wearing a sword and striking a blow for the Confederacy."

One of Napoleon's maxims lays down that the first qualification for a general is a cool head. "He must not," it continues, "allow himself to be elated by good news, or depressed by bad." And the French Emperor himself possessed most admirable presence of mind and fortitude in depressing circumstances. But scarcely more so than the American. For Lee showed at his very best as a soldier and a man when the outlook was blackest. The Federal masses before his small army at the Antietam did not quail his spirit to give them battle. Pickett's division, reeling back in rout from the slopes of Gettysburg, only brought forth his courage and energy to repair the fortunes of the day. Even in the last dark hours, when not only the army but the whole nation looked to him to save them, his generalship was higher than ever. And it was more by bad luck than by the odds against him that he did not save his army from Appomattox.

In the spring of 1862 the horizon appeared none too bright for the Southern cause. General McClellan, who had taken

command of the army of the Potomac, had put into operation a scheme by which the vast numerical superiority of the Federals and their command of the sea could be adequately utilized. The famous "Anaconda" scheme would in all probability have succeeded had McClellan himself possessed a little more audacity. But though his strategical conceptions were often good, the Federal general was far too cautious a tactician, and so he always failed just when he had put himself in a position to make defeat absolutely disastrous for his opponent. There is no doubt that Lee knew this characteristic of McClellan, and treated him accordingly. As Henderson so aptly puts it, "He read him like an open book." This remark gives the keynote of Lee's methods throughout the whole Peninsula campaign—a campaign in which an army superior in numbers was driven back to its ships after having reached the very gates of Richmond.

Napoleon is said to have carried biographies of all the Russian generals opposed to him in 1813. Indeed, he is credited with persistently studying the characters of the leaders opposed to him.

Lee was in the fortunate position of personally knowing many of the Federal generals, and his methods of dealing with them were invariably those that disconcerted them most. That they knew him was rather to his advantage. His personal qualities had been widely esteemed in the United States Army. They feared to make moves against him which would often have been successful if they had had but the courage of their convictions. Meade would have advanced promptly after Gettysburg but for the fear that Lee had, so to speak, "another card up his sleeve."

The campaign against McClellan was Lee's first great command, and his conduct of it won him the complete confidence of the South. He had learnt much himself. His army had learnt much also. The brilliant maneuvers that so utterly confounded his adversaries later were only possible with an army which had found "its feet." And though his troops had still much to learn, yet the bloody fields of the Yorktown Peninsula had paved the way to some of the most notable tactical triumphs of the century.

The campaign that followed was short, sharp and decisive. "In the space of three weeks, Lee carried the war from the James to the Potomac." The operations were probably the most instructive of the whole civil war, as they are assuredly the most brilliant. A daring stroke, skillfully executed, compassed the utter discomfiture of the Northerners. A study of the brief campaign by itself can be strongly recommended. Few can teach more of war. The second Manassas has been rightly compared to Salamanca.

Lee's first invasion of the North followed this victory. It was not a success. The Confederate army appears to have suffered from an over-confidence from which not even their leader was exempt. It found itself in imminent danger of destruction on the Antietam, but Lee extricated himself from a most perilous position by an engagement most creditable to himself and his soldiers. Tactically the battle was a masterpiece. The skill with which he brought every available soldier on the field into action, so that he was always strongest where the attack was heaviest, makes this encounter a model of its kind.

The net result of the Antietam was to put the Southerners once more on the defensive, and the next time the armies met, Lee fought a purely defensive action—Fredericksburg. The several excellent accounts of this battle, which has excited a great deal of controversy, preclude any remarks being offered here. It was a barren victory for the Confederates.

In May, 1863, Lee was once more the aggressor. Chancellorsville has been described as the "tactical masterpiece of the nineteenth century as Leuthen was of the eighteenth." Purchased at the price of Jackson's death, however, it was a dearly won conquest. The end of the great combination of the two great Southern generals had come, and from henceforth Lee was perforce to make shift with by far less capable subordinates.

The Gettysburg campaign was admirably planned and came very near to being a dazzling success, and though regrets are vain it is difficult to believe how it could have failed had Lee's great lieutenant been present. It is worth while noting with what judgment the Confederate line of advance was selected in the second invasion of the North. Lee made every use of the

character of the ground, using the covered way of the Shenandoah Valley as an approach. By holding the eastern gap in the Blue Ridge he could insure freedom from molestation of the right flank of his army while en route.

It is not always realized what a bold move was this northward march; consider the numbers of the opposing armies, and it will seem even rash. The Southern troops, however, were at this time at the very height of their prosperity. The *morale* was never higher; and Lee no doubt felt that the time for a bold stroke had come. Who can say he was wrong?

The climax of the whole struggle of secession—the three days' action at Gettysburg—was one of the decisive battles of the world. From the Confederate point of view it was essentially one of lost opportunities. Southern independence was never nearer than on that fateful morning of the 3rd of July. Lee realized to the full the issues that hung on the battle. "It is a pity we must go back to Virginia."

The day following the battle his army fell sullenly back.

The war was never again carried into Northern territory.

Grant now appeared on the Eastern theater of war, and the last phase of the struggle was entered upon. The contest between Lee and the victorious Federal general from the West has been compared to Napoleon's mighty campaign of 1814, and it indeed bears many resemblances to that masterpiece of defensive war. The aggressive defensive attitude, if it may be thus termed, of the Southern army must excite the admiration of any student of strategy and grand tactics. Lee never forgot that the counter-stroke is the very soul of the defense, and was constantly on the lookout for opportunities for striking a blow.

That his tactics merely postponed the inevitable end cannot be held as a fair criticism, for, as is remarked elsewhere, he was tied down to a policy which he considered disastrous. He did all that a human being could do to make it a success.

Colonel Anderson, C. S. A., speaking after the war on the course of events from the commencement of the siege of Petersburg to the final surrender, has admirably summed up the situation in a few words which are repeated here:

"For nine months," he said, "the Confederate commander displayed every art by which genius and courage can make good

the lack of numbers and resources. *But the increasing misfortunes of the Confederate arms on other theaters of the war gradually cut off the supply of men and means.* The army of Northern Virginia ceased to be recruited. It ceased to be adequately fed. It lived for months on less than one-third rations. *It was demoralized not by the enemy in its front, but by the enemy in the Georgias and the Carolinas.* It dwindled to 35,000 men, holding a front of thirty-five miles, but over the enemy it still cast the shadow of its great name. *Again and again by a bold offensive it arrested the Federal movement to fasten on its communications.* At last an irresistible concentration of force broke through its long, thin line of battle. Petersburg had to be abandoned. Richmond was evacuated. Trains bearing supplies were intercepted, and a starving army, harassed for seven days by incessant attacks on rear and flank, found itself hemmed in by overwhelming masses."

The last italicized sentence above is worth thinking about. Realize what a bold offensive by a starving army of 35,000 men against a well-fed and well-equipped host of between 120,000 and 140,000 veterans means! One may then understand why great leaders are few and far between.

Much that will live in world history was crowded into the Confederacy's four years as a nation. Colossal blunders were made, it is true, by the Southern Government, but of what war can it be said that great mistakes are conspicuous by their absence? Lee's share in the errors committed by his side is worth examining. For who is faultless? He was not, fortunately for the Federals, present at the first battle of Bull Run. If he had been, it is improbable that the Union Army would have been let off so lightly. That McClellan saved his host in the Peninsula and Pope his army after Manassas is not to be wondered at, considering their numerical superiority, for Franklin and Sumner became involved in the latter general precipitate retreat. The invasion of Maryland after this battle has been criticised as rash, as has also the audacious offensive after Chancellorsville. One writer has gone so far as to state that Lee committed a great error of judgment in ever attempting the invasion of the North. But the Confederates came within "a stone's throw of independence" at Gettysburg.

That Lee was wrong in the dispersal of his army in September, 1862, can scarcely be denied. He placed too high a value on the capture or Harper's Ferry. But he made ample amends at Sharpsburg, which from a purely tactical point of view was perhaps the very best of his battles. A more cautious leader would have avoided a trial of strength, and a retirement would have had a very detrimental moral effect.

The Gettysburg campaign, unsuccessful as it was, cannot be considered unjustified. Lee conducted it with admirable skill. By all the rules of war he should have obtained an overwhelming victory, for he concentrated on a superior enemy when the latter was disunited. He cannot, however, be acquitted of permitting his cavalry to leave the army for a non-sufficient reason. Indeed, all through his campaigns a partiality for raids seems to have been considerably overdone. The *raison d'etre* of a large body of horsemen is to protect the army by overthrowing the hostile cavalry. A certain amount of information may be obtained, and a certain amount of temporary discomfort may be inflicted on a foe by a cavalry raid on his communications, but absolute security should be insured to the army first. And for it to attempt offensive movements on an extended scale is merely groping in the dark.

But this was Lee's only serious error. His failure to break the Federal center on the 3rd of July by no means proved him to be wrong in attempting the stroke, which, if it had succeeded, as it very nearly did, despite the blunders of subordinates, would have spelt absolute disaster to Meade.

Lee's leadership during the last year of the war has already been dealt with. He was tied down to a policy of which he disapproved, and under the circumstances he did all that was possible. That he ventured as far as he did to make the Government fall in with his views proves how serious he considered the strategic aspects of their decision. For Lee was surely the most unassertive man who ever led an army, and his very humility was probably his chief fault as a general. If he had been less modest his cause would have been the gainer. Jackson called a council of war once, and then regretted it afterwards. Lee, on the other hand, invariably consulted his generals.

The charge of making dangerous detachments and of dividing up his army in the most audacious manner in the face of the enemy has been preferred against Lee as a violation of all principles of war. But Napoleon broke rules when he thought fit. For "genius is above rules."

This knowledge of when rules can be set at defiance is indeed one of the distinguishing marks of a great leader. Lee repeatedly divided his army into two for the execution of some movement while Jackson served under him, and that he could time the rejunction of the parts Manassas and Chancellorsville bear witness.

It has been urged against Jackson, says Henderson, that he never faced generals of great capability, so that he was never fairly tested. The same has to a certain extent been advanced against Lee. It is true that Burnside was unfitted to command an army, but McClellan, with all his faults, had considerable military capacity. Pope and Hooker were not soldiers of genius, but many worse generals have met with success. Grant, however, was of far different caliber. He had all the Anglo-Saxon stubbornness and was both courageous and energetic. His strategy may have been straightforward, but "it is daring and simple schemes that win success in war." The fact that many of Lee's opponents cut a very poor figure against him does not necessarily prove them of no worth as soldiers. Nay, rather, their very inability to cope with him may furnish further evidence of his military genius.

No sketch of Lee as a general, however brief, could omit mention of the personal characteristics which made him so absolutely trusted by those who served under him.

Referring to Wellington once, one of his soldiers wrote: "The sight of his long nose among us on a battle morning was worth ten thousand men any day of the week." And the "Iron Duke" had certainly the power of inspiring his soldiers with boundless confidence. He was not the kind of man who awoke personal devotion, but trust in his ability was universal in his army. What a powerful asset this is! More than is, perhaps, always realized. It is recorded that the Federal infantry went bravely but hopelessly forward at Fredricksburg. They did not

believe in in Burnside, and were beaten long before the awful slaughter at Mary's hill. Surely no general had ever to call upon his men for greater sacrifices than had Lee during the last six months of the war. And how grand was the response! The sufferings of the Army of Northern Virginia are almost without parallel in modern war, and yet they were all borne without complaint.

Battine, in his "Crisis of the Confederacy," draws a graphic picture of Lee rallying his broken troops at Gettysburg, and this description admirably illustrates his magnetic influence:

"When Lee beheld the collapse of the attack, and his ten brigades reeling back in disorder, he understood how great was the disaster, and set himself to remedy the confusion and meet the counterstroke that might be expected to follow. With all the personal charm which had won, and was ever destined to keep, their affection, he rode among his defeated soldiers encouraging them with kind words, and taking all the blame to himself.

* * * *

"When the Southern soldiers heard his voice, and saw his kindly, confident face and noble bearing, they soon regained their courage, and resumed military order."

Like Napoleon in his early days Lee was wont to expose himself in battle most recklessly when he deemed that the situation demanded it, and often his staff officers had the utmost difficulty in preventing him leading his infantry in person to the charge. The life of the Commander-in-Chief is far too precious to be lightly risked, but there are occasions, rarely, when the personal bravery of the general can do more than anything else to turn the fortunes of the day. The old adage "desperate diseases demand desperate remedies" still holds good.

What has been touched on above might be enlarged upon almost *ad infinitum,* but space will permit of only one more point. That "eye for ground," without which, says Henderson, "no man can hope to become a good or even a useful general."

The most superficial study of Lee's campaigns will demonstrate in how great a measure he possessed this. Time after

time his choice of position is the most judicious one possible. When pitted against Grant, all his skill was brought into play, and it was indeed needed. That his small army could have withstood the victor of Shiloh, Donelson and Vicksburg for so long will suffice to show how admirably it was always posted to meet the Federal offensive. Lee had not been an engineer officer for nothing.

A standard work on this great American soldier is badly needed, and would supply a long-felt want, for such a book would be full of instruction to all who value manliness and probity. The verdict of history must surely accord Lee a high place among men. As a Christian soldier he stands with Havelock and Jackson and Gordon; and as a leader in war, he may be fitly placed with Napoleon, Wellington and Von Moltke.

His unswerving loyalty and courage should be a lesson to all, and the history of his life and campaigns should make his achievements a pride to all those soldiers "in whose veins the same blood runs."

BOY SCOUTS.*

By LIEUTENANT GENERAL SIR ROBERT BADEN-POWELL, K. C. B., K. C. V. O.

SYNOPSIS OF LECTURE.

"To be a soldier a man must be a MAN, not a sheep."

THE drilled machine of Fredrick the Great is out of date; the fighting unit must nowadays be composed of intelligent and handy individuals.

Marksmanship and drill are useful steps towards making a defense force efficient against a civilized enemy, but are useless if the *moral, i. e.*, the spirit, character and discipline, is absent.

The British character is independent and does not take readily to repressive discipline though it is amenable to a sense of duty when that is impressed in good time.

Discipline through a sense of duty has to be inculcated in the boy; it is difficult to implant in a man after he has grown up.

*From the Journal of the *Royal Military Service Institution* of May, 1911.

Yet it is the task of the regimental officer today to make up in his recruits the want of a previous school education in manliness and discipline.

Public schools inculcate some such discipline, but it is only among a restricted class. Lower schools do nothing.

Cadet Corps are valuable institutions for instructing in marksmanship and military training, but cannot naturally effect much in character training.

The principle of the public school discipline of "good form" and "playing the game" needs develpoment on right lines, and extension to other ranks of life.

An attempt is made in this direction in the Boy Scouts, where, by means which appeal to the boy, he is encouraged to practice discipline, pluck and sacrifice of self daily, together with handiness in campaigning and scouting.

Thus, although he does little or no military drill, he is none the less the best material for a soldier, having had as a foundation the all-round training as a good citizen and a manly fellow.

The Boy Scouts can and do help the Cadet Corps and Defense Forces.

A large number of parents conscientiously object to their sons being instructed permanently in ideas of fighting and bloodshed, and therefore are averse to military training for them. They have no objection to their becoming Scouts. Scouting, therefore, fills a gap between Cadet Corps and other drilled organizations for boys, by getting hold of those who would otherwise receive no training in character and patriotism.

Although it is non military, scouting can be utilized by Cadet Corps as giving the essential training for soldiers (and for sailors) in a form which really interests or attracts the boy. There is no lack of recruits for such training.

It is already so utilized in many Cadet Corps, especially in oversea dominions and in Rusia, etc.

The Boy Scouts and their training are in no sense rivals to Cadets or harmful to Defense Forces, but exactly the opposite

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I propose in this paper briefly to discuss the need of a training of our youth in "character" as a basis for training for National Defense, or, indeed, for any service or career.

I would indicate where Cadet Corps may fail and how the Boy Scouts' organization can and does help them.

Also I would sketch in outline the aims and methods of the Boy Scouts.

COMMON SENSE TRAINING.

Lord Haldane has just spoken of the gap which exists between National Training and National Service. It is a gap which must be bridged over before we can be an efficient nation. National Service is of no use without National Training as a foundation. Our present educational system does little to supply this.

The Boy Scouts scheme is, as I will endeavor to show, one attempt among others to fill that gap by laying in the boy a foundation of character upon which he may build a career in any direction.

The general idea of the Boy Scouts movement and training was not one, as seems to be inferred, that came as a sudden inspiration; it was merely a mixture of experiences gradually gathered in training recruits in the army. In the army our education has, during the last few years, gone through various transitions. The method of Frederick the Great, of having a drilled machine, worked very well in his day, and he won great battles, but it would not have been successful in the present day, when we want men rather than machines to do our fighting. The text which heads the syllabus of my lecture —"If you want a man to be a soldier he must be a MAN and not a sheep"—is one the truth of which, I think, none of us can nowadays deny. When I began my service we were in the transition stage, when we were still being drilled, and when we were not allowed to develop in peace time what are termed the three C's of the soldier, *viz.*, Courage, Common sense and Cunning. I think I have suffered as much as most people in being hauled over the coals for "playing the fool instead of carrying out the maneuvers." I remember especially one occasion in Ireland, many years ago, when I happened to be a very young captain in charge of a squadron, that I saw an enemy's battery in action. We crept along by a hollow road till we got right in front of it, under a crest of the hill, unseen by either the battery or its escort—which was doing its proper duty as was laid down in those times, *i. e.*, looking to its "front." We came up to the battery at about ten yards distance, and walked into it and captured it. Well, the officer in command of the escort said that being a dry, hot day, he naturally expected we should kick up some dust and merely sat there looking around for any dust in the distance. As we did not happen to make much dust he had not noticed us. Next day it happened, going across some hills, we found this same battery in action again, with the same escort looking out for dust. We thought it a pity not to oblige. A few soldiers,

under an astute sergeant, armed with lassoes on their saddles, cut down a few branches of trees and rode along at a trot in a shallow road some little distance to the front of the escort. They towed these branches along behind them, thereby kicking up an enormous dust. Away went the cavalry after them, and we merely then walked into the battery again, this time from the rear. We were just congratulating ourselves on having done a clever thing—for us—when an aide-de-camp came galloping down and said that the commander-in-chief wanted the officer in charge of the squadron. Well, the feeling came to me as I suppose it has to many of you—as if somebody had poured a quantity of cold oil down inside you. I rode off with the galloper thinking of what my next profession in life would be after I had left the army. When I got to the commander-in-chief he said, "Did you do this thing?" I said, "Well, sir, my squadron did." I dared not look at him as I said that, but when I did look I found he was laughing. He patted me on the back and said, "That is the sort of thing I want to see, use of your common sense." I felt myself blushing down to my toes. That general was Lord Wolseley. A new era had dawned. There was no longer any regard paid to the red tape fetish; we realized that we were not to slavishly follow drill books, but that we had to use our common sense as occasion demanded. That system has continued to develop up to the present time; we train our soldiers, each as an individual, to use his common sense, and to be a man, instead of being merely a machine. Frederick the Great won battles by his drilled machine, but Bonaparte won his with hordes of conscripts merely by the *moral* of his magnetic leadership. In the same way you saw in later days, in the Russo-Japanese war, one side a drilled machine and the other composed of individual men of spirit. You saw the Boers—what a formidable foe they made. Although never drilled, they had the spirit, the common sense and the cunning of the campaigner—all those points which go to make a soldier; it merely wanted the extra luxury of a drill to make such a man into the finished article. It is the human, manly side which needs developing. No one realizes this better than the Emperor of Germany.

As a basis for training your soldier you must have in your pupil the attribute of character. Officers getting their recruits from amongst the men—or rather the overgrown boyhood—of the nation, want men with character, but they do not get such, because our education does not go in for character training. It teaches the "three R's," and our lads perhaps are gaining more book intelligence, but they are getting less and less of character into them, because of over-civilization, and the book education of our schools does nothing to counteract this. Only three days ago I was speaking to an educational authority, who said: "Our nation has been very nearly ruined by those monks of old who started book learning as the one corrective to the over-zealous soldiering of the day, and they have thereby practically wrecked our 'character.'"

THE HOBBLE SKIRT.

Of course, education has improved enormously, but to a very large extent it has been directed by the educators themselves. With all due deference, they are not always the best judges of what kind of education is required for the different lines of life. We see a parallel in the dress of the ladies today. They want a dress which looks graceful and artistic, which is easy and comfortable for walking in, and which does not expose too much of the form divine, and so on. They wear a hobble skirt. It is made for them by the dressmaker, who says it is the right thing, that "it is easy and graceful, and if you do not like it, or think other forms of dress are more useful or becoming —well, you can go somewhere else." That is what we have in regard to our education. The educators tell us, "You boys have to learn reading, writing and arithmetic, and that is all that is necessary. If you have absurd fads about training a man to make himself a success in life, you can go somewhere else." There are others—especially our self-made men—who say that reading, writing and arithmetic do not necessarily make a man's career a success; it is his character.

CHARACTER TRAINING FOR BOYS.

Character is the great essential to success, whether in the nation or the individual. Yet, character training is the one

thing which is omitted in our education. It is true that boys in our great public schools pick up a certain amount of character, but that is just fortuitous; it is not directed; they have a certain sense of "good form" and act up to it. But there is nothing of that kind amongst the poor class of boy in the elementary schools. There is nothing inside or outside the school walls which trains them in character. That is where the Boys' Brigade and the Church Lads' Brigade and the Young Men's Christian Association are doing good work; they are trying to inculcate in the lower order of boys some sort of character by the institution of organized games and discipline. The Boy Scouts is the newest addition to this group. But, of course, it is uphill work, done by individuals, and the different organizations work in different ways—although we all endeavor to pull together as much as possible. I only wish we could see some authority taking command of the whole lot of us and organizing us, and bringing our efforts in a proper channel, so that there is no overlapping or leakage. If some such "combine" were carried out, we could, I believe, get hold of the mass of the boys and make them men of character, and thus change the whole outlook of the nation in the near future.

CADET CORPS.

Character training for our boys, then, is the essential groundwork for making our men into a nation of good citizens. It is equally essential for making them into soldiers. Now, one great organization which is doing a great good for the boys, in addition to those I have referred to, is that of the Cadet Corps. It gives them an outdoor life and physical development; it gives them the training of soldiers, the love for their country, and a sense of duty and discipline, which, as I say, is not given them inside the school walls. I have been an ardent cadetman since I was a bugler in the Charterhouse Cadet Corps; I have had cadets under me on active service; I have held the rank of honorary commander of several Cadet Corps, and I have seen their great expansion in our over-sea dominions; but, gradually, as I have got older and studied their ways and looked around, I have detected many shortcomings and many defects in the cadet system. Not long ago my sus-

picions were turned into almost certainty by Mr. John Burns. "You are going in the wrong direction with those cadets of yours," he said, "because the more you train and drill a boy to be a soldier in his youthful years the less he will want to become a soldier when he comes to the age for soldiering. You have to be careful how you put the glamour of wearing the King's uniform before him, because it may wear off as he gets older; he gets bored with the drill, and he may never want to take to it again."

One sees, on looking into the returns, that that is very much what has happened with Cadets; only a very small percentage have gone into the service afterwards. Now that the system is improving and the work is getting more interesting—less of the goose-step and more of the field work—no doubt that state of things will improve, but, still, there are undoubted drawbacks to the Cadet organization. We should owe a great deal to Cadet Corps if they could make up for the omissions of the school education of the boy. If you look at the large mass of the middle class and lower class boys you will find, as they grow up into young men, they have no sense of discipline, they are very self-assertive—though for very little reason—and they are wanting in self-reliance and in fortitude, which are essential qualities whether they are going to be citizens or soldiers. That point is brought home to us by our over-sea dominions where "no Englishmen need apply," where formerly an Englishman used to be the very type of fellow that was wanted.

One sees it, too, in the army, thriftless fellows coming in with no idea of discipline, and officers having to try and hustle it into them at an age when they are probably too old to pick it up. So a great possibility would seem to lie before Cadet Corps, at any rate in the United Kingdom. What it may be in some of our over-sea dominions where there is an obligatory system I do not know; the authorities may be able to keep them longer as Cadets and to give them a more thorough training in real sound discipline such that it becomes part of their character. But we British do not readily accept a merely repressive form of discipline, with punishment for faults. It

does not take hold of us. What we act up to is more a sense of "playing the game," a sense of honor and "good form." These appeal to an Englishman much more than any dread of punishment, and supply a much sounder and more permanent form of discipline, and one which we can instill into him if we can only get the boy early enough, before he has grown into the hooligan or the lout.

SHORTCOMINGS OF CADET CORPS.

The points which I have regretfully to acknowledge against my beloved Cadet Corps are these:

1. First of all there is need for specially capable officers for training the boys, because it is not every man who has the peculiar gift of training a boy, and these are very hard to find, good officers preferring the more serious form of soldiering.

2. The expense limits the Cadet training to only a certain class of boys.

3. A very considerable portion of our citizens conscientiously object to their sons being taught soldiering, and the idea of fighting and bloodshed, before they are of age to judge for themselves, and therefore bar their sons from serving as Cadets. Well, that is a thing you have to take into consideration.

4. The principle of the Cadet Corps is only applicable to populous centers, where you can raise a company. Out in the country districts a boy gets no chance of becoming a Cadet.

5. The physical training is only a nominal thing. While they are on parade they get a certain amount of exercise, but the parades are very few and far between.

6. It is the same with the discipline. They only obey orders while they are on parade; the discipline is put on with the uniform and taken off with the uniform; it does not go into their soul and mind, and it does not become part of their character—which is what we want.

7. Then there is the fact that the glamour wears off when they come to the age to go into the service. Only 10 per cent join the army.

8. Then, of course, the system fails to give any idea to the boys of their duty as citizens.

9. It involves the expenditure of a certain amount of public money.

ADVANTAGES OF THE BOY SCOUT SYSTEM.

I fear I have drawn a very dark picture of the Cadet Corps system; I want to show up the Boy Scouts movement as the bright side!

1. In the Boy Scouts we have a work which appeals more widely to both the officers and boys, so there is less difficulty in getting qualified officers to join.

2. The Boy Scouts movement is non-military, that is to say, we do not do any military drill. That fact appeals to a very large number of parents. We have in our ranks boys of all denominations, non-comformist and others; anti-military parents will allow their sons to join the Boy Scouts, but prohibit them from joining a Cadet Corps. Even the Boys' Brigade and the Church Lads' Brigade undertake a certain amount of military drill. So we fill a gap.

Incidentally, the Army Council have done us a good turn by not allowing officers in uniform to inspect us. That has gone a long way to explain to people that we are non-military. They accept us now; they used to suspect us before of being a trap to catch boys for the army. I do not know whether this principle is followed in the over-sea dominions; I think that there the authorities rather encourage officers to come in uniform as an aid to recruiting, because their medals catch the eyes of boys, and start in them the spark of military keenness.

3. The Boy Scouts' organization is applicable to small centers. Our unit is eight boys under their own patrol leader, so that every village and hamlet can have its little group of Boy Scouts. This would not apply to a Cadet Corps, so we fill up a blank there. I am thinking also of far-away corners of the world; for instance, Canada, where they find the idea particularly useful in all their little back towns and villages. They are able to raise their little troop or group of Boy Scouts where they could not raise a company of Cadets.

4. The moral training and sense of duty and discipline goes on all the time. The question was asked of headquarters the other day, "When is a Boy Scout off duty?" We replied, "Never; he is always on duty, whether he is in uniform or not." It is his business to be ready, just like a policeman, to help at any moment. The boys all realize that. They are always on the lookout to do something for somebody, whether they are in uniform or not. Therefore the sense of duty and discipline really becomes part of their character.

5. The training, which they undergo, of living in camp, cutting their own fuel, cooking their own food, being able to swim and save life, managing boats—all those things make for health and handiness, and make them resourceful, manly fellows. That training is intended to lay a character foundation in the boy for taking up any line of life afterwards. Thus, if a Boy Scout goes into the army he is thoroughly grounded in discipline and sense of honor and duty, as well as in campaigning, scouting, pioneering and signaling, and it only needs the polish of drill to make him into a first-rate, all-round soldier. Let anyone ask a commanding officer of a regiment who has tried both which he would prefer to have—a Cadet or a Boy Scout as a recruit, and the answer will invariably be that he would prefer the Scout.

6. Although our policy is not to make the boys into soldiers, but as a first aim to make them good citizens, the results show that a very large proportion of our boys who have left us have gone into the service; as far as I can judge, about 70 per cent, and they join from an idea of serving their country, and not, like so many other recruits, from want of employment.

7. Since the Boy Scout system has spread to every part of the Empire, it can standardize the training of our race if desired. Such standard, if used in all the Cadet Corps, would be of very great importance, especially in the near future, for our Imperial Army.

8. Then, the movement has done a great deal of good for the Scout Masters, who are young men who have had no character training themselves, but, in dealing it out to boys,

are bound to pick up some of it themselves. Employers have told us that their young men who become Scout Masters improve enormously, and we are really coming to be looked upon as a university for that class of young man who cannot afford to go to the big universities. We have at the present moment 7,000 of these young fellows, and we are opening classes of instruction for them. In the meantime, they are developing for themselves that character which they otherwise would never have picked up, either at their school or at their places of business.

9. The movement has spread, as you will probably know, to all corners of the Empire; I think there is scarcely an over-sea dominion, however small, which has not got its scouts. (Yesterday we heard that Fiji and Honolulu are the latest recruits.) It means that there is a comradeship between these boys right across the world, which is something more than a mere sentimental touch, such as comes from reading books or newspapers. They feel they are brothers and comrades, all under the same flag, wearing the same uniform, doing the same kind of work, and reading the same newspaper. It, therefore, brings the over-sea dominions into closer touch with our boys at home.

The movement has not spread merely to the over-sea dominions, but has spread to other nations besides ourselves, and great sympathy is being aroused between different races of boys from the fact that they communicate with each other. The system is that those who live in a town beginning with a certain letter of the alphabet communicate with another town commencing with the same letter. Boys in Manchester, for example, are communicating with Melbourne or Moscow on St. George's Day by means of picture postcards with greetings on them. In that way, the movement is creating a sympathy between the boys of all nations of the world.

10. Lastly, scouting does not cost anything to the taxpayer.

THREE AIMS IN THE SCOUTS' TRAINING.

I will now sketch briefly the scheme of training adopted in the Boy Scout movement.

Our main aim is to help the national training in character.

Over-civilization threatens England with deterioration. Free feeding and old age pensions, strike pay, cheap beer and indiscriminate charity do not make for the hardening of the nation or the building up of a self-reliant, energetic manhood. They tend, on the contrary, to produce an army of dependents and wasters, and this is being steadily recruited by 46 per cent of our working boys, who are employed, so long as they are boys, in "blind alley" occupations, which fit them for nothing when they become grown up.

The best types of manliness left in our race are our colonial frontiersmen—men who, if they want to live, have to be resourceful and energetic, plucky and enduring under the difficulties of climate and surroundings, and who have to fight their way to success.

These are the men whom we hold up to the boys as examples to follow. They are the true "scouts" of the nation.

Their backwoods life appeals to every boy, and he is eager to practice its detail.

So, under the attractions of scout craft we inculcate into our young Scouts the better attributes of their heroes, the backwoodsmen. We divide the training into three parts—(a) individual character, (b) handicrafts, (c) public service.

(*a*) *Individual.*—Our first object is to make the boys good individual men. We do that by teaching a boy field scouting and campaigning work. Before he can become a first-class scout he has to pass all sorts of tests in backwoodsmanship—a work which appeals to him; he has to be able to chop down a tree, be able to build a hut, make a tent, light a fire, kill his animal and cook it, make bread, be able to swim and save life in the water, manage a boat, and many different things of that sort, and in addition he has to have a balance at the savings bank—it may be only a shilling, but, still, he has to open a banking account, thereby gaining an incentive to thrift. Then, again, he has to be helpful to other people; he has to learn first

aid; he has to know how to signal; he has to know all these things before he can become a first-class scout. A first-class scout is therefore a capable, all-round young *man*.

(*b*) *Handicrafts.*—The second point is that we try to teach him to be a handicraftsman. We induce him to take up hobbies which may be useful to him in after-life, and, even if he should fail in one, he still has a second or third to fall back upon.

Take a Boy Scout as a sample. First of all, the badge on the front of his hat and the little flag on his staff mean that he is a "patrol leader" who is in charge of eight other boys. He commands them, and is responsible for them at all times. Then, on his arms he wears badges of efficiency. He has passed as a gardener; he has also passed as a leather worker, that is, in saddlery and boot-making, and that kind of thing. He has also passed as a musician; as a cook; as a shorthand writer; as an animal naturalist, and as a missioner (which means he can go down into the slums and look after aged people, changing their bedding, and so on). He has the first-class badge as a scout, which means he has made himself an all-round man. He is also a King's Scout, which means that he has qualified himself in various details in four different subjects which make him of good service to the King, should he ever be required. In the first place, he is a "cyclist"; that means he owns his own bicycle, and knows how to mend it; he can find his way by map, and carry a message in his head for an hour; he has signed on to turn out at any moment, whenever the King may require his services. Then, he is a "signaler." He is a "marksman" with the rifle. And he is a "guide"; that means he knows all the short cuts round his place of residence; he knows the supplies, where to get horses and forage, where the telegraph, telephone, hospital, fire and police stations are to be found in his neighborhood. That makes him a King's Scout.

Those badges of efficiency are merely to induce the boys to learn for themselves, and it is perfectly surprising to us who are working in the movement to find to what a great extent they adopt and carry out the idea. Over 100,000 of these badges have been issued. There are 5,000 Scouts who have passed the test of being able to signal in the same way as the army signalers. The marksmen number 5,799, and, of cyclist dispatch riders, each owning his own bicycle, and signed on to serve the King, there are 14,284. Of "King's Scouts" there are 2,140.

(*c*) *Public Service.*—Our third point is to teach the Scout a sense of service to others. It is the business of a Scout to save life whenever he can, and to do good turns daily to people. It does not matter how small or big they are. I heard of an instance as I was coming in. A Boy Scout had been to a dance last night, and he went and asked the hostess if she would introduce him to a certain lady in the room. The hostess said, "Have you fallen in love with her?" He said, "No, but she looks so old and plain that I do not think anybody will dance with her, and I shall not be doing my duty if I do not dance with her." We issue life-saving medals to those who risk their lives, and certificates to those who save life without risk. Of life-saving medals, we have issued 226, and of certificates 105. That is in the short time we have been at work. It means a great deal, because the cases are very highly tested. Then, when they do a good act, they are never allowed to say anything about it. Troops and patrols specialize their work for the public service: thus one troop will take up Fire Brigade work, another Ambulance, or Missioners, or Coastguards, duties for the good of the community.

HOW THE SCOUTS HELP CADET CORPS.

The Scout movement and system is also helping the Cadet Corps more than people seem to realize, especially in our oversea dominions. In New Zealand, by an arrangement with the government there, a boy has the alternative of becoming a Scout or a Cadet, and the idea seems to be working very well. In India the government have decreed that in all the schools for boys of European origin the boys should be Scouts till they are 14, and a capitation grant is made for those who pass their tests as first or second-class Scouts. In other places there is an arrangement whereby a boy can go for two years as a Boy Scout, and then be promoted to a Cadet, when he gets the finishing touches of drill, tactics and military training. In

Canada to a very large extent the Cadet Corps are using the Boy Scout system for training their boys.

There are several mounted troops of Scouts in Canada. I saw one particular corps, a cadet squadron to Strathcona's Horse, and they are the smartest lot of lads one could wish for.

SEA SCOUTS.

Then we have Sea Scouts in addition to Land Scouts, and they are being recognized now by the Board of Trade. They are divided into (a) Coastguard Scouts, (b) Seamen Scouts. We have just got news from Canada of the first training guardship being started at Vancouver with Boy Scouts as her crew, and no doubt the idea will spread to Toronto and other centers, and form a nucleus for manning their future navy.

Of course, we are only very much in embryo at present. I am only mentioning these points to you because they point the way in helping the defense forces both here and over-sea.

BOY SCOUTS OF FOREIGN COUNTRIES.

I should like to point out that in countries where military service is obligatory the Scout training has also been adopted, because the authorities appear to recognize the value of the character training which underlies it. In Russia they have taken it up specially with that view. They have a large number of cadet corps there which have now adopted the Scout training to a large extent. There are now over 10,000 at work, and they are increasing every day. I had to go to Moscow in the winter, and I saw over 3,000 there. They fully recognize that drill is not everything; character training is also wanted. Italy has taken it in the same way, and I may say that the Emperor of Russia and the King of Italy are both at the head of their respective movements, and are keenly interested in it. Again, in that country, which I look upon as the finest military country of all—at least, they are the soldiers I should least like to meet in battle, namely Chile—they have gone in for Boy Scouts, and have 10,000 at the present moment. The Chilian is a fine fellow, with a fighting instinct, with a general staff trained entirely by the German military staff in the most up-to-date tactics and strategy. They have a fine army, and you would think they were the finished article, but, still, they have gone in for the Boy Scout movement. That indicates that there are points other than mere military training in the Scout movement, which military nations find of value.

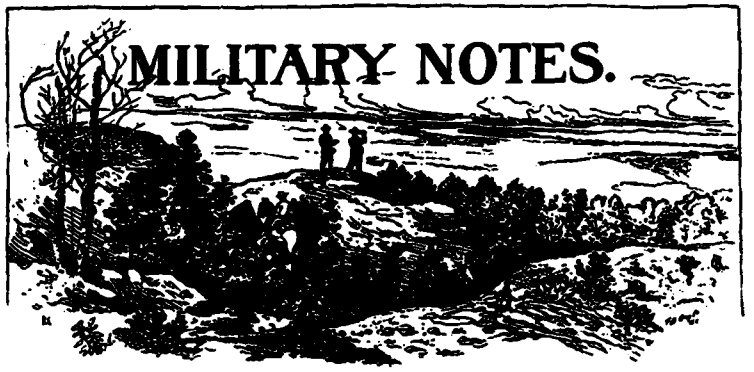
NEEDS AND POSSIBILITIES OF THE SCOUT MOVEMENT.

In the Scout movement we aim for better citizenship, because we all recognize that a nation, to be great and strong and prosperous, is not necessarily the greatest in its fleet or in its armaments, but that its character is what gives it supremacy. To make character in your citizens you have to make each individual man a man of character, but we have no proper education for that at present within our school walls. We have to try and do it outside the school walls, and that is what we are endeavoring to do in the Boy Scouts—to put character into these young lads of all classes. Our only need is for more men to act as officers and commissioners. We have already a good number of ex-officers and others at work. Our numbers are practically limited by the numbers of men who come to us as Scout Masters; we can get nearly the whole of the boys. If we can get their support I believe that we ought to do very great things. We are being very much encouraged on all sides. The movement is spreading in all the over-sea dominions.

Large numbers of Scouts are coming over for the King's review on the 4th July. Some are even coming from Australia as well as Canada and South Africa and nearer places, which means that the boys of our Empire will get into a close personal touch of brotherhood with each other.

In the United States also they have their Boy Scouts. There is a greater number of them there than in this country, because the money in the States flows in more easily. The last report received shows that they were going on for their 300,000 Scouts. I have no doubt the same thing will happen in our over-seas dominions. In Ontario, for instance, they are

getting on for their 10,000. There is a great feeling of unanimity and brotherhood right through the movement, and if it goes on spreading there is no doubt it will make a great feature in our Imperial feeling throughout the Empire, and also be one of the elements which will make for that great general peace of the world for which we all hope.



MANEUVER CAMPS VS. MANEUVER CAMPAIGNS.

I READ with great interest Captain Chitty's article in the recent number of the CAVALRY JOURNAL on Maneuver Camps versus Maneuver Campaigns. Had the article been written a few weeks later its author could have had further material to illustrate his main points in the history of the maneuvers of the Massachusetts Militia of this year, for they constituted a maneuver campaign extending over eight days, counting the day of assembly and the day the troops returned to their home stations.

The campaign furnished abundant evidence to substantiate every important point made by Captain Chitty. A single general situation continued throughout the period. There was a brigade of infantry with cavalry and artillery on each side. The troops operated over a large area and never covered the same ground twice. The conditions were as near those of war as it is practicable to get them in time of peace. The concentration points were near Salem and Lowell, about twenty-five

miles apart. The commanders were dependent on their cavalry and other reconnoitering bodies and on imaginary superior commanders in rear for their information.

The commands were accompanied by the campaign allowance of baggage. One brigade was equipped with a wagon train and the other with automobile trucks. These worked from established bases, which were moved as the forces changed positions. The subsistence depots were at these bases and consisted of cars on railroad sidings. Fresh beef and bread were issued daily. Of the other components of the ration, two days' rations were carried on the transportation with the troops.

To give an illustration of the lessons learned, it is stated that the wagon train of the Red brigade on its first march was scattered over more than two miles of road with no organization and with a company of infantry vainly endeavoring to adopt some disposition which would afford it adequate protection. This same train, on the day it made its last march, was organized into three sections, each under the control of a regimental quartermaster, with wagons well closed up and moving along so as to leave the highway open to passing vehicles.

It was war from the first day to the last. Interest was keen from the outset. The opposing cavalry forces had a small clash on the first day and the interest grew. Again on the second day there was a cavalry combat and the spirit of war took a firmer hold on all.

On the third day the cavalry forces missed each other and each got a sight of the opposing infantry and had some fighting with small detachments. On the fourth day the two main forces drew together and camped that night with their outposts in combat. The following day there was a running fight for about eight miles, and, finally, on the last day, the retreating force was compelled to stand and the decisive engagement was fought. The great variety of work afforded by the campaign may be seen at a glance.

By introducing an imaginary superior for each commander it was possible for the Chief Umpire to control the operations and to give them a touch of realism they would not otherwise

have had. In this manner, also, ridiculous situations were avoided. The newspapers announced, after the first day, when it was known that the forces had concentrated near Salem, that the big fight of the campaign would take place in a day or two about midway between these two towns. And so it would had not the imaginary commanders given the Chief Umpire the power to turn the forces in other directions. Yet this power was not abused, and only such orders were issued by these imaginary commanders as they in all probability would have issued had the situation been real. But the newspapers were mistaken. The two forces did not come together head on the second or third day, as they have done so often before in maneuvers. Instead they finally came together on the sixth day away off to the northeast at Newburyport at the mouth of the Merrimac river.

To do this each side made four marches, those of the Blue force totaling thirty-five miles and those of the Red a little less. The other two days they lay in camp. Imagine troops remaining over a day in camp in the ordinary maneuver! Those imaginary superior commanders made this possible. These days in camp and afternoons after short marches were utilized by the umpires to work out small tactical problems in the vicinity of the camp ground. These problems had nothing to do with the big situation, but it was on all the time just the same.

From the day of concentration until the morning of the seventh day the outposts were always in position and patrols not to exceed a platoon in size could operate day and night. I know of no maneuver before this which has combined so much instruction for junior officers and enlisted men with the instruction of higher commanders and their staffs.

It is believed that the maneuver is worthy of special study for two main reasons: First, because, like the Massachusetts maneuvers of 1909, it supports Captain Chitty's contention that the maneuver campaign should replace the maneuver camp, and, second, to determine whether the idea of control of the contending forces by the Chief Umpire should be generally applied to our maneuvers in the future.

I did not intend writing all this when I began, but only to suggest that you ask the umpires to give you something about these maneuvers. I had the best lot of umpires ever gotten together and the splendid success of the maneuvers is due to them. HANNA.

NOTE.—In editing the above the names of the several umpires have been omitted, to spare their blushes, but they have been requested to furnish accounts of these interesting maneuvers.

THE REVOLVER.

IN reference to the present discussion concerning the utility of the pistol, it might be well to consider if most of the objections to the arm could not be eliminated before deciding to abolish a weapon distinctively "American" and which has been developed in actual service. The principal objections urged against it are:

1. It is a difficult weapon for the average man to learn to use.
2. In the hands of the average man it is not accurate.
3. Instruction in its use takes too much time.

We want, then, a pistol the average trooper can become reasonably proficient with in a short time. I believe this can be accomplished by changing the form of the pistol and the method of target practice.

The pistol is essentially a short range weapon: its target in service is over five feet high and two feet wide. Now, while it may be difficult to teach a man to hit a five-inch bull's eye at fifty yards, it is not so to teach him to hit a man or a horse at ten, either mounted or dismounted, provided he is given a weapon he can handle. To do this the pistol should be used like a shotgun, pointed, not aimed. This was recognized in the old drill regulations and in the old firing regulations, and there is a half-hearted attempt to indicate it in the

present book, but we can depend upon the fact that so long as a man's qualifying as a pistol shot depends on his being able to hit a small spot at fifty yards, he will sight his pistol and not point it. We can trace this kind of firing, as well as nearly every weak point in both rifle and pistol, to competitions and competition training. If we should substitute for the present long instruction and record practice, dismounted, a short instruction course under twenty yards at bobbing targets, we would use much less time and the men would be better prepared for mounted practice. I agree absolutely with Captain Booth that the record practice should all be mounted. It is conceivable that an officer might want to use a pistol dismouuted and at over twenty yards, but so long as the trooper has a much more accurate weapon in his hands in the shape of the rifle he is not going to draw his pistol for dismounted fighting. The present dismounted course is no preparation for the mounted. We learn to use two weapons instead of one.

Concerning the form of the present pistol, it is much too big a handful for the average man, not as regards weight and size, but as to the distance between the butt and the trigger. If we examine the pistols which were used twenty-five to fifty years ago, when the arm was in constant use, we are struck by the extremely satisfactory "grip." The distance from the butt and the trigger was short, both in the muzzle loader of Civil War days and in the old Colt's .45. When the .38 was adopted this had to be changed to accommodate the double action mechanism. The new .45 is no better in this respect, being simply an enlarged .38. A pistol with a shorter grip should then be adopted, even if it is necessary to abolish the double action. The double action is of doubtful utility in any case. I have never seen a good pistol shot use it in any class of fire. We must have either a smaller grip or a bigger man, and the former is the easier to obtain.

If we grant that the pistol is not to be used over twenty yards, why not have a multiball cartridge? With a large (say .55) caliber, smooth bore pistol, carrying four bullets a little larger than buckshot, with a three-foot "pattern" at twenty yards, a man could aim a foot and a half off the target

and still make a hit. That such a weapon would have sufficient stopping power will be readily believed by anyone who has seen the effect of a load of buckshot at short range.

Give us such a pistol with a short grip, a dismounted practice which is a preparation for the mounted work, and the complaint that a mounted man cannot hit anything with a pistol will be heard no more.

K. B. EDMUNDS,
First Lieutenant, Fifteenth Cavalry.

SMALL ARMS FIRING MANUAL.

I HAVE the honor to submit the following comments on the Small Arms Firing Manual, with request that they be submitted to the board convened for the purpose of revising that manual.

No more serious comment could be made on the present system than is contained in General Orders No. 32, War Department, March 10, 1911, in which 16,007 men are reported *"Unqualified"* in revolver firing and 17,473 *"Unqualified"* in known distance rifle firing, counting the troops of the United States Army not in the Philippines, and which reports 264 out of 386 organizations *"Deficient"* in the proficiency test.

Under paragraph 215, certain mounted officers get an *"Expert"* badge without going through the mounted course which is required of other mounted officers and men of the same command.

The effect of paragraph 360 is that a cavalryman gets absolutely nothing for his mounted shooting. In fact, he gets a handicap.

The revolver has always been compared with the saber as a cavalry weapon. The radius of the circle described by the saber is three feet. The man who shoots the revolver is required to qualify at forty-five feet as a minimum range. I recommend that revolver ranges of ten feet be introduced.

The duelist, we are told, wore a coat buttoned up to the throat, with no buttons or other distinguishing mark. Even

then he could not approximate the dull monotony of targets "Q" and "R." I recommend that a vertical line four inches wide be marked on those targets and that hits on this line be counted at double the value of hits on other parts of the target.

The competitive system appears to be relied on to maintain efficiency in firing. But removing the mounted firing from competitions will discourage mounted firing. It is a common thing to hear it said that a man is a good dismounted shot, but he cannot shoot mounted, and I believe that the mounted firing is the only class of target practice in the army or navy which receives this official mark of disapproval.

I believe that serious consideration should be given to the fact that cavalry action dismounted is different from infantry action and that its system of target practice should be different from that of infantry. I see no reason, for instance, why the infantry attack should be considered a part of the instruction of a cavalry soldier. SWIFT.

REFERENCE TO ABANDONING THE PISTOL.

I WOULD be sorry to be classed as a reactionary, but when the question is broached of abandoning the pistol as a weapon for cavalry, I am minded to take a chance in defense of what I regard as a most valuable firearm for this corps.

The cavalryman has a lot to do beside charging in line and fighting a dismounted action with his rifle. He will probably see more service with small mounted detachments of from two to ten men than in his other legitimate roles; and he may go through several campaigns without drawing his saber on business; but his pistol will be a very comfortable and not improbably a timely and efficient tool to have along, every time he pass the outguards. Few men can be trained to fire effectively from the saddle with the rifle. Times will be many on patrol duty when a pistol shot from the saddle will save a trooper and bother an enemy; and in

the mounted action it is not at all impossible that a charging line of the enemy's cavalry can be very roughly handled and maybe shaken before the shock, by our foragers with the pistol. Moreover, the possibilities of the automatic pistol are not yet realized. As a weapon for mounted firing it is incomparably superior to the revolver. Generally speaking its accuracy is far greater and it is much easier to manipulate than the revolver. Changing magazines is easy; and a man hit by that bullet is going to think he has been punched by a crowbar—an ideal desideratum. I hope the progressive element in the cavalry will unite in developing this weapon.

The army could be efficiently trained if it could be definitely excused from broom brigade drills and commercial picnics. The lovers of military spectacles could come to military posts once or so a month, see the soldier in his home, engaged in military exercises, entirely incidental to his training and arranged in a brisk schedule, for the purpose of letting the people, who have a right to know what the army is doing, see demonstrated the beneficial results of military instruction. At such exhibitions the army would be the host, instead of a "feature," tolerated because it draws the crowd. Military exercises rather than acrobatics would receive commendation.

Relative to discredited weapons it might be remarked that very able arguments have been advanced to prove the bayonet an archaic weapon; but there will be found few to sustain these arguments. Hand grenades, too, are looking up. Our people made them out of baking powder cans for cotta attack and the Japanese made nice ones with which to reason the Russians out of Port Arthur.

The pistol does not weigh much, is carried where it is not in the way, has a great moral value in persuading a man to go willingly where otherwise he would like not to go at all, and finally, in the hands of a good man is a very dangerous weapon—not from the standpoint of the shooter, as the funny men are fond of saying, but specifically from that of the shotee. I find the field officers of my regiment concurring in the foregoing.

J. A. COLE,
Major Sixth Cavalry.

ORGANIZATION OF CAVALRY REGIMENTS OF FOREIGN ARMIES.*

COUNTRY:	Squadrons per regiment.	Platoons per squadron.	No. of men per squadron.	No. of men per regiment.‡	REMARKS.
Argentina	4	Not given.	82 Peace.	382	
Belgium	5	" "	130 Peace.	780	And one depot squadron.
	5	" "	170 War.	1020	
Bolivia	4	" "	100 Peace.	400	
Brazil	4	" "	100 Peace.	400	
Bulgaria	4	" "	155 Peace.	620	
	4		175 War.	700	
Chili	3	" "	Not given.		
China	3	" "	" "		
Denmark	3	" "	156 War.	468	
Germany	5	4	148 Peace.	740	
			168 War.	840	
France	5	4	156 Peace.	780	One squadron in reserve in war. 3 squads in each platoon.
			170 War.	850	
Greece	4	Not given.	133 Peace.	532	
			250 War.	1000	
England	3	4 troops.	160 War.	480	Machine gun section. Each troop divided into sections.
Italy†	6	4	159 Peace.	954	Each platoon divided into two sections.
			139 War.	834	
Japan	3	Not given.	158 Peace.	474	
			179 War.	537	
Mexico	4	" "	113 Peace.	452	
			145 War.	580	
Netherlands	4	4	128 Peace.	512	
			154 War.	616	
Norway	3	Not given.	124 War.	372	
Austria-Hungary	6	4	171 Peace.	1026	
			171 War.	1026	
Peru	6	Not given.	129 Peace.	774	
Portugal	4	4	125 Peace.	500	Each platoon has two sections.
			185 War.	740	
Roumania	4	2 and 4½ platoons.	150 Peace.	750	And one depot squadron.
			183 War.	915	
Russia	4 to 6	6	151 Peace.	636–954	Each squadron divided into two half squadrons and these into 3 platoons of 3 sections each, total of 8 sections.
			159 War.	636–954	
Sweden	5	3	109 Peace.	545	
			114 War.	570	
Switzerland			128 Peace.	384	Each squadron has 3 platoons of 4 squads each.
Spain	4	4	95 Peace.	475	And one depot squadron.
			155 War.	775	
Turkey	5	4	138 Peace.	690	Each platoon divided into two sections.
			159 War.	795	

*The above table was prepared to accompany the report of Lieutenant Colonel W. C. Brown, U. S. Cavalry, on Cavalry Reorganization which appeared in the July, 1911, number of the CAVALRY JOURNAL but which was received too late to appear in that number.

†It would appear that this report as regards the Cavalry of Italy is a mistake. Other reports give the strength of their cavalry regiments as 5 squadrons of 155 men each in time of peace and 6 squadrons of 133 men each in time of war.

‡This column has been computed from the data found in the preceding columns.

CAVALRY EQUIPMENT.

Captain W. C. Short, U. S. Cavalry, Assistant Commandant Mounted Service School was recently ordered to report to the President of the Cavalry Equipment Board for consultation with regard to the new model of officer's saddle which the Board is preparing. It is said that Captain Short was greatly pleased with the Board's model of saddle, as developed, and with the equipment in general. Captain Short went thoroughly into the subject of the officer's saddle and placed before the Board a number of valuable suggestions.

Editor's Table.

A PROTEST AND REPLY.

We have received from Lieutenant Colonel A. W. Warden, British Army, late of the Indian Army, a letter in which he makes a protest against a statement that appeared in Captain Eltinge's article on "The Psychology of War" that was published in the May, 1911, number of the CAVALRY JOURNAL. He writes as follows:

"Will you pardon my drawing your kind attention to Captain Eltinge's article on the Psychology of War in the JOURNAL OF THE UNITED STATES CAVALRY ASSOCIATION for May, 1911. On page 1049 you will find: 'When the Boers came up to them, many of the British soldiers were weeping.'

"I write to ask you to kindly ascertain what authority Captain Eltinge has for the above statement. I have failed, after a careful search and inquiry, to find any information to warrant this statement.

"Even if the fact is true that the British soldiers wept, I ask you, as an officer, whether it need be published at all, leave alone in a military journal and by a friendly nation."

To this letter from Colonel Warden reply was made which is as follows:

"Your letter of July 4, 1911, was duly received and I take pleasure in submitting the following statement regarding the quotation referred to by you:

"The extract in question was taken from Balck's Tactics and can be found on page 77 of the original German text,

Volume 1, fourth edition, or on page 88 of Krueger's translation of this work.

"Captain Eltinge informs me that, of course, there was no intention on his part, in delivering the lectures from which this article was compiled, to cast any reflection on the valor of the British soldier, but that this quotation, with many others appearing in this article, was made to illustrate the fact that a panic will at times seize the best of troops. Even the very next paragraph in this article as published, and on the same page, gives a quotation from Alexander's Memoirs which as severely criticises the action of certain American troops at Chattanooga. Similarly, other quotations appearing in this article gives instances where troops of other nations were panic-stricken, and it is evident that there was no intention to discriminate against the British soldiers or to particularize as regards the action of the British troops at Nicholson's Neck in 1900.

"In many books, both British and American, may be found accounts of the panic at the first battle of Bull Run during our Civil War, where the Northern troops, as a rule, fled from the field like miserable cowards, while it is true that these same troops afterwards became veterans and distinguished themselves on many battlefields.

"The valor of the British soldier has been demonstrated on too many occasions to be affected by this single account, even if it is correct, of a rare instance of a panic having taken hold of a few of them.

"Finally, let me assure you that there was no desire on Captain Eltinge's part or the Editor of this Journal to cast any aspersions upon the bravery or steadiness under fire of the troops of any nation, especially upon those of the British Empire."

RISING TO THE TROT.

Soon after the publication in the March, 1911, number of the CAVALRY JOURNAL of the article by Major T. B. Mott on Seats and Saddles, etc., the secretary of the Mounted Service School at Fort Riley sent a circular to the student officers of the school and requested their individual opinions as to the advisability of adopting the rising seat for our service. Without an exception, all reported that they had read the article and heartily approved of rising to the trot as a saving on man and beast. Also, most of them urged the adoption of a saddle suitable to rising, which the McClellan is not.

This is published with the hope that it will bring forth something from those who are opposed to the rising at the trot.

E. B. F.

A CORRECTION.

We have received a note from one of our subscribers in the British Army calling attention to a mistake that appeared in the article in the May, 1911, number of the CAVALRY JOURNAL. The article in question was entitled "The Cavalry of the British Army" and the error appears in the last sentence of the next to the last paragraph on page 1129. It read as follows: "Regiments in India have a reserve troop." Regarding this our correspondent writes:

"May I be allowed to point out an oversight that appeared in your excellent Journal for May, 1911? On page 1129, sixth line from the foot of the page, it should read: 'Regiments in India have a fourth squadron.' In South Africa each regiment has a reserve troop and in England an equivalent, called a 'reserve squadron.' The front ranks of British dragoon regiments in India are armed with the lance and both

ranks of all lancer regiments are so armed under all circumstances, the order requiring lances to be turned into store for active service which was issued after the Boer War having been rescinded."

THE SECOND U. S. CAVALRY.

There has been received from Captain J. S. Herron, Second Cavalry, a letter giving an account of the celebration of the 75th anniversary of the Second Cavalry at Augur Barracks, P. I., on May 23, 1911. He writes, in part, as follows:

I have the honor, if your space permits and the subject is of sufficient interest, to request the favor of a brief notice of the celebration of the 75th anniversary of the Second Regiment, U. S. Cavalry.

Some much condensed data is inclosed. Rodenbough's "From Everglade to Cañon With the Second Dragoons" (Second U. S. Cavalry), from 1836 to 1875, gives the full history to the latter date.

It is doubtful if any regiment in the world can show a record that will surpass the Second Cavalry's record in battles, scouts, marches, skirmishes and sacrifices or more accomplishments in both war and peace.

A BRIEF HISTORY OF THE REGIMENT.

Organized by act of Congress, May 23, 1836, as the Second Regiment of Dragoons; converted to Regiment of Riflemen by act of August 23, 1842; reconverted into Second Regiment of Dragoons by act of April 4, 1844; designation changed by act of August 3, 1861.

From 1836 to 1842 the regiment scouted the fastnesses and swamps held by the enemy, engaging him in sixteen fights, in the Florida Indian War.

From 1846 to 1848 the troops of the regiment engaged in practically every battle of the Mexican War.

From the close of this war to the breaking out of the American Civil War the regiment was sent after hostile Indians, the operations extending from Texas and New Mexico to Nebraska and Utah, and included fourteen engagements.

The history of the regiment during the period 1861 to 1866 is substantially the history of the Union field forces in the War of Secession, troops of the Second Cavalry having the honor of fighting in defense of the flag in the greatest, bloodiest and most decisive battles of that unparalleled struggle.

After the close of the war the troops of the Second Cavalry again were sent after Indians on the warpath, campaigning against them, summer and winter, in Montana, Colorado, Dakota, Kansas, Nebraska, Wyoming and Idaho, adding fifty-nine more fights to the honor roll.

From 1898 to 1911 troops of the Second Cavalry added Santiago, the Porto Rican campaign, the Cavite campaign, Ute Indian disturbances and the Tagacolas campaign to its honorable war record of the first seventy-five years of its existence.

The regiment's accomplishments during periods between wars include many important contributions to the advancement of the art and science of war, in the form of text books and other writings on military subjects, additions to geographical knowledge by extensive explorations of unknown lands, and successful colonial administration and government of savage peoples.

SOME OF THE BATTLES PARTICIPATED IN.

The Everglades.
Palo Alto.
Resaca de la Palma.
Matamoras.
Monterey.
Buena Vista.
Vera Cruz.
Cerro Gordo.
Contreras, Churubusco.
Molino del Rey.
Chapultepec, City of Mexico.
Jornado del Muerto.
Grande Canyon of the Ojo Caliente.
Devil's Gate Canyon.
Bull Run, Manassas.
Fort Donelson.
Yorktown.
Pittsburg Landing, Shiloh.
Gaines Mill.
Malvern Hill.
South Mountain.

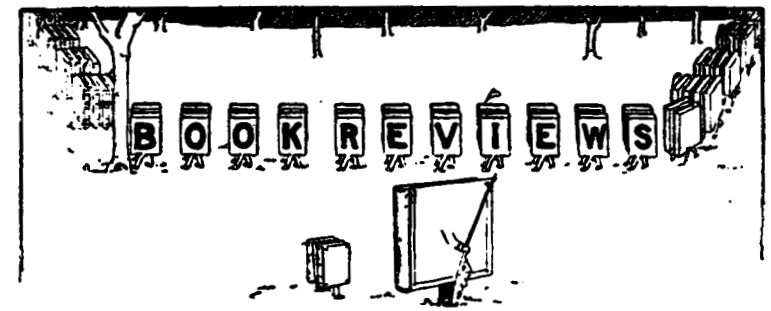
Antietam.	Winchester.
Fredericksburg.	Shenandoah.
Stoneman's Raid.	Crazy Horse's Camp.
Bevelry Ford.	Rosebud.
Gettysburg.	Tongue River.
Manassas Gap.	Slim Buttes.
Brandy Station.	Milk River.
Rappahannock.	Santiago.
The Wilderness.	Porto Rican campaign.
Sheridan's expeditions.	Cavite campaign.
Cold Harbor.	Ute Indian disturbances.
Petersburg, Richmond.	Tagacolas expedition.

HUNT AND POLO CLUB AT VANCOUVER BARRACKS.

We have received notice of the organization of a Hunt and Polo Club at Vancouver Barracks which bids fair to be successful, interesting and instructive. The Cavalry Association has always encouraged this particular line of sport or anything that gets our officers out and on their horses.

Probably there is no sport that develops all the necessary qualities of a good horsemon better than does the game of polo. To become a successful polo player, the rider must not only ride well but must at the same time keep his head under trying circumstances as well as to not unnecessarily injure his mount.

We will be pleased to learn of the continued success of this club and will be glad at all times to render them any assistance in our power.



Handbook for Riders.*

While this book is evidently intended for the civilian student in a riding academy and therefore devotes much space to the subject of dress, etiquette, stable servants, etc., nevertheless there is much to be found in the second part which will be of value to any one interested in modern equitation.

Unfortunately there are but few good books in the English language on the subject of horsemanship, and this may well be added to one's small library on "The Horse."

R. H. R.

Japanese-English Dictionary.†

As the study of the Japanese language is now being taken up by many of our officers, the appearance of this dictionary is timely, especially as it is compiled for military translators. Its author is First Lieutenant George V. Strong, Sixth U. S. Cavalry, of the American Embassy at Tokyo Japan.

*Original Handbook for Riders. A Complete Guide to Horsemanship. By M. C. Grimsgaard, K. VO., G. M. E. H. S., Captain of Horse, Royal Norwegian Cavalry. The Winthrop Press, New York. 1911. Price, $4.00.

†"A Japanese-English Dictionary for Military Translators." By First Lieutenant George V. Strong, Sixth U. S. Cavalry. Kelly & Walsh, Ltd., Yokohama, Shanghai, Hongkong and Singapore. Price unknown at present.

As the writer has been unable to find any one that is familiar with the Japanese language, it is impossible at present to pass upon the merits of this work beyond stating that its general make-up is good. It is a work of over 540 pages, printed in large, clear type, on good paper, and is well bound in half morocco.

The following is an extract from the preface·

"This work is intended, primarily, for the translation of military articles from the Japanese into English. Most of the terms have been taken from the military regulations and handbooks or from the columns of the various military magazines and newspapers. The vast field covered by modern military articles makes it impossible to cover more than a portion of the ground in a work of this kind. If this book makes the work of the military translator in the future appreciably easier than it has been in the past, its purpose will have been fulfilled."

It is hoped that we will be able to give a more extended notice of this work in the future and to be able to give its cost and where it can be procured in this country.

Chinese-Japanese Characters.* This book is uniform in make up with the Japanese dictionary noticed above, and it is evident that it is intended for use in connection with it. It is a small work of 188 pages, and is by the same author as the dictionary.

The following is from the introduction:

"The acquiring of a good working knowledge of the Japanese language necessitates the learning of a number of Chinese characters that, to a great extent, take the place of the alphabet of the European languages. These characters were originally word pictures, and, as such, each conveys a particular idea, alone or in combination with other characters. The mental effort required in learning and retaining

*"Common Chinese-Japanese Characters." By First Lieutenant George V. Strong, Sixth U. S. Cavalry. Kelly & Walsh, Ltd., Yakohama, Shanghai, Hongkong and Singapore. Price unknown.

these characters is the greatest obstacle to a white man's getting a knowledge of the Japanese language.

"This volume is intended primarily for the American student officer, who, at the end of two years, must not only be able to read the newspaper, but also to translate the more or less technical articles appearing in the various military periodicals."

Paper Bag Cookery.* At first glance, it would appear that a review of a book of this class is out of place in a strictly military journal. However, when it is considered that we have schools for bakers and cooks in the army, and the Subsistence Department issues manuals for cooks, it seems that this is a proper subject for military discussion.

We, who have cooked in the open when on hunting and fishing trips, have all heard of the old time method of cooking fish and game by wrapping it in paper and burying it in hot ashes and it would seem that this new method of cooking is a development of that.

This small book—4½ by 6½ inches—of 130 pages is devoted to the subject of cooking well-nigh all kinds of food, except soups, by enclosing them in specially prepared paper bags and using no pots or pans.

The author and originator of this system is a *chef* of a London club and, according to the literature on the subject that has been received, the method of cooking has been successfully tried all over England, more than 60,000 copies of the book having been sold within a month after its first appearance and the supply of the specially prepared paper bags, owing to the unexpected demand, became exhausted.

According to the book, its advantages are:

1. It makes food more savory and nutritious.

*"Soyer's Paper Bag Cookery." By Nicholas Soyer, Late Chef Brooc's London Club. Sturgis and Walton, New York, 1911. Price 65 cents postpaid.

2. It is economical; the food weighing practically the same when taken from the oven as when put in.

3. It is labor-saving, there being no cleaning of pots or pans.

4. It is hygienic, there being no germ haunted cooking utensils.

5. There is no smell of cooking as the bags are sealed with a clip.

A Working Knowledge of Spanish.*

This is a small work—5 by 7½ inches—of 100 pages prepared by Lieutenant C. I. Crocket, Second Infantry, intended primarily for non-commissioned officers. The author states, in the preface, that: "This Manual is presented with the hope that through its use the non-commissioned officers of our army may acquire what the title implies, 'A Working Knowledge of Spanish.'"

There are quite a few mistakes in this manual which, the author writes, will be corrected in a new edition about to be gotten out.

For those who do not have the time to make a thorough study of the Spanish language, this work will be of great assistance. It has a vocabulary of about one thousand carefully selected words of every day use with their pronunciation as given in Velazquez's New Pronouncing Dictionary.

*"A Working Knowledge of Spanish." By Lieutenant Cary I. Crockett, Second Infantry, 1910. Press of George Banta Publishing Co., Menasha, Wisconsin.

Below is appended a letter from Mr. T. J. Smith, one of the prominent horsemen at Vancouver, B. C., who devotes considerable time in hunting, as a member of the Vancouver Hunt Blub.

"*Capt. Dr. Giov. Ciammaichella:*

"DEAR SIR:—I am using several of your Safety Hygienic Horse Bits. The Hunting Bit is the most satisfactory I have ever used.

"I expect to see this bit become popular in the Vancouver Hunt Club. I have not yet used the Driving Bits very much, but I think they almost reach the ideal.

"Yours very truly,

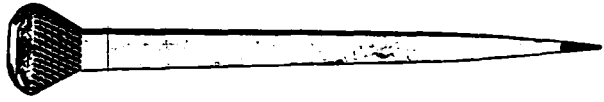
"T. J. SMITH,

"*President Vancouver Horse Show.*"

It will help the Cavalry Journal if you mention it when writing.

JOURNAL OF THE U. S. CAVALRY ASSOCIATION

November, 1911.



In Shoeing the Horse— What Nail?

Most shoers in the United States would say "The Capewell" for that nail is used by the majority. Its *driving* qualities and *holding* powers are unmatched.

This nail holds the shoe longer and better, thus saving unnecessary shoeing bills. It also averts the possible danger of injuring a valuable horse by the splitting or crimping of nails.

"The Capewell"

is the best horse nail in the world at a fair price—not the cheapest regardless of quality. To use it adds but a trifle to the cost of shoeing a horse and the little extra expense is *offset many times over by the advantages* derived from using the best article. Any blacksmith can afford to use this brand.

You can readily identify "The Capewell" by the check mark on the head of each nail.

Especially well adapted for shoeing Cavalry and Artillery horses.

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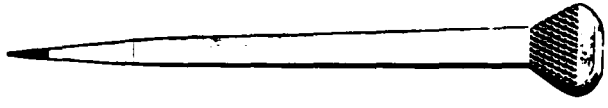

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This Department was organized for the purpose of procuring for our Members and Subscribers the best and latest Military Works at the lowest practicable cost. With this Object in view, arrangements have been made to act as the special, general or sole agents of certain publishers, and to procure the lowest terms possible with others.

We are in touch with the Service Schools and have access to the catalogs of all Military Publishers and are thereby prepared to secure any Military Book that is in print or to advise as to the best books on any special subject of a military nature and as to their cost.

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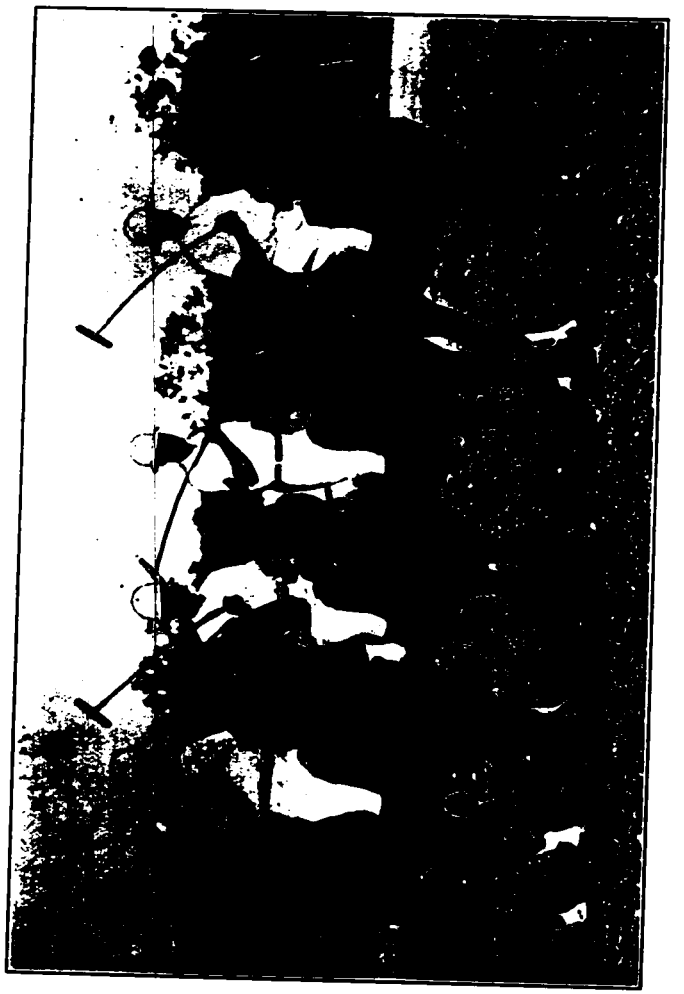

ELEVENTH CAVALRY POLO TEAM.

Lieut. EDEN SWIFT, Jr. Lieut. CLARK P. CHANDLER. Lieut. RICHARD H. KIMBALL. Capt. GEORGE L. LANGHORNE.

VOL. XXII. NOVEMBER, 1911. No. 87.

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JOURNAL

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Vol. XXII. NOVEMBER, 1911. No. 87.

THE BARR AND STROUD RANGE FINDER AND ITS USE IN NIGHT FIRING.

By Lieutenant Colonel W. C. BROWN, U. S. Cavalry.

SOME weeks ago the writer secured for experimental purposes, a Barr and Stroud Range Finder, whose merits seem to deserve more than passing notice, and it meets one of the pressing demands now existing in the Infantry and Cavalry where we have one of the best, if not the best, rifle in the world which has a range of over three miles, but which we rarely use beyond 1,000 yards for lack of proper means of determining the range.

We now have the Weldon Range Finder, but this is unsatisfactory for the reason that a base must in every case be measured, an operation entirely impracticable when advancing to the attack. Frequently, too, a base cannot readily be found from both ends of which the objective can be seen.

The Barr and Stroud is an instrument which carries the base in the instrument itself and was invented in 1888 in response to a public advertisement for an instrument which would satisfy certain conditions specified by the British War office.

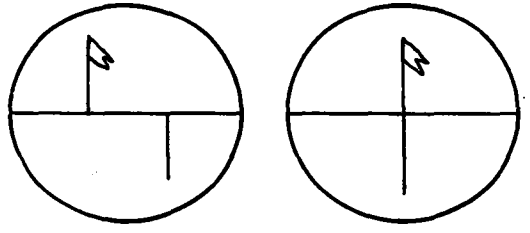
The writer is informed that the type of this range finder intended for Infantry and Cavalry has been adopted by the British, Norwegians and French; the latter having about 1,000 in use, 175 of which were ordered only a month or two ago.

The essentials of this range finder may be stated as consisting of two separate telescopes, each of about twelve power mounted in a common frame, or tube, with the two

object glasses situated one at each end, and with the eye pieces at the center, suitable reflectors being provided at the objectives to direct the beams of light along the inside of the tube to the eye-pieces. The whole arrangement is such that the combined telescopes may be simultaneously directed on the same target. The range finder itself forms the base of the triangle, having at its vertex the object, the range of which is determined by measuring the parallax.

To make an observation the observer grasps the handles as shown in the illustration, directs the instrument towards the object whose distance is to be ascertained, holding the range finder horizontal and perpendicular to the line to the object. In the right eye-piece two mirrors are observed, separated by an extremely fine horizontal line. Supposing that the object is a flag staff, the picture presented to the observer will be that of a broken flag staff thus:

The image seen in the upper half of the field of view is formed by the left hand telescope, while the image seen in the lower half is formed by the right hand telescope. A thumb screw, or operating head, as it is called, lies on the under side of the instrument within easy reach of the thumb and forefinger of the right hand as it grasps the right handle.



Turning the operating head to the right causes the upper image to move to the left and its parts to separate, turning it to the left causes them to coincide thus:

When the images coincide the observer takes the reading from the scale which is seen through the left eye-piece, the scale having moved according to the direction in which the head was turned. The instrument, which, it will be thus seen, is of the Coincidence type, is one in which partial images of an object are separated by an extremely fine horizontal line. The range is found by bringing the images into exact alignment at the separating line. The human eye, under such conditions, is capable of distinguishing, with great exactitude any discontinuity or want of alignment even when the definition of the edges of the object is not perfect.

ADVANTAGES CLAIMED.

The advantages claimed for this range finder are:

First—Only one observer required.

Second—The ranges of moving objects can be continuously observed.

Third—It is not essential in the types suitable for Infantry and Cavalry that the instrument be level when taking observations.

Fourth—It can be used at night to take the range of distant lights.

Fifth—Rapidity of operation—thirty seconds or less being all the time required for determining a range.

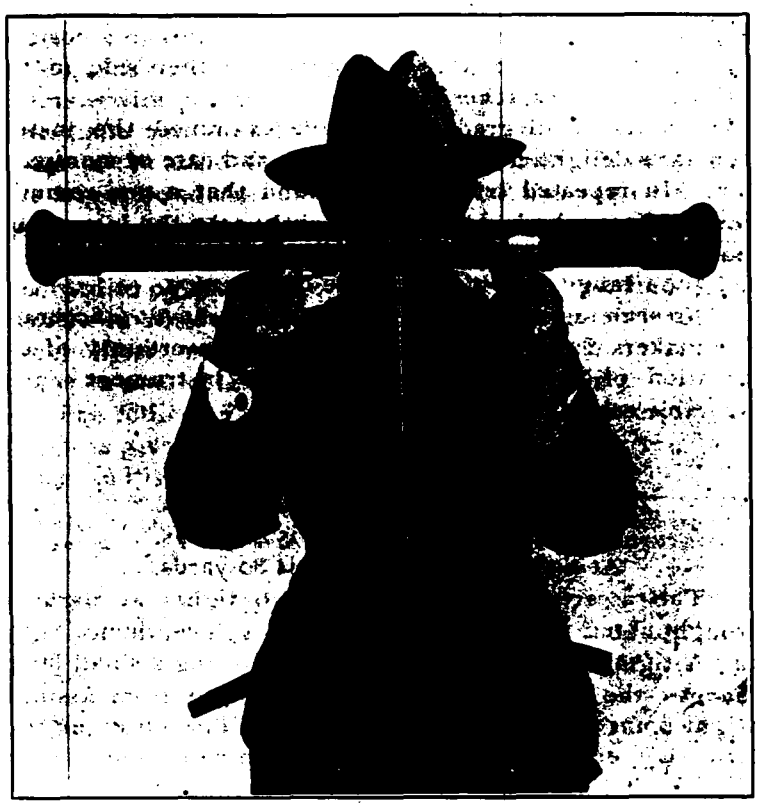
Sixth—It can be used from cover and from a prone position so that the observer's whereabouts are not disclosed to the enemy.

These range finders are made in sizes varying from those having fifteen and twelve feet bases for use on shipboard and in sea coast forts; to an instrument with a four feet six inch base for field artillery down to those intended for infantry and cavalry, having bases of but thirty-two and twenty-six inches.

It is the latter (twenty-six inch base) and more portable instrument, which may easily be carried in a leather case

thrown over the back—that officers are experimenting with at Fort Sam Houston.

Its length over all is thirty inches and weight seven and one-fourth pounds. Its price is $600, in New York, which includes a thirty per cent. duty. Probably the price by the quantity at the factory in Glasgow would be but little more than half that figure.



This instrument may be mounted on a light tripod as shown in the illustration, or it may be supported by leather braces thrown over the shoulders. The lighter instrument may simply be held by the handles, the observer lying prone and resting his elbows on the ground entirely screened from the enemy.

Should one of the range finders be issued to each company it could be carried and used by some steady, reliable soldier known to have keen eye-sight and a steady hand. In action he would accompany the captain, and his sole duty would be to ascertain and announce ranges. This man should not carry a rifle.

In reconnaissance work such an instrument would be invaluable as affording a quick and accurate method of determining the distances to the principal points in a position sketch, or in determining distances to either side in the making of road sketches.

Officers of all grades who have examined the instrument are delighted with its accuracy and ease of manipulation. In repeated trials it was found that a non-commissioned officer who had never previously seen the instrument could, after three or four minutes instruction, manipulate it and get a range with a fair degree of accuracy.

No such instrument can, of course, be *absolutely* accurate. The makers claim that the approximate uncertainty of observation of the twenty-six inch base instrument under favorable conditions of observation as:

At a range of 500 yards is 2 yards.
At a range of 1000 yards is 8 yards.
At a range of 1500 yards is 20 yards.
At a range of 2000 yards is 40 yards.
At a range of 3000 yards is 80 yards.

The ascertaining of distances to lights at night is brought about in the Range Finder by a clever device called an "Astigmatizer" which, by merely pushing a small lever, changes the appearance of a distant light from a single bright point to a bright vertical streak. The observer proceeds then exactly as though it were luminous pole and gets range accordingly.

This astigmatizer is useful also in securing ranges by day when the object is ill defined, as a clump of bushes or pile of stones.

The large number of troops assembled here afforded an excellent opportunity for making a comparative test of the range finder and of the efforts of officers best qualified in estimating distances.

The method of testing was as follows: Each of the regimental commanders of the five regiments was asked to send three field officers or captains, selecting those known to be more than ordinary expert at estimating distances, to assist in making the test.

The officers, two lieutenant colonels, three majors and ten captains, were assembled and were then told to estimate to various objects in view, the distances to which were subsequently ascertained to be from 1,330 to 1,854 yards (see table), each officer working independently and recording his estimate with pad and pencil. Estimates were at the same time made and recorded by the officer working the range finder in the same way. The line was then advanced, as a line might be advanced to the attack, and halts and estimates made at eight different points toward the objective. At several of the halts estimates in like manner were made and recorded to objects to the right and left of the line of advance. In all there were estimates made to twenty-one different objects, varying in distance from 475 up to 1,854 yards, except in one instance where it was 4,300 yards.

The following table shows the correct distances, the distances as given by the range finder, the error of the range finder, and the average of errors made by officers:

Correct Distances.	Distances as given by Range Finder.	Error of Range Finder.	Average error made by officers.
1854	1640	214	330
1330	1335	5	360
1770	1800	30	369
1673	1650	23	318
1700	1830	130	240
1990	1970	20	463
1496	1440	56	321
1620	172	100	249
1287	1250	37	292
1225	1260	35	269
1116	1130	14	252
949	970	21	228
761	750	11	185
840	830	10	159
628	607	21	147
1030	1190	160	105
475	470	5	118
1080	1030	50	232
4300	4500	200	973
955	870	85	240
1350	1280	70	215

An examination of this table discloses the fact that in every case the average error of estimates made by the officers exceeded that made by the range finder, in fact, in some instances, this average error was from twenty-three to seventy-two times the error made by the range finder, which seems to warrant the assertion that at distances over 1,000 yards our officers cannot be expected to estimate with that degree of accuracy that will generally insure the cluster of shots covering the objective; usually they will not cover it.

The dangerous space at the longer ranges diminishes so rapidly as the range increases that the distance to objectives between 1,000 and 2,000 yards must be known within limits so narrow that the ordinary method of estimating, too frequently mere "guessing," will not suffice. On the other hand the range finder can be depended upon to give results with a good degree of accuracy to well beyond 2,000 yards.

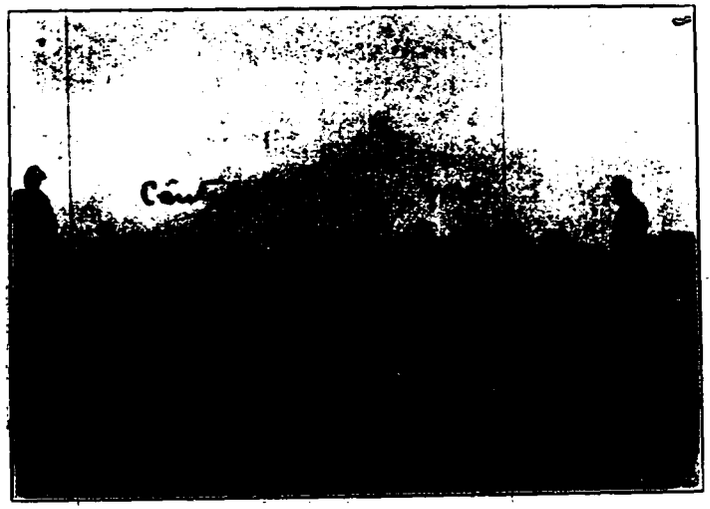
Our rifle, using the present cartrige, gives at 2,000 yards a mean absolute deviation of the cluster of shots of but 38½ inches. It may, therefore, be fairly asserted that, without a suitable Range Finder, we are failing to profit by the superiority of our high powered accurate rifle.

In the test at Fort Sam Houston I operated the Range Finder, having had it only about twelve days, and this being the first "run" I had ever made with it; practically all my observations were made from the prone position where the heat waves made it very difficult to secure correct observations. With practice the work on this occasion could be very materially improved.

After extended experimental firing at the Ordnance Range at Fort Clark, Texas, in 1904, the writer found that expert shots could, at 2,000 yards, with the old bullet and cartridge giving an initial velocity of 2,300 feet, usually put ten out of thirteen consecutive shots inside an eleven foot square. With the present sharp-nosed bullet, 2,600 feet initial velocity and telescopic sight, a considerably closer cluster may reasonably be expected, one close enough that experts and the Benét-Mercié machine gun platoons may, if they know the range, open up on bodies of the enemy with good prospects of their fire being effective at distances which

heretofore to do so would be regarded as a waste of ammunition. In night operations, if the enemy's position be indicated by a light or lights, the combined use of the Barr and Stroud Range Finder and telescopic sight will make the fire on such position effective.

To demonstrate whether or not this would be feasible, it was thought best to test this, in a practical way, by the solution of a night firing problem, the general idea of which was that of estimating distances to lights on a dark night, these lights being supposed to be about the middle of groups or squads of the enemy upon whom, after ascertaining the



distances by the Range Finder, fire was opened, the telescopic sights attached to the Benét-Mercié machine guns being used in aiming. The main object was to hit as many figures as possible. The Range Finder used was the Barr and Stroud with a twenty-six inch base, (Infantry and Cavalry type.)

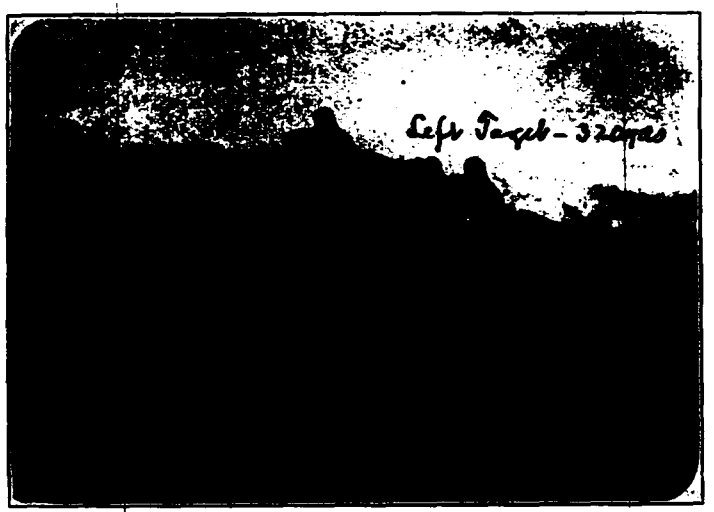
The location of the groups of figures (eight kneeling silhouttes in each group) with lights, was of course withheld from the firing party and myself who were charged with solving the following:

PROBLEM.

Scouts report that the enemy is evidently entrenching in our front, and three parties are working with lanterns which can be seen from a point just north-west of the 22nd Infantry camp, distance unknown.

A detachment of the Machine Gun Platoon, 11th Cavalry, with the Range Finder, will be conducted by the scouts to the point indicated and ascertain the distances to his working parties, taking precautions in doing so not to disclose our presence to the enemy. Fire will then be similtaneously opened on each of the enemy's parties so as to cause him to cease operations.

The night was very dark, and we were conducted by a circuitous route to the firing point where three lights were visible, arriving at 8:12 P. M.



At 8:15 the range of the left light was announced to be 316 yards.

At 8:18 the range of the center light was announced to be 720 yards.

At 8:20 the range of the right light was announced to be 558 yards.

More difficulty was experienced getting the lights in the field of view of the Range Finder than in determining the ranges, these latter being determined in about twenty seconds after the lights had been picked up. This difficulty

would doubtless disappear in the use of the more recent models which are provided with a "finder."

There were but two men with each machine gun, the man doing the firing and an assistant; the latter holding a covered light for setting the sights, and during the firing holding and ordinary cotton string burning in a coal, (not a flame), like a fuse about one inch in front of the object lens of the telescopic sight, thus enabling the firer to see the cross hairs of the sight and direct them on the distant light. Care was taken not to expose any light so that it could be seen by the enemy.

As fast as ranges were announced sights were set and fire from all rifles was simultaneously opened at 8:24½. Three clips, ninety rounds, were fired from each rifle.

At 8:28 the light at the left target was shot away and at 8:29 the command, "cease firing," was given.

The targets were then marked under the supervision of the umpire with the following result:

Left target—total hits	6	Number of figures hit	4
Center target—total hits	7	Number of figures hit	6
Right target—total hits	22	Number of figures hit	7
Total	35	Total	17

Per cent of figures hit ($\frac{17}{24}$) = 70 per cent.

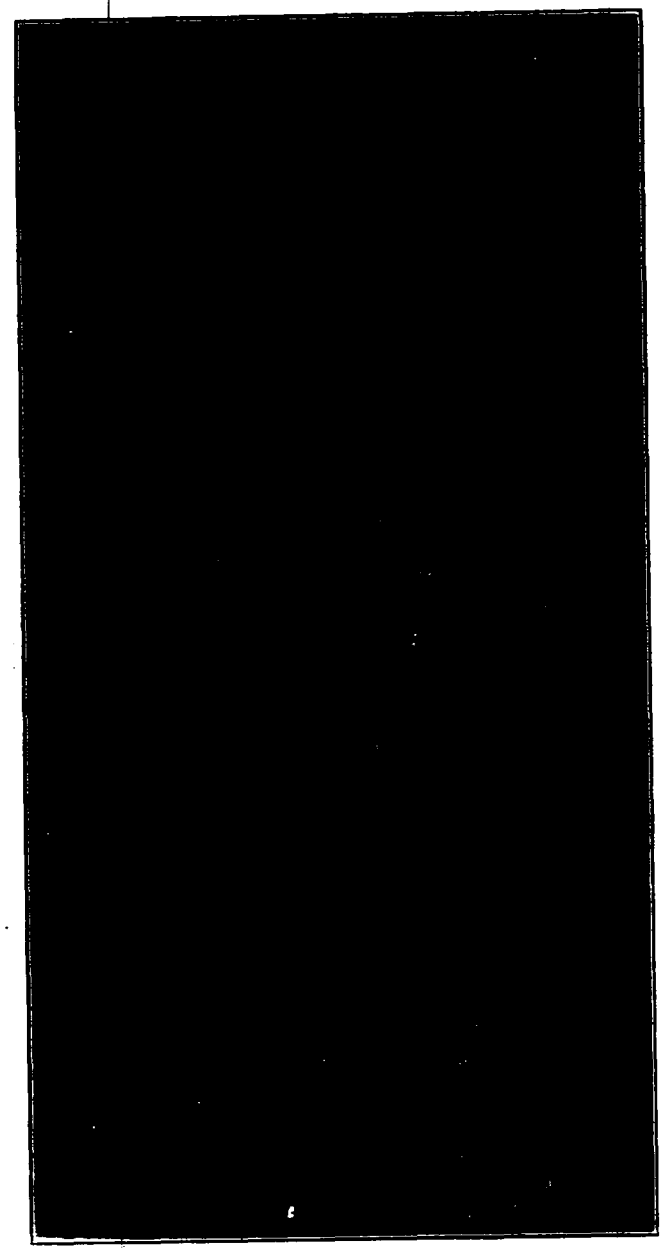
Number of shots fired at each target, 90 or total of 270.

Per cent of hits, 13 per cent.

On the morning following the firing the distances were estimated again by the range finder and later accurately measured by tape-line with the following results:

	Distance determined by		
	Range Finder.	*Measurement.*	*Error.*
Left target	312 yards.	320 yards.	8 yards.
Center target	723 yards.	714 yards.	9 yards.
Right target	518 yards.	515 yards.	23 yards.

If provision were made for attaching Maxim Silencers to the machine rifles, which might readily be done, the flash of the rifles would have been absolutely taken up, and, except so far as the sound indicated the direction whence came



the fire, the enemy would be at a loss as to its origin; in any event it would be useless for him to reply to it as he would have neither stationary lights nor flashes to aim at.

It has been demonstrated that nothing can be accomplished with the ordinary sight at night in firing at mid-ranges and over.

The Ordnance Department, however, has issued to experts in nearly every company and troop a telescopic sight, full advantage of which seems not to have been taken.

As an instance of what may be done with the telescopic sight with a muzzle rest, and in the opinion of the writer a muzzle rest should habitually be used with this sight, attention is invited to the accompanying photographs of a 1,000-yard target made several years ago in night firing at Camp Stotsenburg:

Here, of course, the exact distance was known, but it is thought that many conditions may arise in active service where the distance to the objective may be found at night if we but have a suitable range finder to get it.

THE CHARGING UNIT.

The logical basis for bringing our cavalry up to date with little or no change in the organization.

By An Officer Abroad.

IN all the discussion concerning the reorganization of our cavalry, it seems to me that the key note of the whole matter has been overlooked. To dismiss the 600 man regiment as being below the dignity of either majors or colonels; to regard a 900 man regiment as a more effective organization and as one more in keeping with our traditions as to the proper command of the senior officers; to try and determine whether we, or the nations of Europe, are all wrong in the organization of the cavalry; to do this would seem to overlook the basic principles of the mounted service.

In the first place, and I do not believe there can be any real doubt on this question, our cavalry is organized on the mounted infantry basis. Far from criticising this organization, I believe it the best in the world for its purpose, a quick and powerful dismounted action from any formation, and that its success in this role has been too convincingly proved to warrant any change.

On the other hand all the cavalry in Europe is organized on the mounted action basis and I am sure no officer, no matter how ardent a faith he may have in our superiority, could see one or more regiments abroad charging, as a cohesive unit of power and strength with its small front of 300 yards and see the massive weight of the double rank of steel and flesh as one solid mass, and not feel that the thin, elongated single lines of our regiments, though numerically much greater, would stand but little chance if they should meet mounted.

With this as a foreword, and taking each of these two schools as the proper basis for its particular line of work, we come to the key note of the entire discussion as applicable to our service; what unit mounted can best be handled by one man. The proper command for this one man should determine any reorginazion of our cavalry, this, the best mounted charging unit, must be the key note of all discussion that considers mounted action.

As the Russian cavalry regiment is a good example of all foreign ones, I may state that it consists of about 600 men in double rank or a front of about 300 yards, and that with this formation the only question is whether or not it is too big for the colonel to handle properly.

From 600 the number of men in a regiment shrinks to 450 in England and the British cavalrymen are a hard headed, hard riding lot. It seems unreasonable to suppose that these foreign nations, whose existence depends on the effectiveness of their armies, should adopt and maintain a cavalry organization not best suited for the work in hand. The unanimous opinion of all Russian officers is that 600 is the maximum number which can be handled properly by one man and that they must be in double rank so that the front will not cover much more than 300 yards; that for a colonel to try and handle more would mean that his regiment at once loses its cohesion, mobility and effective directions.

Assuming, then, the correct basis for the cavalry charging unit to be from 400 to 600 and as to the correctness of this assumption I can see no possible question, we find ready at hand for us the ideal conditions, if we but use them. Raise our regiments to the war strength of 1,200 men, and we have the magnificent mounted infantry of our service unequaled by any in the world and at the same time we have three charging units, the squadrons, all under a colonel, to be used as units when acting alone, or in line corresponding to a foreign brigade, a magnificent command for any colonel, corresponding to a general of brigade abroad and yet at the same time retaining our unique ability as regiments to fight on foot. To have the charging units led by majors would

give the further advantage of younger, more active and harder riding leaders.

To accomplish this change would require no congressional action but it could be done by executive order and by making the necessary changes in the drill regulations. For the latter the regimental drill could be almost entirely abolished, retaining only enough for simple formations and ceremonies, assimilating it to brigade work. The squadron drill can be greatly simplified for mounted work, requiring, however, a double line, perhaps of platoons at one-quarter distance, and lessening the interval between troops so as to have a practically solid unit. These changes in the drill, looking toward to simple mounted work of a charging unit and yet retaining our necessary dismounted work, would not be a matter of great difficulty though of experiment, care and study.

To adopt a 600 man regiment it would be necessary for us frankly to copy the foreign services. To adopt a 900 man regiment would in my mind be less desirable, for it would be an impossibility for any one colonel to handle such a number with a front, even in double rank, of close to 500 yards. To swing it in the first galloping drills, as one can see with the Russian 600 man regiment, to keep it as a cohesive mass, would, I am positive be an utter impossibility. Such is I believe, the unanimous opinion also of all other officers here. I feel so absolutely certain of the ineffectiveness of such an organization as a charging unit that I desire particularly to emphasize this point.

From a long experience with cavalry troops in the past, from the opportunity I have had of hearing the opinions of the best of foreign officers, it would appear to me a very great mistake for our cavalry service to continue to cry for the moon when we have the sun with us but do not know enough to use it, when, without cost or change in organization, without diminishing the traditions and splendid ability of our dismounted work, we have in our own hands the ideal organization for mounted work as well.

HORSE BREEDING IN HUNGARY.

By Major HENRY T. ALLEN, General Staff, U. S. Army.

HUNGARY'S horse-breeding history has several points which appear to demonstrate very clearly the eventual benefits of crossing the coarser breeds with the thoroughbred. The original breed of Hungarian horse was mostly of the Eastern type, the nation coming from the East and bringing their horses with them. For centuries the Hungarians were at war with the Turks, and the occupation of portions of the land kept the breed of horses frequently infused with fresh Eastern blood. By reason of these long wars the country did not progress as the other states of Europe were doing; there were practically no good roads, and, the thin population always requiring long distances to be traveled, there was a demand for stamina in the horses. In these times, however, horses were not reared with much care, and so there was a natural process of "selection" going on, the weaker horses succumbing to the inclemency of the weather, the insufficiency of food, and the work required of them. All the great land owners and many cities had studs for raising horses, mostly of the Eastern type.

When things became more progressive in the 17th and 18th centuries, Spanish horses were used in many large studs, but in 1825 the first importations of English thoroughbred horses came into the principal studs of the larger land owners, since which time thoroughbred horses are used almost exclusively, so marked have been the beneficial results, giving not only increased stamina, strength and ability, but also a decided increase in size and bone.

The operations of thoroughbred blood are nicely illustrated by the government stud at Mezohegyes, where the government began to breed horses after the end of the wars with the Turks, or about the end of the 18th century. The army

being reduced, many of the mares which were not wanted for military purposes were collected at Mezohegyes, and were used for breeding horses to be originally employed as remounts for the army. A little later the government officials started another stud at Babolna, where they bred horses of the Arabian type, and this stud is now kept up with about 200 mares.

In both studs the mares were originally of many varieties of breed. In Babolna the Arab type was retained, but in Mezohegyes every sort of horses were bred. Here various changes were made, breeding sometimes according to color, sometimes according to size, sometimes to race, until about the middle of the last century the produce were mostly used for military remounts, keeping only a few horses for stud purposes. At the end of the war with Napoleon a horse called NONIUS was brought to Mezohegyes from a state stud in France. NONIUS was by a thoroughbred (Orion, son of Marmetin) out of a Norman mare. The exact pedigree is in some dispute, however. NONIUS and his sons were freely used at this stud, and they founded a special type. They were very big animals, with very good limbs, but had ugly Roman-nosed heads; a little ewe-necked; not the best ribs; light quarters; some of them were good horses, but many were soft, as must be the case with such big-boned horses without "blood." It was the general opinion, and is the deduction of the best judges, that when they were descended of a better bred mare they were harder and better, and when they came from Holstein or cold-blooded mares they were softer and inferior.

The first thoroughbred horse used at Mezohegyes was FURIOSO. This horse, who was bought in 1840, or about that time (he was foaled in 1836), founded a tribe which was called after him, and which is much liked to this day. Until the middle of the last century many changes occurred at Mezohegyes, according to the varying whims of the commander; after that time the management was somewhat better, but it was not until 1868, when the Hungarian government took a hand in the management, that a rational and really intelligent course of procedure began, many unsuccessful experiments having been made by the breeds promiscuously. From about 1850

the produce of the stud were not used for military remounts, but the suitable horses were retained for stud purposes and were sent to various stations in the country to cover mares at a low fee.

The stud now consists of three nominally different breeds, but in reality they are all half-breeds. They are:

(I) The GIDRANS, called after an Arabian stallion to whom they are inbred. They are all chestnuts. At one time they began to get very soft, but recourse was then had to an infusion of thoroughbred blood through stallions, and the GIDRANS then changed altogether in shape, and made such improvement in quality and capability that many people consider them to now be the best animals in the stud. To keep up the breed without losing the size and bone one-half stallions of the original breed are also used, but in these there is a strong infusion of English blood through their dams.

(II) The so-called half-breeds descended mostly from FURIOSO and another thoroughbred horse, NORTH STAR, who was purchased about 1852. They are covered partly by thoroughbred horses and partly by half-breeds out of the stud, as it is the intention to here breed very big and strong horses.

(III) The Nonius stud is in two parts, larger and smaller. Up to 16 hands the mares go to the smaller stud; above that they are sent to the larger. Here also thoroughbred horses are used with the best results, as the Nonius tribe lost their ugly, big heads, got better necks, are better ribbed up, now have good quarters, and are in all respects greatly improved. Here, besides the thoroughbreds, half-breeds are also used to keep up the size and bone, but in these there are also three or four crosses of the thoroughbred. There are now in this stud about 500 mares, half of them being covered by thoroughbred horses.

Besides the Mezohegyes and Babolna studs there is the Kisber stud, with from sixteen to eighteen thoroughbred mares, whose produce are annually sold as yearlings to Hungarians or Austrians, with the condition that they cannot be sold or leased abroad. There are also about 200 half-bred mares who are also used to breed stallions. Here, with few exceptions, only

thoroughbred sires are used, and half-breds if more size or bone is wanted. At Kisber stand the high-class thoroughbred stallions which are from time to time imported from England, to be used by private breeders at a reasonable fee.

Two studs are in Transylvania, one of about sixty mares (half-breds) and the other of about 120 of the Lippizen breed, a Spanish-Arabian breed which is kept pure, and produces horses suitable for carriage work. Another stud of about 100 mares is kept at Godollo. They are of the smaller Nonius breed, and the stallions are of the same. The intention is to here breed country stallions for the poorer part of the land, as this breed feels least the want of good keeping.

From all of these studs the suitable horses are selected and sent at the age of 3½ years to the stallion depots, from which they go the next spring to the different stations, where they cover at fees ranging from $1 to $5. Besides the horses bred by the state, there are contracts made with different breeders, whose colts are inspected at 1, 2 and 3 years old, and when suitable are bought at an average price as stipulated in the contract and are then used as country stallions. Annually the government also buys thoroughbred stallions from private breeders for the same purpose. All of the stallions before they go to the stations can be hired by private breeders, but, excepting the thoroughbred, no stallion can be hired if he was already at a covering station. When the stallions are 5 or 6 years old a certain number of them are sent to the military schools and certain others to some hunts, to be used there, in order that they may all undergo a certain amount of work, and if some weakness is shown they are withdrawn from breeding. When the stallions become too old to cover many mares they are sold at very moderate prices to small breeders, giving these breeders frequent occasions to get very good stallions at small prices.

There are now about 3,500 stallions of the government at the different stations, of which about 360 are thoroughbreds, besides those of the private breeders. The result of using the thoroughbred is very satisfactory. Proof of this is the fact that the military authorities for a long time did not like to buy the highly bred horses for remounts. Now, however, they

have found out the usefulness of the blood; they seek out purposely the horses bred from thoroughbred stallions, and in these they overlook some defects to which they would certainly object in a differently bred horse. As they have a fixed average price to buy remounts, they pay a little less for the indifferently bred one, so as to be able to give more for the better bred one.

The Hungarian government not only gives encouragement to the races, but also affords them real assistance, spending a large amount in giving prizes, and also in buying, if only it is possible, all the horses which are of no use on the turf, which means a great deal for the owners.

PUREBRED HORSES IN THE UNITED STATES.*

By GEORGE M. ROMMEL, Chief of Animal Husbandry Division, Department of Agriculture.*

THE tabulation below shows the number of purebred horses registered in American studbooks on June 30, 1910, from reports of their secretaries, and estimates of the number living are included. From this table it appears that of all purebred horses registered, those of the light type constitute 76.11 per cent. of the total, ponies 2.39 and draft horses 21.50. Of the number of purebred horses living, light horses constitute 56.66 per cent. of the total, ponies 3.77 and drafters 39.57.

TABLE I.

Number of horses in the United States, registered on June 30, 1910, with estimate of number of horses living on that date.

BREED.	Animals Registered.			Animals Living.		
	Male.	Female.	Total.	Male.	Female.	Total.
Light horses.						
American Trotter	54,055	174,356	228,411*			75,000*
Cleveland Bay	1,301	544	1,845	980	350	1,330
French Coach						
Studbook	2,335	792	3,127	1,400	400	1,800
Register	333	14	347	330	10	340
German Coach	2,692	403	3,095			2,500†
Hackney	1,371	2,394	3,765	900	1,800	2,700
Morgan	2,131	5,896	8,027*	2,000	1,800	3,800
Saddle Horse	4,349	6,985	11,334*			5,500†
Thoroughbred			58,263	12,500	17,560	30,000
Total	68,567	191,384	318,214			122,970
Per cent. of all			76.11			56.66

*Furnished to Major Henry T. Allen, General Staff, U. S. Army, for publication in the CAVALRY JOURNAL, by the Acting Chief of Bureau of Animal Industry, Department of Agriculture.

TABLE I.— *Continued.*

BREED.	Animals Registered.			Animals Living.		
	Male.	Female.	Total.	Male.	Female.	Total.
Ponies.						
Shetland	3,851	5,958	9,809	2,500	5,500	8,000
Welsh	53	135	188	49	132	181
Total	3,904	6,093	9,997			8,181
Per cent. of all			2.39			3.77
Draft Horses.						
Belgin	5,172	1,775	6,947	4,960	1,660	6,620
Clydesdale			15,278			13,250†
French	12,132	7,875	20,007	7,200	6,800	14,000
Percheron						
Studbook	13,424	14,630.	28,054	24,000	16,000	40,000
Register	2,024	1,308	3,332	1,900	1,100	3,000
A. B. & I. P.	2,408	1,728	4,131	2,650	1,750	4,400
Shire	8,158	3,465	11,623	2,360	1,970	4,330
Suffolk	277	249	526	90	203	293
Total	43,595	31,030	89,898			85,893
Per cent. of all			21.50			39.57
Total, all breeds	116,066	228,507	418,109			217,044

Much more accurate information appears in Table II.

In a number of States, laws have been enacted requiring stallions standing for public service to be licensed by the State authorities, and to be free from hereditary unsoundnesses. The reports of the officials in charge of this work give some idea of the rapid growth of the draft horse industry in the United States, and indicate strongly the real reason for the present difficulty of obtaining remounts for the army.

Statistics have been compiled from reports of the stallion registration officers in Pennsylvania, Wisconsin, Minnesota and Kansas. The following statement shows the relative proportions of light, pony and draft pure-bred stallions and grade stallions licensed for public service in the States named:

*Includes some geldings.

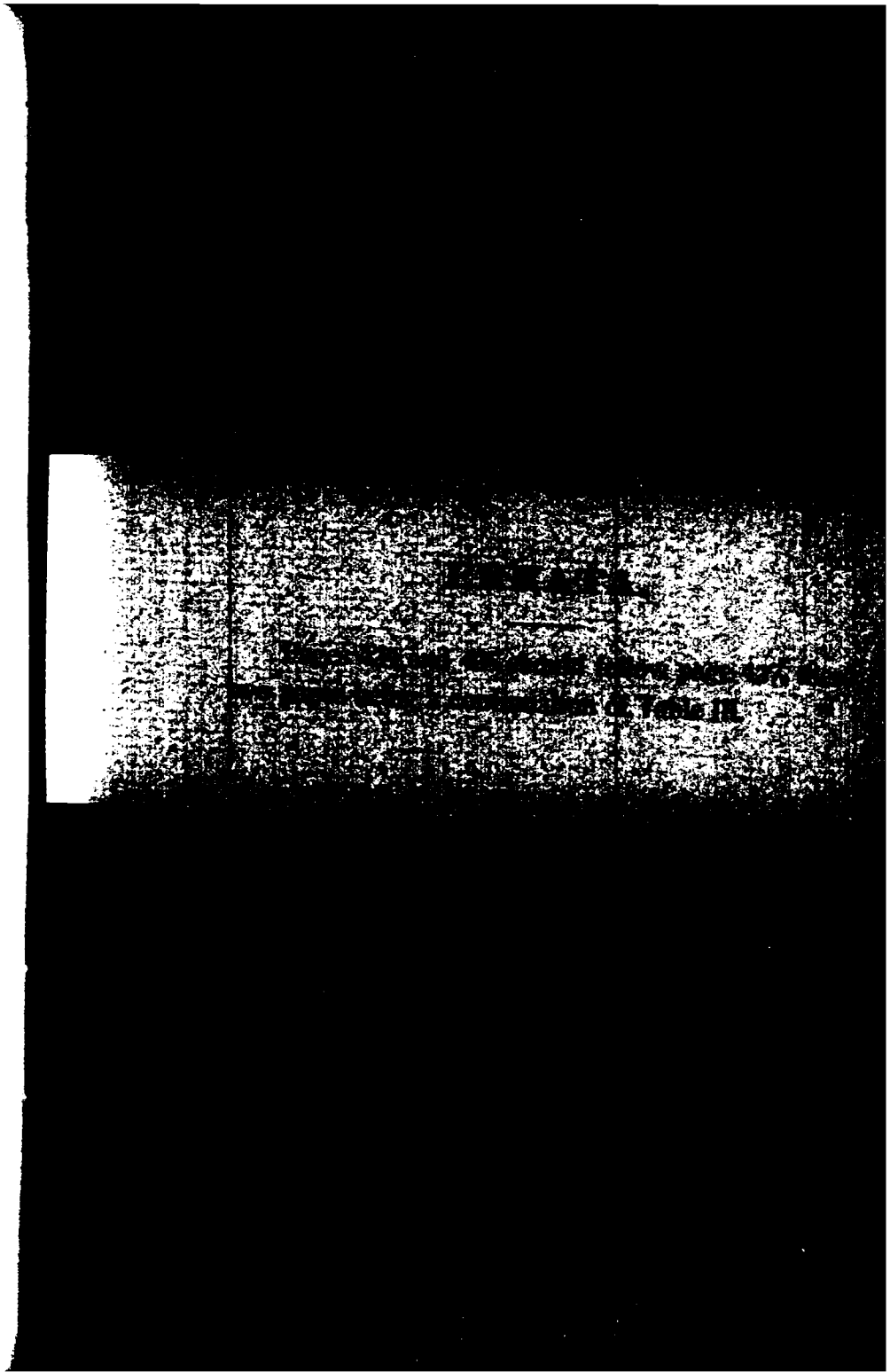
†Based on estimate of June 30, 1907.

Wisconsin, stallions licensed 1906–1908, from Bulletins 155 and 169, Wisconsin Experiment Station.

BREED	Number	Per cent of Purebreds	Per cent of all horses licensed
Light			
Cleveland Bay	4		
French Coach	59		
German Coach	41		
Hackney	21		
Morgan	15		
Standardbred	312		
Non-standard			
Thoroughbred	2		
Saddle	3		
Yorkshire Coach	1		
Total	538	36.20	14.23
Pony			
Shetland	5	.34	.13
Draft			
Belgian	79		
Clydesdale	102		
French Draft	50		
Percheron	648		
Shire	61		
Suffolk	3		
Total	943	63.46	24.94
Total purebred	1486		39.30
Grades and Mongrels	2295		60.70
Total stallions licensed	3781		

Minnesota, stallions licensed for public service to 1910, from Bulletin 3, Minnesota State Stallion Registration Board.

BREED.	Number.	Per cent of Purebreds.	Per cent. of all.
Light			
Morgan	18		
Cleveland Bay	6		
French Coach	18		
German Coach	26		
Hackney	6		
Standardbred	181		
Thoroughbred	1		
Total	256	17.21	6.36



Minnesota Stallions — *Continued.*

BREED.	Number.	Per cent of Purebreds.	Per cent of all.
Pony			
Shetland	3	20	
Draft			
Percheron	823		
Belgian	178		
Shire	51		
Clydesdale	90		
French Draft	82		
Suffolk	4		
Total	1228	82.58	30.53
Total purebred	1487		36 97
Grades	2535		63 03
Total stallions licensed	4022		

Kansas, stallions licensed for public service in 1910, from Report No. 1, Kansas State Live Stock Registry Board.

BREED	Number	Per cent of Purebreds	Per cent of all
Light			
Cleveland Bay	15		
French Coach	35		
German Coach	38		
Hackney	12		
Morgan	17		
Saddle	16		
Standardbred	553		
Thoroughbred	12		
Total	698	26.86	10 97
Pony			
Shetland	9	.34	.14
Draft			
Belgian	133		
Clydesdale	41		
French Draft	261		
Percheron	1342		
Shire	114		
Suffolk	1		
Total	1892	72.80	29.73
Total purebreds	2599		40.83
Grades	3766		59 17
Total Stallions licensed	6365		

TABLE II.

Relative proportions of light horses, ponies, and draft horses standing for public service in various States.

STATE.	Year of License.	Type of Horse.	Per cent. of Pure Bred Stallions.	Per cent. of all Stallions.
Pennsylvania	1908	Light	47.22	15.65
		Pony	.31	.10
		Draft	52.47	17.38
		Grade & Mongrel		66.87
Wisconsin	1906–8	Light	36.20	14.23
		Pony	.34	.13
		Draft	63.46	29.94
		Grade & Mongrel		60.70
Minnesota	To 1910	Light	17.21	6.36
		Pony	.20	
		Draft	82.58	30.53
		Grade & Mongrel		63.03
Kansas	1910	Light	26.86	10.97
		Pony	.34	.14
		Draft	72.80	29.73
		Grade & Mongrel		59.17

The only stallions which can be considered as possible sires of remounts are those of the light type which are purebred. Ponies, of course, are out of the question, as most of those licensed are Shetlands; drafters also are obviously impossible and grades and mongrels must be discarded on account of their uncertainty as breeders. Therefore, according to the above figures, only 15.65 per cent. of the stallions available for public service in Pennsylvania are likely to sire foals of the army type, less than 15 per cent. of the stallions in Wisconsin, 6½ per cent. of those in Minnesota, and about 11 per cent. of those in Kansas would be suitable sires for this purpose. The data on which this statement is based are presented below in detail.

Stallions have been licensed for public service in Iowa since 1906, only purebreds being licensed. To May 1, 1909, 5,329 certificates and 722 transfers had been issued. The rank by breeds and percentage of totals was: First, Percheron, 42 per cent; second, Standardbred, 14.5 per cent; third, Belgian, 12.5 per cent.; fourth, Shire, 11 per cent; fifth, French Draft, 9 per cent; sixth, Clydesdale, 5.5 per cent. The remaining certificates were issued for eight light breeds, Suffolk (drafters) and Shetland ponies, ten Suffolks and twenty Shetland ponies being reported. (Iowa Year Book of Agriculture, 1908, p. 838 et seq.) Expressed differently, 80 per cent of the purebred stallions of Iowa are drafters, and slightly less than 20 per cent are horses of the light type, suitable to sire army remounts. Iowa is the leading horse producing State of the Union.

TABLE III.

Stallions standing for public service, in various States.

Pennsylvania, stallions licensed for public service in 1908, from Cir. 6, Pennsylvania State Live Stock Sanitary Board.

BREED	Number	Per cent of Purebreds	Per cent of all
Light			
Standardbred	211		
German Coach	23		
Hackney	23		
French Coach	19		
Morgan	15		
Saddle	5		
Thoroughbred	5		
Cleveland Bay	3		
Orloff	1		
Yorkshire	1		
Total	306	47.22	15.65
Pony	2	.31	.10
Draft			
Percheron	231		
Belgian	34		
Shire	30		
French Draft	24		
Clydesdale	21		
Total	340	52.47	17.38
Total purebred	648		33.13
Grades	1308		66.87
Total stallions licensed	1956		

THE BATTLE OF SHILOH.

By JOSEPH W. RICH.

IN the July, 1911, number of the JOURNAL of the U. S. Cavalry Association appears a review and criticism by "S. H E.",* of a monograph entitled "The Battle of Shiloh," which review and criticism fairly calls for some reply from the author of the monograph. Assuming that the JOURNAL will extend the courtesy of reasonable space for the purpose, the following is submitted:

The author is in full accord with his reviewer and critic in the hope that some day, "a dispassionate study of the Battle of Shiloh from the pen of a participant" may appear —if such a study has not already appeared. And it is further hoped that such a study, when it does appear, will find equally "dispassionate" readers among nonparticipants. These two conditions uniting would end all controversy about that battle.

It is charged that I have "suppressed" evidence that might be used to challenge the testimony of Grant and Sherman, in regard to the battle, and have "ignored evidence which might corroborate" Buell upon points in controversy. The reviewer and critic does not particularize as to evidence "suppressed," hence only a general denial can be made.

In regard to evidence "ignored" favorable to Buell one case is particularized, so specific answer is possible—and easy, for that matter. It is charged in the monograph that General Buell in his Shiloh Reviewed, written several years after the war, contradicted a statement made in his official report, written a few days after the battle, upon a point of some importance, namely, the effect of the gunboat fire at the close of the first day's battle, at Dill Branch. Officially, he said "the gunboats contributed very much" to the result. Unofficially, he said the gunboat fire was "harmless."

*The writer of the review in question is Major S. H. Elliott, Twelfth Cavalry, who reports this article as a well written and dispassionate reply to his criticisms of Mr. Rich's book. Major Elliott also states that owing to his time being fully occupied as an instructor at the Staff College, it is impossible for him, at the present time to make any comments on this reply as requested. —[EDITOR.]

The reviewer and critic does not deny the fact of contradiction, but he seeks an explanation—the reason for Buell's change of mind. Now Buell did not refer to the particular "Confederate source" from which he obtained new light upon the subject, but my critic makes a guess and says: "He [Buell] doubtless had in mind the assertions of Polk (W. R. 10, p. 140, [410]), and Bragg (W. R. 10, p. 466)." The "assertions" of these two confederate officers, favorable to Buell, must, therefore, in the opinion of the critic, be the evidence which justified Buell's change of mind, and which the author of the monograph "ignored." That evidence is here and now admitted with the utmost cheerfulness, for what it is worth, and it would be quoted at length if space admitted. The most that can be done, for want of space, is to ask the reviewer and critic, to read more carefully than he appears to have done, the official reports of the two officers named, Polk and Bragg.

As to Bragg, a careful reading of his report shows that his first mention of the gunboats, like Polk's, applies to the situation about the Hornets' Nest, without saying anything about the effect of the fire. Bragg then says (after securing the Hornets' Nest prisoners), "the movement toward the Landing commenced with every prospect of success, though a heavy battery in our front and the gunboats on our right seemed determined to dispute every inch of ground" (p. 467). Not a word about the effectiveness of the fire of the gunboats.

Polk's first mention of the gunboat fire is at about 5 P. M., when the Confederate Army was coiling itself about the Hornets' Nest, one and a half miles from the Landing, having no reference whatever to the situation at Dill Branch. Later, when the advance was made toward Dill Branch, Polk's report shows that he did not know much about the

relative position of the contending forces. As they advanced, he says, the Union lines were brought between the Confederates and the gunboats—which was an absolute impossibility. As Bragg says, the gunboats were on their right, which is correct, and they fired up the ravine without the necessity of elevating their guns to any great extent. Bragg said nothing about the effectiveness of the fire, and Polk knew nothing about it, at Dill Branch, or he would not have placed them in the *rear* of the Union lines.

But here is the evidence of other Confederate officers, who were in closer touch with the situation:

Col. Joseph Wheeler, 19th Alabama: "During all of this movement" (toward Dill Branch) "the regiment was under heavy fire from their gunboats and other artillery." (W. R. 10, p. 559).

Gen. Chalmers, commanding a brigade in the last assault, says they "were met by a fire from a whole line of batteries, assisted by shells from the gunboats" (Ib. p. 550).

Gen. A. P. Stewart: Says he was ordered "to aid in the pursuit of the enemy, which was checked by the gunboats." (Ib. p. 428).

Col. Russell, 12th Tennessee: "The enemy's gunboats kept up an incessant fire of shot and shell," and he was ordered to "fall back out of range." (Ib. p. 418).

Col. Gibson, 13th Louisiana, commanding a brigade, says he was ordered by Gen. Ruggles "to retire from the fire of the gunboats," in which movement "considerable disorder ensued." (Ib. p. 480).

Gen. Withers, commanding the Confederate right at Dill Branch, says it was "by General Beauregard's orders * * * that the troops were * * * led from under the fire of the enemy's gunboats." (Ib. p. 534). None of these officers, who were in closest touch with the situation, had discovered that the gunboats were in rear of the Union lines—they knew exactly where they were, on their right flank, the big shells ploughing through the tree-tops up Dill Branch. And it will be found that these officers in their official reports more frequently refer to the fire of the gunboats than they do to the "other artillery" which they had to face.

The writer is utterly at a loss to understand the reviewer and critic when he says: "But Mr. Rich, who desires to show the impregnable character of the artillery defense behind Dill Branch, is obliged to exclude the gunboats as elements of strength." On the contrary, the gunboats were definitely included in the line of defense, on the "extreme left," and the evidence above quoted shows that they were not "harmless."

Again, I am accused with attacking "Buell's statement as to the hour" when he arrived at the Landing, using Villard, a discredited witness, against him. On the contrary again, Villard is mentioned in this connection only as a "plausible" witness, which, in plain English, means that he needs corroboration, and there being no corroboration, Buell's statement was and is accepted as correct.

In the opinion of the reviewer and critic, the really serious criticism of Buell is that charging him with "holding up" Grant's order to Nelson, but he fails to show that the charge is not true. He says it is "pure conjecture" as to the hour when the order was "reiterated." Admitted, but it is not important when it was reiterated—the important point is when did the march begin under the order.

To my question, left unanswered, "Why did General Buell do that?" my critic assumes to answer for me—"to prove to General Grant that his authority stopped short of the Army of the Ohio; to punish his presumption. * * * To risk the destruction of the Army of the Tennessee rather than abate * * * his adherence to a military punctilio."

The answer put into my mouth is not accepted—the author of the question believes that the delay was mainly due to a characteristic of General Buell's, to unduly deliberate before acting, even in emergencies. In the writer's opinion, had General Nelson been free to act upon Grant's order, and had Colonel Ammen, commanding his leading brigade, asked, on receiving the order to march, "Is the road practicable?," he would have received for answer the same that he got at Duck River, a few days before. Colonel Ammen was ordered to cross the river early in the morning, when he asked, "Is the bridge done?" "No." "Are there

boats?" "No; but d——n you, get over." The brigade went over, wading waist-deep with its trousers and drawers slung in bundles on its bayonets. (Ammen's Diary, W. R. 10, p. 330).

It is assumed by my critic that the delay of Nelson's march was due to doubt about the road and difficulty in procuring a guide. Either of the causes mentioned may have had something to do with the delay, but since neither Buell nor Nelson referred to either of them as cause for delay, it seems rather unnecessary for a third person to urge them. It was demonstrated that the road was not "impassable"—not even very bad—for the march was made in good time—three and a half hours, according to Nelson, from Savannah to the top of the hill in front of the Confederate lines, which included ferrying across the river.

Another excuse urged in favor of General Buell is that probably he had not received the instructions from Halleck to the effect that Grant, in case of attack, would take chief command. The writer is free to say that probably Buell had not received such instructions—he has found no official evidence to that effect. He is free to further admit that under ordinary circumstances, in the absence of emergency, Buell might have stood upon his rights as commander of an independent army; but he does not admit that Buell was justified in delaying Grant's order on the grounds suggested, in the face of such an emergency as existed.

Fortunately we have a case in point in which the same two commanders were involved, wherein all courtesy, punctilio, discipline and everything of the sort went to the winds. After Donelson, General C. F. Smith, of Grant's army, occupied Clarksville, below Nashville. Buell had just reached the Cumberland River opposite Nashville, which the Confederates had already evacuated. Buell, fearing that the evacuation was a ruse to draw him across the river, believed that he should be reënforced before crossing; so without consulting either Halleck or Grant, he ordered Smith with his disvision to join him at Nashville, which Smith did. The incident drew from Halleck a sharp question, to his Chief-of-Staff, as to who ordered Smith to join

Buell. In this there was no "emergency"—scarcely a remote possibility of danger. The Confederates were hurrying from the army in their front as rapidly as possible.

It is asserted that Nelson must have had some "assurance of water transportation" from Savannah to the field of battle, and it is further asserted that "beyond question" such transportation was "available." The first of these claims is conjecture, and the second appears to be based upon a statement of Captain Ephraim A. Otis, in his monograph entitled "The Second Day at Shiloh," and Otis's information appears to have come from Colonel Ammen, both officers of Buell's army. Otis says that "no explanation * * * has ever been given why a part of the fleet of steamboats lying at Pittsburg landing" was not sent to "bring up the advancing forces."

The answer to both Otis and Ammen is very simple—there never was a "fleet of steamboats' at Pittsburg Landing, except boats waiting *to unload*. The river was often "full of boats" waiting to get to the Landing, and it was not uncommon to see boats, far out in the river, discharging cargo across the bows of other boats, when it could be done to hasten the work. The writer speaks at first hand upon this point.

On the morning of the battle there was a small "fleet" at the Landing, loaded with infantry, artillery and army supplies, and the work of unloading was rushed with all possible speed, as may be guessed. When Colonel Ammen arrived opposite the Landing, about 5 o'clock in the evening, some of these boats—perhaps all of them—were unloaded and were ready to ferry his troops across. These boats were sent to bring up the next division of Buell's army, which had not yet arrived at Savannah when Nelson marched, at 1:30 P. M.

Now if my critic and Captain Otis desire to know why boats were not sent for Nelson's division, they will find the explanation, which neither seems to have discovered, in orders from Cullum (Halleck's chief of staff), to Grant, Grant to Smith, and Grant to Cullum (W. R. 10, pt. 2, pp. 26, 29). It was a standing order to "send back steamers as rapidly

as possible," and there is no doubt but that the order was obeyed. It must be remembered that the base of supplies for Grant's army was distant at least two to four hundred miles, and that it required about a week for a boat to make a round trip.

Further criticism is made because of lack of effort to locate responsibility for numerous "errors of omission and commission," in the management of the campaign and the battle. The reply is that the monograph was not intended to be a critical essay upon strategy, tactics, etc., but instead a plain narrative of the main facts leading up to and ending in the battle, about which much untruth had been written, and much truth had been omitted or perverted. The writer is free to admit that, in his opinion, at least "elementary precautions" against sudden attack should have been taken that were not taken, but he would not undertake to locate the responsibility, which was a very much divided responsibility. But while admitting this, it is insisted that the "expeditionary" character of the movement still existed, as is shown by the attempt made, April 1–2, to reach the Memphis and Charleston Railroad, by way of Eastport and Chickasaw Bluffs. The order to cut that road, if possible, still stood.

In regard to "absenteeism" or "straggling," nothing more need be said than was said in the monograph, except to ask the critic to take his pencil and add together the number of sick in camp—estimated by Major Dawes, whom he quotes approvingly on other points, at "nearly or quite two thousand," in Sherman's division alone; add the number of non-combatants necessary to provide for an army of 35,000: add the wounded coming in from a six or seven hours' battle, during which there was not a moment of time when the air was not rent with the crash of musketry and was not tremulous with the boom of cannon; then add attendants upon sick and wounded over and above the number required under normal conditions—if he will do that, he will find that he has a small army of men, legitimately at the Landing, when General Buell arrived, without counting a "straggler."

On the question of "surprise," the writer is not disposed to argue with his critic, but accepts his definition of

'surprise"—"to catch your enemy unprepared"—and claims that the definition gives away his contention that there was a surprise.

Any person who will take the pains to study the reports of Confederate officers will find them full of specific incidents of preparedness, in the Union Army, from the first contact with Hardcastle's pickets, before daylight in the morning, until twilight in the evening. The enemy found the Union Army "prepared" to an extent not expected. And, moreover, the enemy utterly failed to accomplish the main object of his plan of battle, namely, to turn the Union left and occupy the Landing, which General Johnston considered absolutely necessary to success. Johnston himself commanded the part of his army set to accomplish this necessary object, and he lost his life in the effort. Nothing more need be said on the point, except to ask: If it was a "surprise," and if the "absenteeism" was as some writers represent—from a third to a half of the army—and if the enemy, after thirteen or fourteen hours of fighting, failed to accomplish its main object, what must be said of the fighting qualities of those who remained with the colors, in The Army of the Tennessee, on that Sunday?

The reviewer closes his review touching briefly several points, which can be answered with equal brevity. Of the author's treatment of the battle of the second day, he says: "Being the Army of the Ohio's victory, he dismisses [it] in a paragraph of forty-four lines." The fact is as stated, but not the inference evidently intended—that the brevity of treatment was due to prejudice against Buell and his army. On the contrary, the brevity of treatment was due to the fact that no serious dispute has ever arisen about the second day's battle.

The reviewer properly corrects the statement that the Colonel of the 71st Ohio (Mason) was cashiered for conduct at Shiloh—it was for surrendering Clarksville, Tennessee, in August, 1862, but the reviewer makes an incorrect reference to official records, "(W. R. 22, pp. 862, 865)" should be

W. R. 16, pt. 1, pp. 862, 865.* My authority for the statement in the monograph was "Ohio at Shiloh, p. 38," which was supposed to be reliable.

No "new facts" it are asserted is found in the monograph: "It is most interesting but it is not history. It is a special plea for the Army of the Tennessee."

As to "new facts" about the Battle of Shiloh, there are none—what the author tried to do was to correlate old facts in such a way as to show them in proper relation. If that is not history, what is it? Very strangely, my critic has not even attempted to disprove the facts adduced. As to a "special plea," the Army of the Tennessee needs none—it only needs the truth set in proper relation.

In regard to John Codman Ropes, my criticism of his work is not due to prejudice, but to his perversion of facts, which perversion it would not be at all difficult to show, were this the proper place to point them out.

* Both of these references are correct. The author gives the reference by the volume and part and Major Elliott by the serial number of the volumes of the Rebellion Record. *Editor.*

NOTES ON THE PROGENITORS OF CERTAIN STRAINS OF THE MODERN AMERICAN HORSE.

By Veterinarian COLEMAN NOCKOLDS, First Cavalry.

(Continued from the March, 1911, Journal of the U. S. Cavalry Association.)

THE American thoroughbred is a direct descendant of the English race horse.

No animal having an unknown or cold cross within a hundred years back in its line can be entered in the English Stud Book, and no American horse can be regarded as thoroughbred that does not meet as high requirements. A number of high class race horses whose pedigree have been short in one or more lines have run well, but never in the history of the turf has a great sire appeared in whose blood was a near cross other than thoroughbred.

Although first of all the thoroughbred originated from the admixture of Oriental blood with the best old English blood, probably Spanish by descent, the impure admixture is so exceedingly remote, not within fourteen or fifteen generations, that the present thoroughbred of the United States cannot possess above one-sixteenth thousandth part of any but desert blood.

Of the superiority of the modern thoroughbred to that of the present horse of the East there is no doubt. It is shown as much in his quality and power as in size, bone, strength, weight and carrying abilities.

When and wherever he has encountered the Oriental horse this has been proved, and no cross of the later blood has in the smallest degree improved our race horse.

The position of the American blood horse is unique in that he stands alone in this country as far as family is concerned; unlike the human race in the United States, unlike

the ordinary types of horses or cattle and most other domesticated animals of North America, which cannot be traced or said to belong to any one distinct breed or family, having originated from the mixture, combination and amalgamation of many bloods and stocks, derived from various countries, he is undoubtedly of pure English thoroughbred.

It is believed that no Barb, Arab or Turk imported into this country has ever got a horse of any true pretensions on the turf, or has ever been the winner of any important race; and yet a considerable number have been introduced, many of them gifts from sovereign potentates to different Presidents, reputed to be of the noblest breed, and surely, as regal gifts, presumably to have been of true blood.

The earliest racing occurred in Virginia and Maryland, and various breeds of horses were used; a horse called Brilliant was imported into Virginia in 1706; he was foaled in 1691, and was by Phenomenon, dam by Pacolet, g. g. dam by Matchem, g. g. g. dam by Oroonoka, and g. g. g. g. dam by Traveller, etc. The authority for this is not known.

To a limited extent racing took place as early as the middle of the seventeenth century in Virginia, Maryland, and the Carolinas. The horse Bully Rock, by the Darley Arabian, out of a mare by the Byerly Turk, grandam by the Lister Turk, g. g. dam a royal mare, is the first recorded importation of a thoroughbred horse into America. He was imported into Virginia in 1730.

In 1723 the Duke of Bolton bred a mare named Bonny Lass, by his celebrated horse Bay Bolton, out of a daughter of the Darley Arabian. She became famous in England as a brood mare, and was the first thoroughbred mare according to records that was brought to this country. This is supposed to have been in or after 1740, as the stud book shows she produced in England, after 1739, a filly by Lord Lonsdale's Arabian, and subsequently became famous in England to the public as the grandam of Zamora.

Most of the inhabitants of the colonies at this time were either from the British Isles, or descendants of parents who had immigrated from them, and they inherited a taste for sport. The result was that the importations increased very

rapidly, and many valuable shipments of horses were made before the war which resulted in a separation of the colonies from the mother country.

The animals imported were generally of the best stocks in the United Kingdom, and it was soon realized that the climatic conditions and general surroundings, were favorable to the greater development of the blood horse.

What may be termed the old time thoroughbred of the colonies, was in every respect a stouter, larger and more pure bred animal than the English animal of that time.

Very few, except the very best strains were shipped in those early days and fewer generations were needed to reach their oriental parents, than the majority of English horses of the same date, and they showed more fully the general characteristics of their ancestrial Barbs, Arabs or Turks.

Comparing the feather weight sprinter of to-day with the old time long distance horse, it must be borne in mind that the horse of to-day is used and raced as a yearling, or at the latest as a two year old. He is stuffed full of grain from the time he can eat it, and generally pampered and forced to maturity, with a view of earning as much money, in the shape of stakes, prizes and bets as possible and at the earliest opportunity. Under the same conditions as the old long time distance horse was handled, running in the paddock and doing no work, with an occasional hand full of oats, a little leading with the haltar, but not backed to any extent, the horse of to day is a better horse, and has not as is often said degenerated, but the cruel habit of bringing horses out too soon, naturally wears them out before they have a chance to develop, and it is only the one here and there that is able to stand the strain. The majority break down and are got rid of by their owners because it is a dead loss to keep them.

Childers and Eclipse did not appear until they were five years of age, but many of our best horses of to-day, and those perhaps which could have shown equal excellence with the best racers of the old school are foundered and destroyed before that period.

Now-a-days it is rare to hear of races of more than two

miles, yet it is but a few years since the fastest four-mile record was made, also the fastest time for one and two miles. In the old time horses ran often not more than five or six races a year —often less. The races were over longer distances, but the horses were specially trained for them, and as handicaps were few, the best horse had a pretty easy time. Besides the number of horses was small. In 1880 there were 640 foals, in 1900 as many as 3,876 were reported to the Jockey Club.

A good horse of to-day runs from fifteen to thirty races a season, meeting a large number of competitors, is asked to concede weight, and is kept in training fully nine months of the year. As far as time goes there is no comparison be tween the horses of to-day and those of former years.

Handled properly the thoroughbred of to-day could make the same number of four mile heats, carrying the same heavy weight, in less time than the cracks of the olden times did; in like manner that animal could march further, carry a heavier load and become more amenable to discipline than any other breed or type of horses in existence.

The following Derby winners were among the animals brought into this country during the early days: Diomed, who in 1780, won the first Derby; Saltram, winner in 1783; John Bull, winner in 1792; Spread Eagle, 1795; Sir Harry, 1798; Archduke, 1799; and Priam in 1830.

Among the most important and valuable early importations were Jolly Roger, Fearnought, Medley, Shark, Traveller, Diomed, Glencoe, Leviathan, Tranby, Lexington, Margrave, Yorkshire, Buzzard, Albion and Leamington.

The best results have been obtained from Diomed and Glencoe.

Diomed sired one horse, Sir Archy who founded a family to which nearly all the blood horses of America date back. He was foaled in 1805, in Virginia, and became celebrated as a sire.

By refering to the Stud Book, it can be ascertained that there were many sturdy, long distance weight carriers and it should be borne in mind, that a thoroughbred, to be a good reliable animal to breed from, or for use as a remount, must

have ancestors that were of a type or family noted for their powers as stayers, or they will never come up to expectations as chargers.

There are numbers of the descendants of those strains of thoroughbreds that were sturdy long distance horses, scattered about in different parts of the country, and need only proper training and management to develop them into first class cavalry remounts.

Many pages, even volumes might be written of the accomplishments, doings and breeding of these animals, if it were feasible to write of each individual or their families, but taken at random, such horses as Medley, imported to Virginia in 1783, whose get included, Atlanta, Bel-Air, Boxer, Calypse, Gray Diomed, Gray Medley, Lamplighter, Opossum filly, Pamdora, Quicksilver, Virginia and others, all known for their staying qualities with weight, all have descendants of the same order.

Shark foaled 1771, and imported to Virginia, was the father of Americus, Annette, Black Maria, dam of Lady Light-foot, Oppossum, Shark, Virago and many others. This particular Shark, was by Marske, out of a Snap mare, g. dam, Wags' mare by Malborough, out of a natural barb mare. He was imported into Virginia in 1786 and laid the foundation of the famous Snap blood.

It is somewhat confusing that there were a number of horses of the same name on the American Turf at different and sometimes at the same time. There were no less than three well known Sharks: the imported Pearces' and a Shark by Eclipse, and it is well, when looking over the Stud book for histories, to bear this fact in mind.

As a sample of the staying powers of the old time racers, although perhaps not the fastest on record, the following account of a race between a grandaughter of the Black Maria, by imported Shark and also named Black Maria, may serve of interest. She was the property of Charles Henry Hall Esq., of Harlem, New York, and was foaled on the 15th of June, 1826. According to an article in the Turf Register, of December 1832, the race took place on the Union Course, Long Island, on Saturday, October 13, 1832, for a Jockey

Club purse of $600.00, and was run in four mile heats. There were four animals that started, viz: Black Maria, by Eclipse, out of Lady Lightfoot; Ch. M. Lady Relief, by Eclipse, out of Maria Slamerkin; Ch. F. Trifle, by Sir Charles, dam by Circero; B. F. Slim, by Flying Childers, out of Molly Longlegs. Black Maria aged six years, 121 lbs; Lady Relief aged five years, 114 lbs; Trifle aged four years, 104 lbs; Slim aged four years, 104 lbs.

"As the trumpet sounded for the horses to come to the starting post, they severally appeared, exhibiting their various tempers by their individual behavior.

"Black Maria showed neither alarm or anxiety. She was as calm and unimpassioned as if she had been a mere spectator. Trifle exhibited high spirits brought down to a proper degree by judicious handling. A slight tremor ran through her frame; and an impatient lifting of the fore foot now and then, showed that she was alive to the coming struggle. Lady Relief, on the contrary, was all fire and animation, ready to break away from her groom, and dash through all obstacles for the sake of victory. Slim exhibited an impatient spirit, and seemed, by her anxiety to show herself a descendant from that Childers who always ran without 'whip or spur.'

"At the tap of the drum the four went off well together, Relief taking the lead within the first quarter, closely followed by Slim, then by Trifle, and last came Black Maria. The first mile indicated a waiting race, as all the riders had their horses under the hardest pull; each seeming desirous that his antagonist should take the lead. Trifle impatient at such trifling, began to make play, and this aroused Black Maria, who was trailing along quietly, behind the field. With a few huge strides, she brought herself to the front, passed the whole before she came to the judges' stand, followed closely by the gallant little Trifle, who stuck to her like an accompanying phantom. At the beginning of the third mile the leading nags made play, and during the whole of it Maria held the lead, followed by Trifle, while Relief and Slim were, at quite a distance behind. After passing the judges' stand entering upon the fourth mile. Trifle made a dash and got the lead, but within a short distance from the winning post, Black Maria made a dash and won with quite a gap, between her and Trifle, and a much greater one between the latter and hindmost horses. Time first heat, 8:06.

"At the start for the second heat Black Maria appeared calm as is usual with her, while Trifle and Lady Relief were all animation.

"They went off as if the heat was to be won by running instead of waiting as in the first heat; Relief taking the lead followed by Slim, then by Trifle, while Black Maria brought up the rear.

"Trifle passed Relief and Slim during the first mile, and Black Maria taking advantage of a rise in the ground thundered by them all, with her long strides and took the lead, followed closely by Trifle while the other two dropped behind, at the end of the third mile (seventh). Miss Slim unable to stand the pace, flew the track and quit the race. Maria led Trifle to the finish of the fourth mile and they passed the stand at a dead heat. Time 7:55.

"At the sounding of the trumpet for the third heat Trifle and Relief came up in great spirits, while Black Maria seemed in no way ambitious for another trial.

"At the tap of the drum Trifle and Relief went off from the score, leaving Black Maria some distance behind. She lessened the gap in the course of the first mile, but Lady Relief held the lead up to the last quarter when for some unaccountable reason her rider pulled her up and Trifle shot ahead and won the heat. Time, 8:13.

"They saddled for the fourth heat; and here is to be a struggle until sixteen miles from the beginning are accomplished. Black Maria is in no way distressed, Relief is full of spirits, but Trifle is to win the money! Off they go; Relief takes the lead followed by Trifle and then the Black. Miles are passed over and yet Relief is ahead, at the third mile the Black overhauls Trifle and is close at the heels of Relief, but they pass the stand Relief winning the heat by a neck. Time, 8:39.

"Up they come for the fifth heat; Relief all afire, Trifle very sorry, and Black Maria now begins to paw the ground!

This she had not done before. Off they go; Relief ahead, Trifle after her and Black Maria allowing no gap. She sticks to them like a spirit, and in the nineteenth mile the gallant little Trifle is reluctantly compelled to give up. The Eclipse mares are determined to play out the game! Now comes the struggle for the honors of the twentieth mile, between two half sisters—whalebone both 'and never give up' is the word. Black Maria pushes up the straight, entering upon the twentieth mile with a stride that counts terrible upon the steps of the Lady, the black is so close that she almost touches her heels, and in the last quarter gives her the go-by, takes the track and keeps it in spite of all exertions, leads round the turn and thunders up towards the judges' stand hard in hand, untouched by whip or spur, passes the goal for the twentieth time and wins the race. Time, 8:47.

"It may be remarked that in consequence of the rains which had prevailed for several days previous to the race, the track was unusually heavy; so much so as to make a difference of several seconds, probably in the time of a four mile heat."

Black Maria is described as a glossy, jet black mare without a white mark, fifteen hands two inches in height, small head tapering towards the mouth, ears very small and pointed, rather a delicate, long neck, but well set on, and clean but straight shoulders; high withers, long powerful arms and short flat cannon bones; good knees, neat pasterns and perfect feet: great depth of chest, rather light and tucked up in the flanks, and too long coupled. Arched loins, good, slightly drooping quarters, very muscular thighs, and strong gaskins with clean hocks. Unsightly hump between the hip bones. The thin long barrel and hump were decided objections to judging her to be a weight carrier and long distance horse, but the history of her running life proves that horses can run in all forms.

Of old time records for four mile heats, Lexington's against time, run at New Orleans, on April 2, 1855, in seven minutes nineteen seconds, and Lecompte's, who ran four miles at the same place in seven minutes, twenty-six seconds, stand well to the front. There were many others, but it suffices to show by the above that the animals concerned had plenty of stamina and could have stood any ordinary military service as cavalry mounts, which they might have been called upon to perform.

At this particular time, when there is such an outcry against running races all over the country, it should be remembered that the result of racing and race courses was the thoroughbred horse. Racing in the first place was not originated with a view of prize and money winning, but as a test as to which horse was the best, with the ultimate object of choosing the best wherewith to improve the breeds of animals common to the country. From this came the thoroughbred, and breeds of horses, except for slow draft, are only improved by the introduction of thoroughbred blood into their veins. For this reason alone, racing horses and race courses should be tolerated, encouraged and kept up. If this is not done there will soon be no thoroughbred stock in the country and the result must be a deterioration of the questionable quality of the horseflesh already composing the majority of our animals.

There seems to be something in the aristocratic blood that inspires the thoroughbred with an indomitable pride and courage.

To look at him is but to admire him as he walks "rejoicing in his strength," but he is bound to degenerate in character and value under the present prejudice against racing, which prevents all stimulus to virtue by allowing no reward to ambition nor restraint upon its vicious indulgence. It is a silly mistake to think that the prevention of public exhibitions in racing will do away with horse racing. However, it will tend to prevent the breeder from the chance of improving his stock, and for the simple reason that no one is going to take the trouble to keep up the records of most authenticated animals without some object in view. It certainly will be harmful under the conditions which will follow with no stringent rules to prevent frauds, and which all public racing associations have been so careful to enforce.

There is one advantage from a remount standpoint which is gained by this absurd disencouragement of the

breeder, which is that horses that were high priced are now sold at a figure lower than the common plug can be bought for.

For breeding to a type, no animal but a thoroughbred should be considered. It must be a horse that has had ancestors worthy of the name. It may be that under the present trend of affairs, as regard the thoroughbred, that such horses will not exist in a few years, and we will again have to look to foreign nations for them if needed. Of course this only applies to the sires.

With our system of equestrianism, the thoroughbred is a most unsuitable animal with which to mount our army. This, of course, does not apply to some few officers who are horsemen and are willing to take the trouble of having their mounts cared for. But even then it must be a suitable mount to start with or disappointment will ensue.

Those animals that are often sold off the track in their third or fourth year at a figure somewhere below or a little above the hundred mark because they are broken down or cannot win a race are, as a rule, utterly worthless as mounts. They were most probably ruined as yearlings or at the most two-year olds. However, provided their family histories are good, they cannot be improved upon as breeders to start from. The public who have to do with horses recognize the fact that they are useless for work or saddle purposes, and they pay more for a mongrel bred animal simply because the cheap cast off thoroughbred is unable to stand the constant wear and tear required to pull a peddler's cart, a buggy, or of hack and livery work. He is also a failure as a rule for military service.

The ordinary common horse that is to be bought in the open market, in spite of having a couple of years of feeding and training in the best remount stable, is, as a rule, far below the standard of what a remount should be for efficient military service. It is somewhat on the order of expecting a crow to become a peacock, just because the crow is stuck full of peacock feathers. Often the same thing happens when the horse that is bought on chance is expected to do the service of a better animal because he is pleasing to the

eye, that happened to the frog that Æsop writes about. When the frog tried to show his companions how big the bull was that he had seen, he puffed himself up that he burst. The non efficient remount does not, as a rule, burst, but he is often shot within a year, and more often sold with the smaller part of a years' service to his credit.

That the thoroughbred has been found to be the only sire that can be depended upon to improve all and every class of horses except the heavy draught horse, there is not the slightest doubt. All authorities on breeding acknowledge this fact in connection with breeding light harness horses and saddlers, many different bloods have been used to improve or produce certain types, but without the infusion of thoroughbred blood at different times almost every type has degenerated.

It is natural when considering the qualities of the thoroughbred, to think only of racing and speed and often this animal has been under valued for other purposes. The utility of the horse that has speed only is questioned for quickness of working; power and ability to move, carry weight and endure for a length of time; to travel for a distance with the least decrease of pace; to come again to work day after day, week after week, and year after year, with undiminished vigor, one must depend upon the horse that has the greatest possible amount of bure blood compatible with size, weight and power, according to the purpose for which he is wanted.

Speed alone is not the only good thing derivable from blood. The blooded horse possesses a degree of strength in his bones, sinews and frame at large that is utterly out of proportion to the size or apparent strength of that frame. The texture, the form and the symmetry of the bones, all in the same bulk and volume, possess double, or nearly fourfold the elements of resistance and endurance in the blooded horse that they do in the cold blooded cart horse.

The difference in the form and texture of the sinews and muscles, and in the inferior tendency to form flabby, useless flesh, is still more in the favor of the blooded horse.

The internal construction of his respiratory organs, of his arterial and venous system, of his nervous system and constitution generally, is responsible for the greater vital power, greater recuperatory power and greater physical power in proportion to his bulk and weight than any other known animal. This added to greater quickness of movement, greater courage and greater endurance enables him to withstand more hardship and suffering and he has more gameness than will be found in any other of the horse family.

All thoroughbreds do not have all these qualities in an equal degree, for there is much or more choice in the blooded horse than in any other family, and it is essential to find from records, the stud books, and breeders and others up in this particular horse lore before deciding whether an animal is suitable or not for the purpose for which he is needed.

The cavalry of the principal military nations of Europe receive their remounts from depots, and districts, in which the authorities have been striving to obtain, by the judicious crossing of certain breeds of horses, a typical animal for military purposes.

At some of the breeding stations, they have succeeded in obtaining genuine types. This is especially true of the Hungarian, German and Austrian studs. In every country in Europe the English thoroughbred has been the animal, that is used as the sire and always to improve breeds. Russia has a considerable number of trotters that are used for stud purposes, while the Arab sire is the most common in Turkey.

In those countries where they have obtained types for remounts, the old Norfolk trotter played a prominent part; and so did several kinds of half-breeds, as the Anglo-Arab, the English half-breed, and the hackney. These were crossed with thoroughbred studs, and even after a type became fairly established, fresh blood from the pure blooded horse was infused from time to time, to prevent reversion to the coarser side of the breed.

The great reputation that Canada has gained in the light harness and saddle horse markets of the world, and in supplying the very highest class of remounts for the British

army is owing to the extensive use of the "blood" horse in some sections of the dominion. Within a radius of twenty-five miles of the city of Toronto, for instance, there were reported, in 1895, sixty-odd thoroughbred stallions in service principally, almost entirely, to farm mares.

The animal known as the "Waler" from Australia is quite a good type for a remount. Even the animals shipped to the Philippines for the army have proved fairly satisfactory, although, the majority of them were of the cheapest obtainable grade of the kind to be found in the colony. They are the get of thoroughbred sires.

West Virginia and some sections of Missouri breed a class of horses, that make very good remounts, by breeding, bred-up mares with thoroughbred sires.

The difference between the open market purchase system of France and England and our own lies in the fact that those mares and other animals that are bred to the government studs, and otherwise, are all registered and kept track of by the authorities and only those that are suitable and whose family histories are known are purchased by the buyers for the army.

There is no more suitable place in the world than some sections of the United States, where the climatic conditions are ideal for the favorable development of high grade horses, being warmer and drier than most European countries. Especially is this true, compared with the British Isles, where it is only by eternal vigilance that the standard of the English horse is kept up.

It takes about fifteen years of constant attention to detail, to produce a type. Nothing should be left to chance, and no experiments should be tried. Other nations have paid for them, and we should profit by their experience, and follow their example only along the lines in which they have been successful. It is necessary to produce a type, to have that particular animal which is wanted constantly, in mind.

On no account until the type of animal required is produced should other than thoroughbred sires be used, and even then the blood horse is often required, when signs of retrogression are apparent.

There are many strains of horses in this country, the mares of which could be used to start with, but those with most pure blood in their veins would be the best, with the exception of thoroughbreds and trotters, the first because thoroughbreds are too fine for our ordinary military uses, the second because they are very likely to be thoroughbred themselves.

Mares from families that are well known, like the Morgan, hackneys, saddlers, and even the common broncho, would be very good selections, to start the first crosses with thoroughbred sires. Although the breeding of these families is practically unknown, the history of the families for many years, has shown the best of them to be at least equal to the half-breeds of Europe for all ordinary purposes, and by careful attention to all details as to crossing, developing and weeding out, a gradual improving class of animals would be the result.

ORGANIZATION AND TACTICAL USE OF MACHINE GUNS WITH THE CAVALRY.

By Captain E. M. LEARY, Eleventh Cavalry.

GENERAL PRINCIPLES.

IT is agreed by all authorities that machine guns in use with the cavalry should be able to accompany that arm wherever it can go.

They should form as inconspicuous a target as possible when in action because the noise of their firing is itself likely to disclose their location to the enemy's artillery.

The guns should have a firm, steady mounting, suitable for uneven ground and from which the gunner can point and fire from a sitting, kneeling or lying position. The weight must be such that the gun or mounting or both, can be carried by one or two men for a considerable distance or even dragged in an emergency by a single man crawling for a short distance. They should be able to get into action swiftly; this applies especially to machine guns in connection with mounted action of cavalry.

The armies of the world have endeavored to combine as many as possible of these desirable features.

In regard to the guns, armies are pretty evenly divided between the Hotchkiss and the Maxim types, but several countries have more than one pattern of gun in use.

There is possibly no military subject, except aviation, in which so many of the ideas of ten years ago are now completely out of date, as in the subject of machine guns.

Austria's gun, the Schwarzlose, is an instance of the development, and one result of trials going on in all directions. Much of this development is, naturally, kept secret.

Simplicity, lightness and ease in reparing during action are the main objects striven for in the development of the gun.

HOW SHALL THE GUN BE CARRIED WITH THE CAVALRY?

Pack Transport vs. Wheel Transport.

Advantages of Wheel Transport:—The guns are mobile on good roads, are ready for fighting at all times and a large quantity of ammunition can be carried along with the gun itself.

Disadvantages.—The great disadvantage is that the firing height is fixed and therefore the guns present too noticeable a target in the open. This disadvantage was noticeable during the Boer War. The British high carriage was worked all right in wars against savage tribes, who had no artillery and only defective firearms, but against good shots like the Boers, who also had artillery and used it, it was a different matter. At Modder River the machine guns of the Scotch Guards were, it is said, quickly silenced at 900 meters; at Magersfontein those of the Seaforth Highlanders at 600 meters, and at Rietfontein that of the Gloustershire battalions at 900 meters. (*Mitteilungen uber Gegenstande des Artillerie, U. S. W. 1909, M. I. D.*)

Mobility of Wheel Transport.—In the Russo-Japanese War it was found that wheel transport could not be depended upon to follow cavalry over mountainous or rough country. During the advance of Prince Kanin's Second Japanese Cavalry Brigade, on the 9th of October, across the Tak Ka-Hoschi, on Chao Tao, his machine gun detachment, using wheel transport, could not follow this route, but had to make a long detour under the protection of a platoon of cavalry. Again, on the morning of the 12th of October, when the brigade advanced from Chao Tao over the Chun Chulien Pass, to participate in the action of the Twelfth Division in the Bonsiku region (Pen Chi Ho), the pass was found impassable for vehicles. The machine guns, this time with *improvised tripods* together with the necessary ammunition, *were carried by the men* over the pass. This is why they arrived in time to participate in the action with the cavalry brigade. (*Mitteilungen uber Gegenstande, U. S. W., M, I. D.*)

The Japanese changed, even during the war, with good results, many of their detachments from wheel to pack transport and used the tripod.

The Advantages of the Tripod Mount.—It is of light weight, can employ various elevations fitting the ground, it is suitable even on hard ground, furnishes a small target and is easily put on pack animals.

The Russians also found that wheel transport did not prove satisfactory during the war.

The Russian wheel carriage was similar to a gun carriage with a limber.

Kuropatkin says: "The Russian type of weapon did not satisfy tactical requirements (1) as regards it weight, and (2) as regards its adaptability to the ground. Our high unwieldy weapons with their shields more resemble light field guns and their unsuitable construction combined with the difficulty of adapting them to the ground was responsible for the idea that these guns should be organized into batteries and be treated and used as artillery. Such an opinion was absolutely wrong for the great volume of fire which they can deliver calls for their distribution at the most important points along the firing line and therefore a capability of advancing with the assaulting column. A pattern must be invented that could be carried even into the outpost line. The organization of our machine gun companies did not meet the above tactical requirements. Each battalion should have four guns." (*The Russian Army and the Japanese War.*)

The Russian cavalry now have machine guns with pack transport.

The United States having adopted pack transport, is therefore in line with the nations who have had most recent experience with machine guns. In fact the majority of foreign nations have adopted pack transport for their machine guns. Moreover, while England and Germany have been the last to cling to wheel transport for their cavalry machine guns, on the ground that these are always ready for action and therefore capable of the swift surprise fire which should be a characteristic of the use of machine

guns with cavalry, yet even these powers now are swinging into line with the others in this respect, or at least realize the necessity of utilizing pack transport in mountainous country.

PERSONNEL.

Because of the possibility of getting out of order in action machine guns are generally used in pairs.

The platoon of two guns is therefore the smallest tactical unit and these should have an officer solely responsible for its training and efficiency. On the same principle that keen, young officers are selected for duty on torpedo boats, the officers of machine gun detachments should be selected men, and if possible should have completed a course at the School of Musketry in that class of work.

A machine gun platoon, two guns should consist of the following strength: One officer, one sergeant, two corporals, and twenty privates more or less, according to the transport used.

THE UNITED STATES CAVALRY ORGANIZATION.

(*Provisional.*)

In the United States cavalry the machine gun troop consists of three platoons of two sections each. The officers detailed by the regimental commander, consists of a captain and two lieutenants commanding platoons, the first sergeant commanding one of the platoons.

The men are grouped into sections under the immediate control of a con-commissioned officer who is responsible for the training, discipline and order of his section, and who is trained as chief of the gun section.

The war strength consists of seven sergeants, seven corporals and seventy-two privates, six guns, thirty pack mules and two field wagons. The grain being carried in the squadron headquarters wagon.

It is believed that a more mobile and efficient organization would result, if each gun section, or at least if each platoon be given an extra pack animal to lighten loads of the

section pack animals, by carrying certain tools and square parts transported by them, as well as some intrenching tools.

Should pack transport instead of wagon be used for rations and forage, four mules will carry two days' rations for the command while thirteen mules will be needed for the forage (grain) for two days. Except in raids or campaigns in mountainous country, wagons will probably be satisfactory for hauling supplies, since the machine guns will accompany larger forces of cavalry, and trains can follow other trains on the road. *Two* wagons do not divide up well, however, among *three* platoons, any of which is likely to be detached on short notice during active operations. With these exceptions our organization seems well abreast of the progress being made in the armies of the world.

TRAINING.

Failure in the use of machine guns can be traced to two causes: 1. Insufficient training; 2. Improper tactical employment. The first particularly concerns the personnel.

SCOUTS.

Since, in cavalry fights, the guns frequently come into action well out to the flank, the platoon must have its own scouts trained for near-by scouting at least, and its personnel must be trained to select good positions for the guns.

THE GUNNER.

The gunner has the direction of a cone of bullets which at least equals the fire from fifty rifles; therefore the efficacy of machine gun fire depends upon the thorough firing training of the gunner.

1. The gunner must discover the target quickly.
2. He must be well practiced in handling the gun in every position.
3. He must estimate the range accurately.
4. He must observe the effect of his fire.

Only picked soldiers, of good physique, spirit, energy, and especially good eyesight, will do as gunners. In fact, a

large proportion of the men should possess these qualities, since the gun-pointer bears no charmed life.

Aiming exercise must be constantly carried out against horizontal, vertical and inclined lines of targets. Much ball firing practice must be had. The whole detachment must be well trained in estimating distance.

PRACTICE IN MAKING QUICK REPAIRS.

A good suggestion of Captain Applin, late instructor, School of Musketry, South Africa, and D. A. S. G. (Musketry, Malta), is that in training the gun platoon in firing there should be caused a few artificial "failures" to test the efficiency of the men. These "failures" can be brought about by the officer himself on the range without the knowledge of the detachment, and timed by him, the record time for the remedy of each failure being posted as an incentive for the men. Such artificial failures can be caused by loosening a bullet in the cartridge or slightly flattening a cartridge so as to cause it to jam in the chamber, by introducing a blank cartridge, etc.

The 1910 Drill Regulations for Cavalry Machine Gun Organizations, U. S., enumerates the methods of reducing *nineteen different kinds of jamming*. It is evident that practice alone can insure ease and rapidity in reducing a jam during action.

In this connection a comparison of the Maxim and the Austrian Schwarzlose guns is pertinent:

MAXIM.

Weighs sixty pounds without, 150 pounds with gun mount.
Can be carried by two men at a walk a short distance.
Has thirty-five parts, fourteen springs, fifty-two screws and bolts.
Any trouble with gun is hard to locate.

SCHWARZLOSE.

Weighs thirty-seven pounds without, seventy-seven pounds with gun mount.
Can be carried by one man some distance.
Has seventeen parts with two springs only.
Easy to take apart without instruments.
Easy to replace parts.
Only one man required to work gun.
Certain feeding of cartridges.
Even cartridges protruding or receding in belt are accurately fed, outclassing all other guns in this respect.
Tripod mount gives height of fire only ten inches, hard to see.
Every kind of cover can be utilized.
Locking mechanism will work faultlessly even under higher gas pressure.
Pack saddle No. 7 can be fitted perfectly to any pack animal. It conforms so well to the body of the animal that he can follow troops over any ground.
Guns, ammunition, etc., cannot fall to ground through fault in packing.
(*Mitteilungen uber Gegenstande, U. S. W., 1909, M. I. D.*)

The Japanese had at first green detachments for many of their machine guns. The effect of experience is indicated by Captain Matsuda (who commanded the machine guns with Prince Kanin's Cavalry Brigade) as follows: "Whereas, at the battle of Peu-Si-Lau on October 12th we had some trouble after firing 1,800 rounds; on March 3d the guns of one section, after firing 11,000 rounds, continued to work perfectly. The gunners were absolutely familiar with their weapons. (*Machine Gun Tactics, Captain Applin, D. S. O.*)

JOINT MANEUVERS.

Joint maneuvers with other arms are absolutely essential to the training of machine gun troops. The other arms can thus also learn the possibilities and limitations of machine guns and be trained to use them in the most efficient manner. In Japan the commanding officers of machine gun organizations take part in the regimental work of the cavalry, then participate in the scouting maneuvers together with the cavalry divisions, then finally take part in the imperial maneuvers.

Our machine gun troops must not only never get out of touch with the organizations to which attached, but they must be diligently used together with these organizations in all kinds of tactical work.

In the past, machine guns at maneuvers have had a great handicap in being "*silent*," because blank cartriges were not suitable for the arm. It is to be hoped that some method of obviating this difficulty will be devised. Rattling pebles in a can, to simulate fire, ought to be improved upon in this inventive age.

SEPARATE ARM OR NOT?

The Germans who have studied the question of machine guns with their usual thoroughness, make them a separate arm of the service with the idea of increasing efficiency by the development of specialists.

Captain John H. Parker, U. S. Army, who commanded the gatlings at Santiago de Cuba, in 1898, arrived at the same conclusion at that time. He says: "Special aptitude, special talents, special characteristics, are necessary, as well as special training, for the proper service of machine gun."

However, this is still an unsettled question. Officers of most recent experience with the arm are divided in their opinions on the subject. For the cavalry it is believed to be better to retain the machine gun troops attached to regiments. This insures a reciprocal understanding between the regiment and the auxiliary arm which it will use in action. Moreover in a brigade or division, the commanding general can if need be concentrate the guns.

At Mukden on March 1st, all the machine guns of a whole division were brought into action against a Chinese farm house adjoining shelter trenches which the Russians were using as a supporting point. As soon as the machine guns began firing the Russian fire ceased, breaking out anew when the machine guns paused. The Japanese utilized these enforced pauses in the enemy's fire to advance to closer range under protection of their machine guns, and without being fired upon during their rushes. On March 5th the Japanese Guard Division placed fourteen machine guns in the foremost line to support the attack. The same tactics ought to be effective in a dismounted cavalry fight and also in some combined mounted and dismounted actions; but it is thought that the control of fire direction of a long line of machine guns, after the manner of artillery, will be much rarer in cavalry actions even than in those of infantry.

The necessity of making the machine guns an entirely separate arm is correspondingly less in the cavalry.

But one thing is certain, the officers must be enthusiastic, progressive specialists whatever the size of the force of machine guns they command. Otherwise the great possibilities of the arm will be more or less wasted.

THE ORGANIZATION OF MACHINE GUNS WITH THE JAPANESE.

In 1902 Japan organized two batteries of machine guns, one of six Maxims machine guns and the other six Gatlings. These were attached to the first two divisions for trial. Each battery was composed of three officers and fifty-two men. Instructions for their use authorized the division commander to assign one to each infantry brigade. (*Armee Et Marine, March, 1904.*)

At the beginning of the war machine guns, also organized in detachments of six each, were attached to the Cavalry Brigade of Akijama and Prince Kanin. At the Battle of the Yalu the importance of machine guns was demonstrated to the Japanese and as rapidly as possible additional guns of Hotchkiss system were manufactured at Tokio. Maxim guns were bought in other countries also. Toward the close of the war it is said that Japan had 320 machine guns, Hotchkiss and Maxim.

The Japanese found six gun companies furnished too great a target for the hostile artillery, so guns were assigned singly or in pairs to infantry battalions for sweeping fire against trenches, repelling counter attacks, and for fire on retreating troops. It is now their intention to permanently attach to each battalion of infantry and each regiment of cavalry a detachment of four guns. The adopted gun resembles the Hotchkiss in system, has an automatic loading arrangement, and an oil tank placed above the loading belt. A regulator controls the rapidity of fire while the aiming device permits of free elevation and depression as well as horizontal turning through 360 degrees. (*Mitellaigen undr Gegenstande des Artillerie und Geniewesens, 1909, M. I. D.*)

MACHINE GUNS WITH THE RUSSIANS.

The Russians, according to Kuropatkin, had at the beginning of the war, a few machine gun companies attached to some of the East Siberian Rifle Divisions, and in the very first fight, at the Yalu, one of these companies, attached to

the Third East Siberian Rifle Division, was most valuable. The Japanese were quick to profit by this experience, and after the September fighting at Liao Yang put in the field a great number of guns of a light portable type. These were of great service to them, particularly strengthening the defense of hastily prepared positions held by small numbers of men. The supply of these guns to the Russian army was carried out very slowly, and was, in fact, only finished by the time peace was concluded. The proportion also was too small, only eight per division. (*Kuropatkin*, "*The Russian Army and the Japanese War.*" *Pages 307, 8, 9.*)

In 1906 Russia had over 120 machine gun companies partly with wheel and partly with pack transport. In addition there were thirty-five mounted machine gun detachments of six guns each, using the Rexar type. This gun only weighs seventeen and one-half pounds but is fired from the shoulder and is said to be more of the nature of an automatic rifle than a machine gun. It is also said that the Rexar did not fulfill all requirements during the war.

Now Russia has a horse detachment of six guns for each cavalry *division*. The gun, which is of the Madsen model, weighing eighteen pounds, is carried in a case on the off side of the saddle. The detachment has one officer and thirty men. Men are armed with the carbine and saber. Each detachment is divided into three sections of two guns each.

ENGLAND.

England has made a considerable change in its organization of machine guns since 1906. Then each mounted infantry battalion and cavalry regiment had a platoon consisting of one machine gun and one pom-pom, a machine gun of thirty-seven mm. caliber. The pom pom was retained from the Boer War because its fire greatly frightens horses, and though its fire effect was small, the shell made an excellent range finder.

The cavalry machine gun platoon had one officer, twenty-two men, fifteen saddle horses, twenty draft horses, one six-horse pom-pom with six-horse ammunition wagon

and one two-horse machine gun with four-horse ammunition wagon.

England now has a platoon of *two Maxim guns* assigned to each cavalry brigade and each battalion of mounted infantry. With mounted infantry there are six pack saddles and with the cavalry three, so as to be able to change to pack transport when necessary.

The height of the axis of the piece enables the piece to be fired in the flank over the wheel, which is fifty-five inches in diameter. A steel shield protects the gunner. It can be fired without unhitching, but the breathing of the horses make the carriage unsteady, and horses are unhitched except in an emergency. One horse is in shafts, the other abreast, is outside and carries the driver. One man is carried on each side of the limber chest on the march. With the gun are carried 3,400 cartridges in belts (fourteen boxes); the ammunition wagon holds 17,050 rounds (17,600 in M. I.). The officers are armed with saber and revolver; privates with the rifle.

Even the English are coming around to the view that the machine guns with the cavalry must be able to follow that arm across country. As Captain Applin, D. S. O., says: "There is no reason why machine guns should not be as mobile as cavalry, and the choice remains between a pack horse with a mounted detachment or a galloping carriage; and the former is in every way preferable, principally because it can carry the gun and ammunition across any country and can come into action in less than thirty seconds on an adjustable tripod which can be carried by hand into any position and presents a very small, inconspicuous target." (*Machine Gun Tactics, 1910.*)

Major Mansell, speaking of the latest Vickers model says that it weighs less than twenty-six pounds, is fired from a tripod weighing only thirty-four pounds, and is adjustable for firing by one man only, lying down. (*Journal of Royal United Service Institution, 1909.*)

GERMANY.

The German machine gun, Maxim system, is mounted on a sort of a sled which forms the firing frame. For marches the sled is placed on a wheeled carriage, drawn by four horses driven like artillery. In exceptional cases the gun can be fired from the carriage. It takes from ten to fifteen seconds to remove the gun sled from the carriage. The guns can be used on any terrain passable for infantry. The sled can be carried or drawn by the men for short distances and over considerable obstacles. The ammunition, in belts holding 250 rounds each and packed in boxes, is similarly drawn on an ammunition sled. In action the guns present no larger target than skirmishers fighting under similar conditions. The gun on the sled furnishes a low target, little larger than a skirmisher lying down. (*Balck, Lieut. Krueger's Translation.*)

Disadvantages.—The sled carriage is heavy, its stability is not good on hard ground, it makes a larger target than the tripod carriage, and wheel transport cannot follow the troops everywhere. In the German operations in the Great Karras Mountains, machine guns had to be transported occasionally on packs in order to keep up with the troops.

The German machine gun detachment has four officers, 104 soldiers, nine saddle and thirty-two draft horses; 72,000 cartridges is the amount of ammunition carried. The gunner can be mounted beside the driver and two cannoneers can ride beside the gunner, the other cannoneers follow on foot. The mounted non-commissioned officers have a saber and and automatic pistol, other non-commissioned officers, drivers and cannoneers are armed with a sword bayonet. Cannoneer No. 1 also has a pick.

AUSTRO-HUNGARY.

The Schwarzlose machine gun was selected after experiment. Two of the Austrian cavalry regiments possess machine gun detachments. It is intended to have each cavalry *division* supplied with a machine gun detachment as well also nine unattached cavalry *brigades* so that all the Austrian avalry will have machine guns. The effective force of the

cavalry machine gun detachment consists of one captain, two lieutenants, forty-three men and sixty horses, of which six are officers' chargers, forty two saddle and twelve pack horses. Each machine gun detachment is divided into two sections of *two* machine guns each. The ammunition is also carried on pack horses, to the amount, altogether, of 14,000 rounds. The training of officers and men for the machine gun detachment is completed by a six months' course at a school of musketry. (*British Cavalry Journal, April 18, 1908.*)

The Japanese, the Swiss and Austrians assign four guns to their cavalry regiments, but it must be remembered that one of our cavalry regiments is about the size of a cavalry brigade abroad. Consequently our proportion of six guns to the regiment is a smaller proportion than obtains in those countries.

SWITZERLAND.

The Swiss cavalry is entirely militia cavalry, the officers, non commissioned officers, and troopers receive their instruction in very short courses of limited duration. The squadrons, regiments and brigades assemble annually for short periods of exercise called repetition courses. The Swiss cavalry is formed into four brigades of two regiments of three squadrons each. Each *brigade* has one mounted cavalry machine gun company with eight guns. Each squadron numbers 125 rank and file. Switzerland uses the pack transport, the Maxim gun with tripod mount. The whole eight guns of a company can be brought into action in about a minute. Each gun is followed by two ammunition pack horses, carrying 4,000 rounds. The reserve ammunition for the machine gun company is carried in four light two horse ammunition wagons, carrying 65,000 rounds. Owing to the nature of the country it is recognized that the Swiss cavalry must often have recourse to fire action. The handling of the machine guns is very skilfull as the men have lots of practice with them. The annual allowance of ball ammunition for practice is also very liberal. (*Lieutenant C. Delme-Radcliffe, British Cavalry Journal, January, 1908.*)

TACTICAL USE OF MACHINE GUNS.

Direction of Machine Guns.—In general this can be considered under two general heads:

1. Their employment under the direction of higher commanders.

2. Their employment when attached to certain organizations.

In the first case their use in troops or companies or in even larger groups will frequently occur.

In the second case the employment of more than two guns together would occur when they come into action at the beginning of a fight, for massed fire at middle or long ranges against favorable targets, in order to take advantage of fleeting opportunities, or to assist the deployment of their own troops. During the further development of the fight their use by echelons is more likely to occur.

In mounted actions of large commands, on the contrary, the machine gun troop would be better fought as a unit, since if divided into platoons and separated, the longer firing line might hamper the movements of mounted attack. Again the number of firing lines must be reduced to a minimum for the same reason.

Therefore, in purely mounted action of large commands the machine guns had better, generally, be concentrated and under one commander, following the principles for the use of horses in such actions.

Cavalry actions tend nowadays to the use of both dismounted and mounted action. The use of machine guns will, therefore, depend upon circumstances, partly concentrated to a flank to support the mounted aggressive action, and partly occupying most favorable positions to support the dismounted containing attack.

DUTIES OF COMMANDING OFFICER OF MACHINE GUNS DURING ACTION.

In order to intelligently assist with his guns it is most necessary for the commanding officer of machine guns to know the plan of the commanding officer of forces to which

he is attached and the conditions existing. Therefore, the commanding officer of the machine guns should accompany the commanding officer of forces during the first stages of the action. On receipt of battle orders he first chooses the firing position; second, estimates ranges; third, allots targets and decides the kind of fire; fourth, orders the commencement of fire.

In the attack the commanding officer of machine guns should, if possible, make personal reconnaissance of the terrain and route for advance of the detachment. In this the difficulties of the route and protection against sudden attacks must be considered. In retreat the commanding officer of machine guns must remain with the command and send the senior subaltern to the rear to make reconnaissance for new positions.

Initiative.—The commanding officer of the machine guns should not expect orders for every phase of the fight. The cavalry action should be constantly watched, advantage taken of every opportunity to assist, and timely provision made for either a favorable or unfavorable outcome of the fight.

POSITION FOR MACHINE GUNS.

When Cavalry Meets Cavalry.—At time of first advance the machine gun detachment quickly advances to a position, first, to cover the deployment of our cavalry, and then to aid it in its attack; on this account the machine gun commander must frequently act on his own initiative, although the first position would be indicated by the cavalry commander.

Selection of Position.—The position for action would better be selected toward a flank, and in front of the charging cavalry. In this way the fire can be kept up until just before the shock. This may also prevent an enveloping movement of the enemy on this flank. A position protected against direct attack is to be desired, but the consideration of suitability should always outrank that of protection.

The most important consideration of a good position for machine guns with cavalry is not cover, but efficiency of fire.

The Background.—The background of the position of the guns cannot be neglected. The following are good positions:

In front of a dark object or close to thick, low hedge, or in the shadow of thick trees or brush. Avoid positions near which the enemy has fired trial shots or places on a level with it. The selected position should be entered as rapidly as possible. Scouts should cover the flanks but not too far out to lose touch with the guns.

USE OF MACHINE GUNS SINGLY.

If possible, machine guns should always be used in pairs because of their well known tendency to get out of order during the stress of battle. If a *single* gun should get out of order at a critical moment serious consequences might result. For instance, during the advance of the German against Waterburg on August 11, 1904, two machine guns were attached to the advance guard, the Eleventh Field Company, while the rest of the detachment remained with the main body. When it was discovered that the well at Hamakari was held by the enemy the advance guard deployed against it, posting one machine gun on each flank. This separation came near being fatal. After the advance guard had succeeded, with heavy losses, in occupying the first water-hole, the Hereros attacked in force, enveloping the left flank. The single machine gun posted there, due to swelling of the barrel, suddenly failed to act. It was only through the ability and good fortune of the gunner in fitting a new barrel within thirty seconds and again opening fire on the enemy, who had meanwhile reached closest range, that the company was saved from annihilation. The enemy was repulsed with heavy losses. (*v. Beckman.*)

AMMUNITION SUPPLY.

Ammunition must be carefully husbanded. Platoon commanders and the chief of the piece must be carefully trained in this duty. They must especially beware of long ranges and unpromising targets, since the supply of ammunition is used up very rapidly in action.

The ammunition should be as near the gun as the terrain will permit. If over 100 yards distant rapid fire cannot be maintained for long periods. In case pack animals cannot

be brought so close, ammunition only should be brought to the vicinity of the position.

As a rule in battle the resupply of cartridges must be brought forward for quite a distance from the enemy by the men. It would be well to have them supplied with special carrying receptacles, because when close in, they must rush forward at a run or even creep.

When the reserve ammunition is carried in wagons it will often be well, in purely cavalry actions, to leave the ammunition wagons behind in a secure place. The mobility of the machine guns will thus be increased, the occupation of the firing position hastened and possibly firing to the rear less hindered. Moreover, the quantity of ammunition carried with the guns will generally be sufficient for the briefly lasting fire surprises which alone are to be reckoned with in cavalry action mounted.

INTERVAL BETWEEN GUNS IN CAVALRY ACTIONS.

Large intervals between sections are not to be recommended since a very extended line of fire hampers the movements of mounted troops. Moreover, guns should be close enough to support each other. The action at Wan Ching, June 8, 1905, illustrate the advantage of correctly posting the guns to this end. General Samsonoff had two regiments of cavalry, one of which had a Madsen machine gun detachment. This cavalry was directed to protect the left flank against an advance of Japanese. In the dismounted action in which the cavalry become engaged, these four machine guns were so placed that two stood in the center of the skirmish line with an interval between each other of 100 yards, while a gun on each flank was 400 yards distant from the center gun. After the action had lasted some time the skirmishers having suffered considerable losses from the Japanese infantry and artillery fire, withdrew from the lines of the machine guns to a rallying position in the rear. The guns were left to continue their fire alone. They had been posted so favorably under cover of the ground that neither that Japanese infantry nor artillery were able to locate their position with sufficient accuracy to

damage them to any extent. After the action had lasted nearly three hours at this range, the Japanese, having suffered very considerable losses from the Russian machine guns in every attempt to advance, desisted from the attack and withdrew. (*Captain Applin.*)

FIRE.

The effect of a machine gun platoon corresponds, on the average, to that of an infantry detachment of from forty-five to eighty men. Since the dispersion of its fire is small, the destiny of its cone of shots is correspondingly large. With machine guns correct elevation will therefore give greater fire effect but conversely an incorrect elevation a smaller fire effect than the corresponding fire of infantry. It is important, therefore, to determine the range first with a range finder and then to observe the striking of shots through good field glasses and correct the aim accordingly. In country where observation is impossible the fire should generally be distributed in the *direction of depth*, similar to infantry fire with combined sights or zone fire by artillery.

The fire of machine guns is deadly against large and dense targets, such as cavalry in all formations and limbered artillery. Even at long ranges, if the range is well known, good effect in a short space of time can be produced.

Machine guns while exerting their fire power to the utmost should fire for only short periods at a time. Therefore, a *fire surprise* should be the rule, but this fire should be repeated at varying intervals of time whenever favorable targets present themselves. The more unexpected the fire, and the shorter time into which the heavy loss of the enemy is crowded, the moral effect will be immensely greater. This is especially applicable to cavalry actions in which events move swiftly.

EFFECT OF SURPRISE.

In the Japanese attack on Wang-Tchia-Wopang, on March 1st, they had already reached within two or three hundred meters of the Russian position and, considering the garrison as shaken in morale, decided to assault. Suddenly

the Russians opened with two machine guns, concealed up to that time, with the result that the Japanese attack failed completely; the attacking troops turned and fled in downright panic. (*v. Beckman, M. I. D., Trans.*)

The great fire power of machine guns must be economized until the decisive moment of action:

While useless in the destruction of works, villages, forts or similar strong places, they can be employed against weak walls, or in making a breach in a hedge, or in destroying a wooden bridge, or in overthrowing standing trees. (*Heiji Zashi, 1910, M. I. D.*)

Generally the machine gun employs a continuous and unhurried fire against an advancing or retreating target; the gunner should follow the target with the gun in the direction in which the target is moving. When there is a good chance for observation against a target, it is well, in cavalry fights, to correct elevations and direction by means of impact, so as to quickly adjust the gun.

In general, it is not advisable to fire at groups smaller than a troop, since such fire may disclose prematurely the position and the results would not be commensurate to the expenditure of ammunition.

AIM.

This may be:

1. At one point.
2. Lateral sweeping fire.
3. Longitudinal sweeping fire.

The requirements for two and three are a well trained gunner, and that the range be not extreme. Lateral sweeping fire is used against a target of great breadth, such as is a line in close order. The best range for this fire is from four to five hundred yards. At long ranges the results are comparatively poor.

Longitudinal sweeping fire is best used against a target which is rapidly advancing or retreating, or against a deep column, such as a long advancing column of the enemy.

REPULSING A CAVALRY ATTACK.

Machine guns prepared for firing can repulse an attack in superior force by cavalry and the fire effect is greater when the attack is in mass. But against a cavalry attack the laying must be especially sure, the firing calm, and properly distributed along the entire line.

The great speed of cavalry requires that the whole line receive losses in order that no portion of it be permitted to reach the position of the guns.

USE OF MACHINE GUNS WITH ADVANCE GUARD CAVALRY.

When the enemy is encountered unexpectedly, during an advance, the mission of the advance guard often requires it to seize quickly and to hold favorable points to the front. In case the enemy is about as close, or even closer, to the position to be seized as we are, only mounted arms can insure our prior seizure of it. Machine guns in such case are especially valuable because they combine great fire power with mobility. Cavalry and machine guns thrown forward at a rapid gait can compel the enemy to deploy and thus delay his advance long enough to enable our infantry to come up. Moreover, under the protection of cavalry and machine guns there can be sent forward, much earlier than could with cavalry alone, a part of the artillery or even whole batteries. The long range fire of these will force the enemy to deploy still farther back.

WITH THE INDEPENDENT CAVALRY.

Here machine guns increase both the power of attack and defense under all conditions.

To gain any important information of the enemy's main forces, cavalry must beat the opposing cavalry and break through its screen.

In reconnaissance by cavalry the fire power of the machine guns will be able often to break down quickly the resistance of the adversary in occupied villages and defiles. By their aid, it will be often possible to open the way for observation by our cavalry and at the same time make observation by the enemy difficult.

Even the attaching of only a platoon, plentifully supplied with ammunition, to the troop or squadron supporting the reconnaissance or to a detachment entrusted with a special mission, will be often of great value.

Take the case of an independent cavalry division with one brigade in advance from which reconnoitering squadrons have been sent on several roads. The brigade will have sufficient machine guns, under our organization, twelve to eighteen, to enable one machine gun platoon to accompany each reconnoitering squadron and still leave a reserve of machine guns with the brigade.

Let us follow a possible action of one of these squadrons.

As soon as its patrols have developed the enemy in sufficient force to stop their advance, the squadron, in order to gain any further information, must fight for it. Assume that the enemy's cavalry has appeared, driving in our patrols. The squadron would push forward to their support and, being aggressive, would use mounted action, if possible. The squadron commander, accompanied by the machine gun platoon commander, has moved rapidly forward to where he can view the enemy's dispositions. The enemy is also advancing. There appears to be a good place for machine guns on the left front for fire on the enemy's advance. The squadron commander decides to attack at once, enveloping the enemy's flank, away from the machine gun position. He indicates his plan to the machine gun commander and the troop commanders, and order the first two troops to advance to the charge; the third troop to support the first two on the outer flank, the fourth troop following the reserve as directed by the squadron commander.

Screened somewhat by these movements and by such accidents of the ground as do not cause delay, the machine guns have moved rapidly to the left front and go into action against the advancing enemy, ceasing fire, as the opposing lines close in the shock.

From this time on the machine gun commander must use his own initiative and not wait for orders.

If his action has been well timed, and the enemy, has been effectively fired into before the charge gets home, the

enemy's first line will probably be ridden down. In this case the theater of the quickly changing action will move away from the guns and towards the enemy's supporting troops.

This is a case in which even a single machine gun by quickly moving forward to support the victorious cavalry, more or less disorganized even by their success, can, by timely fire on the formed troops of the enemy, clinch a victory, and prevent a probable repulse by these fresh troops.

On the other hand, should fortune favor the enemy, a single machine gun ready to move rapidly to a new position in the rear, to cover the withdrawal of our over-ridden cavalry, while one gun is used from the original position to fire from the flank upon the formed bodies of the pursuers, would probably prove of most value in extricating the cavalry, and in enabling it to reform.

In the purely mounted actions, because of the rapid shifting scene of action, the machine gun commander should have one echelon packed and ready to move as soon as the intermixture of troops causes his firing to cease.

In case the enemy decided to use dismounted action, in the first place another kind of action would result, depending upon circumstances.

A containing dismounted firing line of one troop might be deployed, and one troop, intended as reserve, held mounted while two troops mounted, accompanied by and screening the machine guns, outflanks the enemy, and makes the main attack, supported by machine gun fire, on the enemy's flank or on his lead horses.

Or the machine guns might be used with the firing line, where their fire power would enable a small force to hold the enemy while his position is outflanked by the bulk of the force mounted.

AN INSTANCE OF THE USE OF MACHINE GUNS IN CAVALRY RECONNAISSANCE.

Captain Golochtchanov, who commanded a detachment of six machine guns attached to the Eleventh Orenburg Cossacks, describes a reconnaissance of the Japanese position

made on August 4, 1905, at Sitasi, by the regiment forming the advance guard of Major General Grekow.

"At about 4 A. M. the Russian cavalry attacked the Japanese outposts consisting of three companies of infantry and two squadrons. While waiting for the situation to be cleared up, the machine guns were kept in reserve. Two and then four were sent against the enemy's flank; the Japanese retired from position to position. At 1 P. M. the fight stopped. The Russians had carried three villages and determined the line and direction of the enemy's trenches Their task was accomplished. On the Russian side there were only 100 rifles in the firing line, with four machine guns." (*La France Militaire, April, 1905, quoted by Captain Applin, D. S. O.*)

Machine guns will also find a wide field for their activity in purely cavalry fights under the most varied conditions. The considerable increase in the power of modern firearms has given an increased importance to fighting on foot for cavalry, although it will be hardly the rule as was the case in the Russo-Japanese War. Machine guns give to the cavalry a great addition to its fire power which will enable it to carry on a dismounted fire fight with small forces and keep the bulk ready for the charge or for dashing forward unexpectedly against the enemy's flank while he is occupied with the fire in his front.

The use of the greatly superior Russian cavalry, however, in the Russo Japanese War, shows the *futility* of depending on *cavalry* which relies on *fire action alone*. The Russian cavalry again and again, when opposed by the inferior Japanese cavalry, dismounted to fight, and thus became immobile.

Life in the rear of the Japanese army in spite of the presence of some 30,000 hostile horsemen in the field of operations, was, according to the *London Times* correspondent, "a sinecure, a positive *dolce far niente*, undisturbed even by the distant flash of a saber." He says, "it is because the Russian cavalry, armed as it is with rifle, and shade of Seydlitz, bayonet, is trained to fight only on foot, thereby throwing away its most valuable weapon, mobility, that it has

proved no more effective in the field than a flock of sheep." (*Captain Applin.*)

On the Japanse side the machine guns attached to General Akijama's cavalry brigade were advantageously employed in the reconnaissance actions which preceded the fights at Wa Fan Gou. In this battle itself on the east wing at Tschen-Tsia Tun, on June 15, 1904, the cavalry and machine guns were again used successfully just in the nick of time.

FOR THE PROTECTION OF ARTILLERY.

Another use of machine guns in a cavalry fight is to have a platoon, for instance, protect the artillery. This makes it possible for the cavalry to throw in its whole force. Moreover, this allows the artillery greater freedom in the choice of position. Consequently the effect of the artillery in its support of the cavalry fight would be greatly increased. In case of a favorable result the artillery thus protected, can change position forward, pursue the enemy with fire and prevent him for rallying. In case the attack be unsuccessful the machine guns, as well as the artillery together, could delay the enemy's pursuit either from the first position or from a position in rear, thus assisting the cavalry in breaking away from the enemy and rallying. In such case it may indeed happen that the machine guns must be sacrificed in whole or in part. They would, however, have paid for themselves.

The cavalry leader, under manifest necessity or to save a body of troops, when other means fail, must not hesitate to sacrifice the machine guns. Machine guns are nothing more than an incomparably good auxiliary material for the cavalry leader to use in carrying out his mission. It must not be forgotten, however, that the cavalry which places too much reliance in machine guns loses its value as cavalry.

MACHINE GUNS VS. ARTILLERY.

Machine guns must take every precaution to keep from being discovered and fired on by artillery, since at long range artillery defeats machine guns. The only occasion in

which modern artillery with protective shields can be engaged successfully by machine guns is when a flank or oblique fire at short ranges from a concealed position, occupied unperceived, can be opened unexpectedly on the artillery.

CAVALRY WITH MACHINE GUNS ON THE BATTLEFIELD.

Because of the great extension of modern battlefields it often happens that only mounted troops can be massed at the decisive points quickly enough either to utilize fleeting, favorable opportunities for attack or to avert an unexpected threatened danger. For instance, to attack unexpectedly the wing of the flank of the enemy, the swift and sure arrival at the position and the unexpected and energetic opening of the action, will frequently be possible only for mounted troops combining great artillery and infantry fire effect with great mobility. Cavalry with machine guns and horse artillery will be the very arms for this purpose. Consider for a moment how valuable machine guns would have been to Sheridan's cavalry in 1864, when he seized Cold Harbor, and against Five Forks and in the rest of his movement around the Confederate flank ending at Appomattox.

WITH THE CAVALRY IN A DEFENSIVE BATTLE OF ALL ARMS.

While machine guns are very valuable on the firing line, it is believed to be well to keep a certain number of them as a mobile reserve with the cavalry. Such a force would be most valuable against enveloping movements, especially those made against the flank opposite from where the bulk of the reserves are placed. Such a force could also be pushed out to the front of a defensive position to make the enemy deploy and disclose his forces, as well as to delay his advance.

Machine guns used in connection with cavalry will be very valuable also pushed to a considerable distance against the attacker's line of communication.

FINAL PHASE OF THE BATTLE.

Pursuit.—In case of favorable outcome, there follows the pursuit of the broken enemy with fire and the crumbling up

of those who continue resistance. Here is the opportunity for the cavalry division or brigade which has kept its attached machine guns during the battle. They will have a chance to get into action on one of the numerous duties that fall to cavalry both during and after the battle.

Machine guns which advance with the cavalry and artillery against the flanks and the rear of the retreating enemy can conspicuously contribute to the clinching of the victory.

To Cover a Retreat.—Should the battle result unfavorably machine guns can, together with cavalry and artillery, delay the pursuit of the enemy and thus enable the infantry to disengage itself from the enemy and continue the retreat uninterrupted. When the march formation has been successfully taken up the machine guns will be attached to the rear guard to again delay the enemy at suitable points and thus increase more and more the distance between the enemy and the main body. In such case the machine guns could well serve as protection to the artillery. Their own fire action might be limited to exceptional cases because, if possible, the action would be at artillery range.

A particularly effective use of machine guns at the time of a retreat is to have them quickly occupy a covering position on a flank. Because of their mobility they can remain longer in this position than infantry or artillery, and still get away.

"In the conduct of war one is obliged to instruct oneself through the experience of others. Our own experience costs too dear or indeed arrives too late. (*Lieutenant General Charles de Weyde, Russian Army.*)

EXAMPLES OF USE OF MACHINE GUNS WITH THE CAVALRY IN THE BATTLE ON THE SHA-HO.

The Russian cavalry south of the Tai-tsy-Ho had resumed their former position at To-Ka Ho-Shi on the forenoon of October 12th, when the Second Japanese Cavalry Brigade (Prince Hanin) got in their rear unobserved at Dao-Dia-Shan. The Japanese leader unexpectedly fired at the Russian reserves with machine guns and carbine with

disastrous results for the Russians. (*Battle on the Sha-Ho, translation by Carl von Donat, p. 62.*)

Sir Ian Hamilton describes this action, more in detail, as follows:

"On the 11th, Prince Kanin, with his Second Cavalry Brigade and six Hotchkiss machine guns, arrived at Chao Tao. Rennenkampf's 1,500 Cossacks with their battery of horse artillery hung about between Pen-Chi-Ho and Chao Tao. At 3 A. M. on the 12th, Prince Kanin marched on Pen-Chi-Ho. He had a skirmish at the Sen Kin Pass, driving the Cossacks back northwards. The Russians in their attack on Pen-Chi-Ho had been trying to envelop the place, and their extreme left had worked around along the river Tai Tsu, due south of the defense lines, so that on the extreme Japanese right the defenders were thrown back like the lower part of a letter S along the tops of the mountains, whose slopes ran down into the river, whilst the Russians with their backs to the river and their faces to the north, were half way up the slope, still endeavoring to effect a lodgement on the crest line. The Cossacks driven from Sen Kin Pass still interposed on the Tsai-Tsu-Ho, between the advancing Japanese cavalry and the Russian infantry, who on the northern bank were busily engaged with the Japanese defenders at Pen-Chi-Ho. As Prince Kanin approached, however, the Cossacks shifted their position to the east, still covering their unconscious infantry so far as to prevent the Japanese cavalry from attempting to cross the river, but leaving some high ground on the southern bank within effective rifle range of the Russian camp on the side of the river, open to them. Prince Kanin is not the sort of a man who would miss good chances, and he unhesitatingly seized the opportunity. Stealthily maneuvering his six machine guns into position on a high and broken spur which ran down to the water's edge, he suddenly opened a terrific rain of bullets upon two Russian battalions who, at half past eleven, were comfortably eating their dinners. In less than a minute hundreds of these poor fellows were killed and the rest were flying eastward in wild disorder. The next moment the machine guns were switched onto the Russian firing

line, who, with their backs to the river and their attention concentrated on Pen-Chi-Ho, were fighting in trenches about half way up the slope of the mountain. These, before they could realize what had happed, found themselves being pelted with bullets from the rear. No troops could stand such treatment for long, and in less than no time the two brigades of Russians, which had formed the extreme left of Stakelberg's attack were in full retreat. According to the Japanese the machine guns accounted for 1,300 Russians." (*A Staff Officer's Scrap Book.*)

According to "The Battle on the Sha-Ho," Von Donat's translation, Rennenkampf's infantry and the Third Siberian Army Corps completely exhausted, broke off the actions and began to retreat without superior orders. The former along the Tai-Tsi-Ho, the latter in the direction of Kan-To-Linn Pass. The headquarters of the Third Siberian Army Corps spent the night 12–13 as far in rear as at Lia-Kia-Wo-Pōn. The Japanese infantry were so tired that they did not observe this withdrawal in the evening at all. Prince Kanin remained at Dao-Dia-Schan, the battlefield, but his patrols hung on the next day to the retreating Russian right wing. Rennenkampf had thirteen battalions, sixteen sotnias of Cossacks and thirty guns.

According to Kuropatkin, Stalkenberg's "eastern force" of which Rennenkampf's command was a part, was almost three times that of the Japanese forces opposed to it. But he says that he ordered Stalkenberg's eastern force to withdraw towards the center force because it was thirteen miles to the front. (*Russian Army and the Japanese War, p. 245–6.*)

The action of Akijama's brigade in the battle of Wa-Fang-Hao halted the attack of the Second Brigade of the Thirty-fifth Russian Infantry Division, commanded by Major General Glasko. Akijama's action relieved from a most critical situation the Third Japanese Division, who were in danger of having their right enveloped by the enemy's advance. Soon after when the eastern flank of the Russians was compelled, on account of the general situation on the battlefield to retreat, the Japanese cavalry brigade pursued energetically and even forced the opposing rear

guard out of their strong position at Tai-Tsy-Atum. All this was dismounted action and the losses that the Japanese Cavalry suffered was strikingly insignificant. (Captain Count Wrangel, Austro-Hungarian Cavalry, as quoted by C. J. B. Hay, in *Journal United Service Institution of India, July, 1908.*)

The Militar Wochenblatt of May 11, 1907, referring to this same fight has the following: "It is extremely doubtful whether the Japanese cavalry brigade under Akijama, which by its timely intervention at the battle of Wa-Fang-Kao, saved the sorely pressed right wing of the Japanese infantry by dismounted action and brought the fight to a stand still (not, however, by its carbine fire, but by its machine guns) could not have done even better. Could it not have decided the battle, after a thorough preparation with machine guns, be delivering a mounted charge in conjunction with the remaining divisional cavalry, which had also dismounted in order to fight on foot, but by doing so had gotten into great difficulty. (*Journal United Service Institution of India, January, 1908.*)

The exploit of Lt. Stepanenko of the One Hundred and fortieth Zaraisk Regiment. This regiment was holding a nameless village near Khakhountai and Chandiasa on the west from Mukden when it was attacked on the morning of February 23d. The Japanese were allowed to get to 500 yards when fire from rifles and two machine guns opened on them. The dense lines of the enemy fell back in disorder towards Chandiasa leaving heaps of dead and wounded on the field. Part of the repulsed Japanese, however, took refuse in a Chinese cemetery near the village and later took the Zaraisk regiment in flank with rifle fire.

Lieutenant Stepanenko asked and received permission to take sixty volunteers from his own detachment of scouts and drive out the Japanese. By sending ten men in front to fire on enemy and attract his attention, he managed to get the remainder of his force close to the cemetery where, by getting cover for part of his men, he was enabled to charge the rear of the Japs with the bayonet with a part of his force, while they were lying down expecting the fire of the rest of

his force. He had prearranged that when he gave the preparatory command "company!" to make the Japs expect a volley, the detachment would at once charge with cold steel.

The Japs were dumfounded at this unexpected charge and when the rest of the sixty also charged with cold steel, a panic took possession of them and their officers, even by beating them with the flat of their swords could not hold them.

The regiment and machine guns were waiting for the moment of Japanese retreat, with the result that fourteen officers' swords, 400 rifles and eighty-five unwounded prisoners were the trophies of this exploit which won the St. George Cross of the fourth class for the lieutenant. (*From Captain Carey, R. A., United Service Institution of India, January, 1907.*)

A similar method of charging the enemy's flank or rear while holding him down by fire in front, and supplementing the fire effect by the use of machine guns would be especially valuable for combined mounted and dismounted action of cavalry.

INSTANCE OF USE OF MACHINE GUNS AGAINST THE THREE ARMS.

A Russian, evidently an officer, has described the role played by his machine gun company at the Battle of Liao-Yang. During the night of August 29–30, the company occupied a position on the southern edge of the village of Grutsiatsi, with the railway line to its left, at 400 paces, and behind this the heights of the Liao-Yang position. In front of these heights was the village of Maietoun, with two hills south of the village. Both the heights and the village were occupied by a regiment of infantry. In front, to the south of the village of Groutsiatsi the Kaoliang has been cut down for 900 paces.

"On August 30th, about 10 A. M., a few cavalrymen appeared along the railway line and having been fired upon from the fill, took cover in the kaoliang east of the line, where their movements could be easily followed. At a spot where the kaoliang was less thick for a distance of from 1,250 and 1,300 paces from the machine guns, the cavalrymen were

plainly seen and behind them a lot of horses appeared, evidently a mountain battery trying to advance without being seen so as to attack the infantry regiment in the rear.

"The machine guns opened fire, sweeping progressively the ground from right to left and from rear to front. The battery endeavored to take shelter in another part of the kaoliang, but it was too late and everything that moved fell under a shower of bullets. 6,000 cartriges were spent, but the expenditure was well justified by the results. A minute and a half after opening fire there was no longer anything to fire at.

'About noon it was discovered that the Japanese were sending men one by one across the railway. We opened fire by gusts at various ranges with a sweeping action. Darkness having come, the Japanese sharpshooters began to approach to a very short distance and till dawn they pelted us with an incessant fusillade which, however, did not do much damage.

"When daylight came each machine gun fired a band of ammunition in order to clear up the kaoliang in front of us, whereupon for half an hour there was complete calm. Then a few sharpshooters began to snipe at us from behind the piles of kaoliang. Our men, annoyed by these sharpshooters, asked for permission to give them a bayonet charge. Fifteen men, taken from the orderlies and the horseholders, with a non-commissioned officer, went out.

"The Japanese, about twenty-five in number, also came out to meet our men. A hand to hand fight ensued which lasted but a few minutes and ended with the defeat of the Japenese. After this fight we were let alone for two hours which gave us much needed rest. Then a group of Japanese appeared at a little railway bridge, one of whom began to make signals by means of a yellow flag. Our sharpshooters endeavored in vain to dislodge them. The distance was 1,500 paces. Whereupon we fired a volley with the machine guns, one of the pieces having a range of 1,480 paces and the other 1,500. This stopped the signaling. At 5 o'clock lines of riflemen began to appear in the kaoliang, their object being to turn our right flank near the village of Baitsaalaogonavo,

where the kaoliang was still standing. This made us fire frequently at a road leading to the village of Datchao.

"It was on the 31st, at 8 P. M., that the Japanese decided to drive away the machine guns from the village of Goutsiatsi by means of their artillery.

"A battery took position at the village of Datchaosiatsi and sent upon us a rain of shell and shrapnel. We had many losses and night only delivered us from the enemy's fire, to which we were unable to reply on account of the distance. At 9 P. M I received the order to evacuate the position.

"During the two days' fighting we spent 26,000 rounds and had thirty per cent of the men actually serving the pieces killed and wounded, but our instructions to prevent the Japanese from taking the rear of the Maietoun position had been effectively complied with.

"Up to a distance of 1,500 paces the company of machine guns had given better results than the line of riflemen.

"Thanks to its rapidity of fire it placed hors de combat a mountain battery in a few minutes.

"It absolutely prevented the Japanese riflemen from taking up a position behind the railway embankment.

"It cleared easily the edges of the kaoliang from Japanese sharpshooters. *On the other hand the machine guns were helpless against field artillery, from whose fire they could find no shelter.*

"This confirms very positively the impossibility for the machine guns to take the place of artillery." (An article published in the *Rousski Invalid*, translated from "*la France Militaire*" of November 15, 1904. M. I. D.)

The "*Rasviedokik*," according to *Internationalen Revue Armeen und Flotten*, October, 1906, M. I. D., reports this company as belonging to the First Siberian Corps, at the battle of Lia-Yang, and continues as follows: "The commander received the order of St. George, fourth class, and the men received ten crosses of St. George."

THE CHILIAN ARMY.

APPOINTMENT, CLASSIFICATION AND PROMOTION OF ITS PERSONNEL.

By Lieutenant FRANCES A. RUGGLES, Eleventh Cavalry.

LAWS AT PRESENT IN FORCE AND PROPOSED CHANGES.

CLAIMING that the present laws upon the subject are antiquated and faulty, the Chilian War Department has recently submitted to the approval of Congress two bills, each classifying the personnel of the army and regulating its appointment and promotion.

In order to understand the nature of the reforms suggested and what evils they are supposed to remedy, it is necessary to study first the existing regulations, second the objections to these, and third the new measures which are intended to obviate the objections.

EXISTING REGULATIONS.

In accordance with the promotion law of September 3, 1890, as slightly amended by the pay bill of September 7, 1906, and as applied by executive decrees, officers and enlisted men are classified, appointed and promoted as follows:

Officers:

All officers are appointed by the President of the Republic. The nominations of general officers and colonels only require the confirmation of the Senate. Officers are divided into two classes as follows:

1. *Line and General Officers:*

This class includes general officers and those of cavalry, field and coast artillery, infantry, engineers and special troops (wagon train and railway). The general staff and

the ordnance and inspector departments are composed of detailed line officers.

2. *Military Employees:*

a. Having assimilated military rank.

This group comprises officers of the supply, medical and judge-advocate departments.

b. Without military rank.

Includes chaplains, military storekeepers, veterinarians, chemists and skilled mechanics or artificers.

Line and General Officers:

The following are the grades of rank of line and general officers:

1. General of division.
2. General of brigade.
3. Colonel.
4. Lieutenant colonel.
5. Major.
6. Captain, first class.*
7. Captain, second class.*
8. First lieutenant.
9. Second lieutenant.

Generals of divisions and of brigades are called "general officers." Colonels, lieutenant colonels and majors are denominated collectively "chiefs" (jefes), and captains and lieutenants "officers."

Vacancies:

Vacancies in the various grades are produced by promotion, by death or other casuality and by the operation of the "age for grade," retirement law of September 9, 1907, which must be considered in connection with the present subject. This law provides that (with certain exceptions of officers who have held supreme command of troops in the

*Class distinction of captains affects pay only.

face of the enemy), officers shall for each grade be retired upon attaining the following ages:

Generals of division, sixty-three years.
Generals of brigades, sixty-one years.
Colonels, fifty-eight years.
Lieutenant colonels, fifty-five years.
Majors, fifty years.
Captains, forty-five years.
First lieutenants, thirty-five years.
Second lieutenants, thirty years.

Officers retired under the provisions of the foregoing receive as pay as many fortieth parts of the active pay of their grade as they have years of service, including service at the military academy. Should they have the necessary qualifications for promotion, (as will be seen later, seniority is not necessarily one of them), their retired pay is computed on the basis of that of the next higher grade.

Officers retired for disability occasioned in war, campaign, or in acts directly incident to the performance of duty, have their retired pay commuted as in the case of those retired for age.

Officers retired as a result of being one year on disponibility, (a condition resembling suspension), or on account of disability not directly incident to the service receive as many fortieth parts of seventy-five per centum of the active pay of their grade as they have years of service. Those retired by direction of the President of the Republic for inefficiency have their pay commuted taking as a base fifty per centum, instead of seventy-five or 100 per centum, of the active pay of their grade.*

Vacancies in the grade of second lieutenant are filled by the appointment of graduates of the military academy only.

A cadet at the military academy, in order to be commis-

*There have been very few cases of retirement for inefficiency. This method of getting rid of undesirable material has usually been resorted to only in the cases of first lieutenants who have twice failed to pass the examination for promotion, and of officers who by means of drink, of failure to meet their pecuniary obligations, or by moral character are unfitted for their positions.

sioned a second lieutenant, must be at least eighteen years of age, physically sound, have taken the general course of five years, and have successfully passed the final examination, or have taken the special course of one year and passed the final examinations. In order to fill the many vacancies in the grade of second lieutenant which remain after providing for the graduates of the regular course, the President has from time to time created special courses at the military academy, of one year's duration in which theoretical and practical instruction, strictly military, is given. The cadets of these courses are composed of officers of reserves, young men who have served the conscription period of one year with troops, as "aspirants for commissions of reserves", and civilians of less than twenty-one years of age, who have taken the sixth or last year's course in the secondary schools or who pass an entrance examination.

Promotions:

Officers are promoted to fill existing vacancies only. Vacancies in the various grades between first lieutenant and general of division, inclusive, are filled by the promotion of officers of the next lower grade who are eligible, in the following manner:

Between Firt Lieutenant and Lieutenant-Colonel Inclusive:

By the promotion, part by seniority and part by "merit" *i. e.* selection, of officers of the same arm of the service as that in which the vacancy occurs as follows:

a. To first lieutenant and captain, two-thirds by seniority and one-third by "*merit.*"

b. To major and lieutenant colonel, one-third by seniority and two-thirds by "*merit.*"

The requirements for eligibility for promotion to vacancies in these grades are:

To First Lieutenant:

Service as a second lieutenant for at least two years, all of which must have been on duty with troops.

To Captain, Second Class:

Service as first lieutenant for at least three years, two of which must have been on duty with troops, and the attaining of a per centage of fifty in a practical and theoretical examination in military art to determine fitness for promotion.*

To Captain, First Class:

Four years' service as a captain, second class.

To Major:

Being a captain, first class, and having served at least one year as a captain, first or second class, with troops.

To Lieutenant Colonel:

Service as a major for at least four years.

Vacancies in the Grade of Colonel and General of Brigade:

By the promotion of the senior officer in relative rank of the next lower grade, whatever his arm of the service, provided he has served in that grade at least four years.

This method of filling vacancies in the grade of colonel undoubtedly causes inequalities in the number of these officers among the different arms, thus, if a vacancy occur among the colonels of cavalry and the senior lieutenant colonel in relative rank is an infantryman, he would be promoted, becoming an extra number, and the vacancy of colonel in the cavalry would remain unfilled until the senior lieutenant colonel of that arm became senior to all lieutenant colonels of the other arms and a new vacancy in the grade of colonel occurred. It is claimed, however, that this method of promoting lieutenant colonels adjusts itself and causes no inconvenience, as the duties of colonel can, in their default, be as efficiently performed by lieutenant colonels.

Vacancies in the Grade of General of Division:

By the promotion of the senior general of brigade, whatever his length of service in that grade.

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*Examination to determine fitness for promotion is required only for the grade of captain, second class. A first lieutenant may take this examination at any time he elects. It is not necessary to be one of the seniors in his grade.

MILITARY EMPLOYEES.

1. *Supply Department:*

The duties which, in our service, devolve upon the quartermaster, subsistence and pay department are in the Chilian army united and performed by the "Departmento Administrativo," or Supply Department, whose chief is usually a general of brigade or line officer of the rank of colonel. The subordinate officers are classified collectively as "employees of military administration," have assimilated military rank and receive a special rate of pay.*

* * * * * *

2. *Military Judge Advocates:*

There are two grades as follows:

a. Judge Advocate General of War,† with the assimilated rank, pay and allowances of colonel.

b. Judge Advocates of Division, with the assimilated rank, pay and allowances of lieutenant colonel.

3. *Medical Department:*

Officers of the medical department have assimilated rank and receive a special rate of pay. The following are the grades:

a. Chief Surgeon or Surgeon General of the Army, with rank of colonel.

b. Major Surgeon, division chief medical officer, with rank of lieutenant colonel.

c. First Surgeon, regimental surgeon, with the rank of major.

d. Second Surgeon, regimental or separate battalion or company surgeon, with the rank of captain.

* The different grades are from lieutenant colonel down to second lieutenant.

† The Judge Advocate General of War is a chief of section in the department of justice and recompense, in the ministry of war, whose chief is a general officer.

Military Employees Without Rank:

1. Veterinarians.
2. Chaplains.
3. Military storekeepers.
4. Chemists.
5. Skilled mechanics or artificers.

Promotion of Military Employees:

Although strictly construed, the promotion and retirement laws in force relate only to line and general officers, the government has, in the absence of special legislation, applied them as far as possible to those military employees having assimilated military rank. In other words, officers of the supply, medical and judge advocate departments are for each grade, according to their assimilated rank, retired upon attaining certain limiting ages. Vacancies are filled by the promotion of officers of the next lower grade only, conforming to the regulations governing the advancement of line officers, *i. e.*, part by seniority and part by selection, subject to the minimum length of service in each grade, see under "Promotion" pages four and five, this report.

Military employees without rank are promoted by seniority.

Conscripts, Enlisted Men and Non-commissioned Officers:

The following are the grades of rank of enlisted men:
First sergeant.
Vice-First sergeant.
Second sergeant.
First corporal.
Second corporal.
Contracted or Line soldier, private.
Conscripted soldier, private.

Farriers, blacksmiths, mess sergeants, hospital stewards, drum-majors, musicians, enlisted artificers and veterinarians, non-commissioned officers of the supply department, etc., have assimilated rank, varying according to circumstances from that of second corporal to that of first sergeant. The duties which, in our service, devolve upon regimental and

battalion non-commissioned staff officers are performed by detailed sergeants. The highest non-commissioned grade is that of first sergeant.

Conscripts:

Serve one year as privates, except when performing their military service as "Aspirants for Commissions of Reserves" in which case they are, after a certain time, appointed supernumerary non-commissioned officers.

Contracted or Line Soldier:

Are enlisted for three years. In order to be a contracted soldier, a man must have already performed his military service of one year as a conscript.

Appointment and Promotion of Non-Commissioned Officers:

A military academy for the education of young men to serve as non commissioned officers in the army was organized in Chili in 1908. The course is of three years duration and the first class will be graduated in 1911.

Vacancies in the grades of first and second corporal will be filled by the appointment, by the Minister of War, of graduates of this institution. Vacancies in the higher non-commissioned grades will be filled by the promotion of these men.

At present, in default of graduates of the school, non-commissioned officers are appointed from enlisted or contracted soldiers. Vacancies between the grades of second corporal and first sergeant inclusive, are filled by the promotion from the next lower grade of men who have served in it at least six months. Appointments and promotions are made by the regimental upon the recommendation of the the company commander. No one is appointed a non-commissioned officer who cannot read and write.

Objection of the Chilian War Department to the Present System of Promotion:

These are based on twenty years experience and are as follows:

1. The present age for grade retirement law does not insure a sufficient flow of promotion, especially in the grades of captain, major and lieutenant colonel.

2. There is little or no provision for the elimination of the inefficient, and, in consequence, unqualified officers can reach the higher grades by patience and health alone.*

3. "The frequent wrongful use of 'promotion by merit' causes injustice and consequent demorilization."†

4. "The laws favor negligence, especially in higher grades. There being no system of elimination, nothing forces the higher officers to keep themselves mentally and physically fit for their positions."‡

5. "The present state of affairs is derogatory to discipline." "As the higher grades are often filled by incompetent officers their better instructed and more efficient juniors have an ill concealed contempt for them, which reflects it's influence upon entire commands."

6. "The law does not embrace all of the personnel of the army." "Nothing is said about the medical corps, employees of military administration (supply officers) and lower elements of the army."

GENERAL REMARKS.

In considering the foregoing regulations, there appear to be certain features of value, which, if adopted in our service, could not but prove beneficial. These are the following:

1. *The Age for Grade Retirement Law:*

Although the Chilian War Department is of the opinion that this is not sufficient to prevent stagnation, it certainly produces a constant and far greater flow of promotion than exists in our service. It's advantages are obvious It prevents the evils of stagnation, and allows officers to arrive in

*This is true because there is but one examination for promotion required, that for captain, and even if several times overslaughed an officer will finally be promoted by seniority to lieutenant colonel, from whence to major general advancement is by strict seniority.

†After a fair trial of over twenty years and notwithstanding the strictest regulations tending toward justice, it is claimed that "promotion by merit' means "promotion by influence."

‡This is practically a repetition of objection No. 2.

higher grades, after sufficient years of experience, but young enough to be physically fit to perform their duties. That the adoption of a similar measure in the American army would increase it's efficiency cannot be denied.

2 *The provisions requiring a minimum fixed permanence in each grade before promotion and that vacancies in the various grades shall be filled by promotion from the next lower grade only:*

These measures effectually prevent such wholesale overslaughing as that occasioned, in our service, by the promotion of captains to be brigadier-generals, which while it may have had fortunate results in individual cases, even those favored ones acknowledge, is wrong in principle and demorilizing to to the army at large.

3. *The special courses at the military academy and the provision requiring that all second lieutenants be appointed from graduates of this institution:*

This tends toward making the instruction of officers homogeneous throughout the army. It is thought that benefit would result to our service if, before receiving their commissions, second lieutenants appointed from the ranks and from civil life were given a special course of one year at West Point.

4. *The "Supply Department":*

It would be a step toward simplicity if our quartermaster, subsistence and pay departments were consolidated into a single one.

5. *The Military Academy for Non-commissioned Officers:*

It is justly expected that great benefit will be derived from this school, and that there will be obtained, through it's influence, a body of non commissioned officers but little inferior in practical military training to the officers. It is also expected that the control of the former over the enlisted soldiers and conscripts will thereby be increased.

The writer is of the opinion that, if a similar method of providing non-commissioned, modified if necessary to suit

special conditions, were adopted in the Amerian army that it would operate to increase efficiency.

Selection:

While it cannot be denied that, if impartial, promotion by selection or a combination of seniority and selection is the ideal for an army, still it is a significant fact that, after twenty years' experience, the Chilian War Department has come to the conclusion that justice is impossible. Regulations by means of which the inefficients would be eliminated and the brilliant officers rewarded, without injuring the efficient ones, would appear to solve this problem. It is with these aims in view that the new promotion laws for the Chilian army have been drafted.

NEW PROMOTION LAWS UNDER CONSIDERATION.

Of the two bills presented to Congress, with a view of correcting the evils caused by the present system of promotion, the first but modifies the existing state of affairs while the second makes radical changes by revoking the retirement law, prescribing elimination, and by fixing a limit of time for permanence in each grade. Both bills make provisions for the staff departments and for rewarding extraordinary merit. Their provisions are as follows:

First Bill:

"*Proyecto de Lei que determina El Personal que compone El Ejercito-Sus Nonbramientos i Assensos.*" (Project of a law specifying the personnel of the army, its appointment and promotion.)

Article 1:

The individuals belonging to the army are designated "military men" and are the following:

a. Officers and enlisted men.

b. Military employees.

Article 2:

Belonging to the first group (*a* of Article 1) are:

1. Officers of the line.

2. Officers of the Sanitary Service.

3. Higher officers of the Supply Department.

4. Non commissioned officers and those having that assimilated rank.

5. Soldiers, privates.

Article 3:

Officers are divided into four classes, viz:

1. *General Officers:*

a. General of Division.

b. General of Brigade.

2. *Superior Officers:*

a. Colonels.

b. Lieutenant colonels.

c. Majors.

3. *Captains.*

4. *Subaltern Officers.*

a. First lieutenants.

b. Second lieutenants.

Article 4:

Officers of the sanitary service will include those surgeons between the rank of first lieutenant and general of brigade.

Higher officers of the supply department are those from major accountant to military intendent inclusive, with rank from major to colonel.

Article 5:

Non-commissioned officers are divided into two classes as follows:

a. Non-commissioned officers of the first class.

1. First sergeant.

2. Ensign.

3. Vice-first sergeant.

b. Non-commissioned officers of the second class.

1. Sergeant.

2. First and second corporal.

Article 6:

The class of "soldier" is composed of the following:

a. Aspirants for commissions of reserves.

b. Cadets.

c. Students at the non-commissioned officers schools.

d. Enlisted or contracted soldiers.

e. Volunteer soldiers, those though not drafted, volunteer to perform their military service.

f. Conscripts.

g. Soldier workmen, (laborers).

Article 7:

The following belong to the class of "military employees:"

a. Judge-advocates and chaplains.

b. Employees of administration, (junior officers of the supply department).

c. Professors of swordsmanship and masters of arms.

d. Veterinarians.

e. Artificiers.

f. Military storekeepers.

g. Military pharmacists or chemists.

Those who, belonging to neither class of officers, officers of the sanitary service, higher officers of the supply department, nor to that of "soldier," are nevertheless in the service of the War Department with the "character of officer" are also "military employees."

Article 8:

All employees of the army, not included in the foregoing article (7) but whose employ is provided for in the appropriation bill, or in the special regulations fixing the strength of the army in case of mobilization, are civil em-

ployees and have the same character as other employees of the public service.

Their rights, attributes and duties are provided for in general laws or in the special regulations which establish this employment.

APPOINTMENTS.

A. Of Officers and Soldiers, Individuals in the Rank.

Article 9:

The nominations and promotion of officers shall be made by the President of the Republic in accordance with the provisions of this law. Those of individuals in the ranks will be made by the proper military authority pursuant to the requirements of special regulations.

Article 10:

Officers shall enter the army in the grade of second lieutenant. Individuals of the ranks enter in the grade of soldier (private).

The following shall be appointed "ensigns" of the army and enter the "military course" (fifth and last year) of the Military School for a period of one year:

1. Those cadets who have taken the "general course" (first four years) at the Military School and have successfully passed the required examinations.

2. "Aspirants for Commissions" who have satisfactorily served four months in the ranks and have successfully passed an examination on the subjects given in the sixth year's course in the arts or mathematics.

Those ensigns, at least eighteen years of age, who have taken the "military course" at the Military School and have successfully passed their final examinations, shall be appointed second lieutenants.

B. Of Officers of the Sanitary Service.

Article 11:

The officers of the sanitary service shall be the following:

a. General of the Brigade, doctor, who shall be the director of the service.

b. Colonel, doctor.

c. Lieutenant colonel, doctor.

d. Major, doctor.

e. Captain, doctor.

f. Lieutenant, doctor.*

The above named officers shall have the rank, pay and allowances, retired pay and pensions corresponding to those of "officers" of the same grade in the in the army. They shall be subject to the laws and regulations in force in the military service.

Officers of the sanitary service shall be promoted by strict seniority, subject to the requirements that they show themselves worthy of performing the duties of the next higher grade, that they have good efficiency reports, and prove their capabilities annually by theses or by solving problems connected with their service.

Article 12:

In order to be appointed a lieutenant doctor it is necessary to have the degree of batchelor of medicine, to have performed one's military service for a period of least six months (under the compulsory military service law) and in addition to fulfill the other requirements laid down in the special regulations upon the subject.

In order to be appointed captain doctor it is necessary, in addition to the foregoing requirements for lieutenant doctor, to have the degree of medical surgeon.†

C. Of Superior Officers of the Supply Department.

Article 13:

Superior officers of the Supply Department shall be those having the following grades:

a. Military intendant with the rank of colonel.

* Whether first or second lieutenant is not clear, presumably first lieutenant.

† It would appear from the above that one could enter the sanitary service directly as a captain doctor instead of commencing in the grade of lieutenant doctor. Had this not been intended the bill would have read: "In order to be be promoted captain doctor, etc.," instead of " * * * to be appointed * * * etc."

b. Intendant of division with the rank of lieutenant colonel.

c. Major-Accountant with the rank of major.

These officers shall have the right to the retired pay and to the pensions corresponding to their grades in the army, and shall be subject to the laws and regulattons in force in the military service.*

Article 14:

The requirements for promotion from the grade of major-accountant to that of intendant of division and thence to military intendant are:

Six years' service in the immediate lower grade, good efficiency reports, and to have given proof of aptitude and ability by means of annual theses or the solving of problems connected with the supply service.

D. Of Officers of Reserves.

Article 15:

The requirements for appointment as an officer of reserves are the following:

a. To have performed the compulsory military service as an "aspirant for a commission as an officer of reserves" for a period of one year and to have been appointed during this time a corporal at the end of the first six months and a sergeant at the end of the year.

b. To have performed a supplementary period of services of four weeks as vice-first sergeant of reserves.

c. To have successfully passed before a board of officers, appointed by the division commander, an examination to determine fitness for the grade of officer.

E. Of Military Employees.

Article 16:

Military employees shall have the "character" of officers with the obligation of wearing the uniform on duty. They

* It will be remarked that the bill does not give these officers the pay and allowances of the corresponding grades in the line. This is undoubtedly an oversight.

shall have the right to the retired pay and the pensions equivalent to their grades. Their pay shall be such as the law especially assigns to them. They shall be subject to the laws and regulations in force in the army.

Article 17:

The appointment to a post (*i. e.* necessarily the lowest grade) of military employee shall be always as a result of a competitive examination.

The Minister of War will fix the time and the form of these examinations.

Article 18:

The corps of employees of administration, (junior supply officers) shall have the following grades:

a. First accountant with the "character" of captain.

b. Second accountant with the "character" of first lieutenant.

c. Third accountant with the "character" of second lieutenant.

In these grades are included all the employees of military administration necessary for the proper service of pay, subsistence, clothing and quarters for the army, in time of peace or war.

Article 19:

The requirements for appointment as third accountant are:

a. Two years service with troops as a first class or assimilated first class non commissioned officer and to have passed through as an "aspirant for accountant" a six months course of instruction in all the branches of the supply department.

b. Having successfully passed before a board of officers, appointed by the Minister of War, an examination to determine fitness for appointment.

Article 20:

1. First lieutenants and captains of the army, retired from active service, who take a special course of six months

instruction in all the branches of the supply department may enter the corps of employees of administration (supply) as first and major accountants respectively. The applications of these officers for such appointment must be made within sixty days after the date of their retirement.*

2. In addition to those fulfilling the requirements laid down in article nineteen, male citizens who have passed an examination in the subjects taught in the fourth year of the arts course or who are in possession of the title of accountant of a commercial institute or employed as such by the government and, who perform or have performed their military service for at least six months in the ranks and at least six months as an "aspirant for accountant," taking a course of instruction in all the branches of the supply department, may also be appointed third accountants.

3. One-half of the vacancies which may occur in the grade of third accountant shall be given to those candidates fulfilling the conditions laid down in Article 19, and the remaining half shall be filled as provided for in paragraph 2 of this article.

4. In order that those desiring to compete for appontment to these vacancies, the Chief of the Department of Administration (supply) of the Ministry of War will, from time to time, give public notice of the number of existing ones.

5. When a sufficient number of candidates do not present themselves for examination, the Ministry of War is authorized to fill the vacancies as provided for in Article 19.

Article 21:

The corps of employees of veterinary surgery shall be made up of the following grades:

1. Major veterinarian with "character" of captain.

2. First veterinarian with "character" of first lieutenant.

*This arrangement, in addition to bringing into this department officers incapacitated for active service for one cause or another, seems unfair to those accountants, who for no fault of their own, will thereby be overslaughed.

3. Second veterinarian with "character" of second lieutenant.

The requirements for appointment as second veterinarian are:

a. To take the course of instruction at the (army) School of Veterinary Surgery and successfully pass the final examination.

b. To have performed the obligatory military service for a period of at least six months.

Aritcle 22:

The corps of artificers shall comprise the following grades:

1. Major artificers with "character" of first lieutenant.

2. First artificer with "character" of second lieutenant.

3. Second artificer with "character" of first sergeant.

The requirements for appointment as second artificer are:

a. To have taken the course at the Artificer's School and successfully passed the final examination.

b. To have performed the obligatory military service for a period of at least six months.

Article 23:

The corps of military storekeepers are for the purpose of service in the ordnance depots existing in time of peace or which may be formed in time of war. It will comprise the following grades:

1. Major storekeeper with "character" of captain.

2. First storekeeper with "character" of first lieutenant.

3. Second storekeeper with "character" of second lieutenant.

These positions shall be filled exclusively as a result of competitive examinations in which the following may take part:

a. Officers of the army retired from active service, exceptionally first sergeants.

b. Military employees of the various classes.

c. Military storekeepers at present in service.*

It is worthy of observation that, although the law states in paragraph 7, that judge advocates, chaplains, professors and master of arms and military pharmacists shall be military employees, still absolutely nothing is prescribed about the organization and grades of these services nor concerning the appointment of their personnel.

PROMOTIONS.

A. Officers and Individuals of the Ranks.

Article 24:

Vacancies in the grade of second corporal in companies, squadrons (troops) and batteries shall be filled by the appointment of graduates from the school for non-commissioned officers, or, only in default of the former, by the promotion of privates, enlisted, who have served at least six months in that capacity, have observed good conduct, can read and write correctly, and have successfully passed an examination to be prescribed by regulations.

In order to be promoted from the grade of second corporal to grades up to and including that of first sergeant, it is necessary to have served at least six months in the next lower grade, to be able to read and write;† have observed good conduct and have passed an examination to determine fitness for each grade. Notwithstanding the foregoing, graduates of the non commissioned officers' school may, under exceptional circumstances, be appointed first corporal directly upon graduation.

In addition to the above requirements, no one shall be appointed a first sergeant who has not completed twenty two years of age.

Article 25:

The requirements for promotion from the grade of second lieutenant to those up to and including that of lieutenant colonel are:

a. To have served a minimum number of years in each grade as follows:

Second lieutenant, three years.

First lieutenant, three years.

Captain, five years.

Major, four years.

b. To have exercised the active command, directed the instruction and presented the review of their appropriate commands as follows:

Second lieutenant, in the command of a platoon or section or on duty as regimental or battalion adjutant and for the entire time of service in that grade.

First lieutenant, on same duty as second lieutenant and for three years.

Captain.....to have commanded a company, squadron (troop) or battery for two years. If this service is performed in the first division, the prescribed time is reduced by half.

Major.....The command of a battalion or group (artillery battalion) or to have served as "chief of detail" (second chief) of a cavalry regiment.....for two years.

Lieutenant colonel.....the command of a regiment for two years.*

Lieutenant colonels and majors of engineers may for the purpose laid down in this article command regiments and battalions of infantry.

Service as student officers in the schools of application shall for subaltern officers be counted as "service with troops."

c. Thot they have observed good social and domestic conduct and especially that they have no unpayable debts.

d. That their service shall have been efficient.

e. That they have shown good judgment in reporting upon their subordinates.

* Although not clearly laid down, it is presumed that the above named individuals are the *only* ones who may compete for these appointments.

† This requirement seems superfluous as the law prescribes that no one can be a second corporal who cannot read and write.

* This is evidently required for promotion to the grade of colonel, but should not come under this article, which refers to promotion up to and including the grade of lieutenant colonel only.

f. That they are fit for advancement to the higher grade. This fitness will be evidenced by the results obtained in the reviews and inspections of the officer's command, in maneuvers and tactical rides, and by the solution of problems, themes, the giving of lectures, by the war game, and other winter work or commissions which may be assigned the officer.

All officers shall be given an opportunity to demonstrate their fitness for promotion.

g. First lieutenants and captains shall, in addition to the foregoing be required to pass an examination to determine their fitness for promotion to the higher grade.

The provisions of paragraphs "*a*" and "*b*," and the time limit laid down in paragraph "*g*" of this article are suspended in time of war.

Article 26:

The promotion of colonels and generals is subject to the requirements of having had while in that grade the command of an appropriate unit or the direction of maneuvers or tactical rides.

Article 27:

Whenever a vacancy occurs (in any grade) in any of the arms of the service it shall, except as hereinafter to be provided for in Article 32, necessarilly be filled by the promotion of the senior officer of that arm in the next lower grade. His relative rank or seniority in the new grade will not however be counted untill all officers of the other arms, who before his promotion were his seniors, shall have been promoted.*

No officer shall be promoted who at the time is suspended or on "disponibility."

Article 28:

The Minister of War will inform those officers who demonstrate unfitness that they should request their retirement from active service. If three months after the receipt

*The justice of this is apparent. It appears a provision worthy of emulation.

of this notice, they have not taken such action they shall be "called to retirement."*

Article 29:

Those captains fulfilling the necessary requirements for advancement, who, on account of a lack of vacancies, have not been promoted, shall receive the pay assigned by law to captains, first class.

Article 30:

In order that the government may always have at hand information concerning the efficiency, abilities, conduct and military and social personality of all officers, efficiency reports on the personnel are established. These will serve as a base for promotions and details. Whosoever reports upon an officer will give his opinion upon the manner in which the one reported upon fulfills the requirements of paragraphs "*c*," "*d*," "*e*" and "*f*," of Article 25.

Efficiency reports shall be made annually and in writing by immediate commanding officers. Superior officers shall not strike out or alter any remarks of subordinate commanders but shall confine themselves to stating, in writing, with reasons whether or not they concur in the opinions expressed.

For officers serving with troops these reports will be made by company and battalion commanders and will be reviewed by regimental, brigade and division commanders, each of whom will concisely state his opinion. For officers not serving with troops they will be made by chiefs of departments (not a territorial command) sections, schools, commissions, etc., and shall follow the principle of review by the respective superiors.

No military authority other than those named shall intervene in the making or review of these reports.

All officers between the grades of second lieutenant and lieutenant colonel, inclusive, not accounted for in the foregoing paragraphs, shall be reported upon by the Chief

*An officer "called to retirement" has his retired pay reckoned with fifty per cent. of the active pay of the grade as a base. Those retiring voluntarily with seventy-five per cent. as a base.

of the Personnel Department of the Ministry of War by means of data which he should obtain.

Article 31:

Based on these reports, a list shall be prepared by the Personnel Department of the Ministry of War by means of which officers shall be selected for promotion and details. These lists shall contain the names of the following:

a. Officers who should be promoted with advantage *i. e.* ahead of their time see Article 32.

b. Those qualified for detail to the general staff corps or as professors in the academy of war.

c. Those suitable for detail as adjutants of brigades.

d. Those qualified for detail as instructors in the service schools.

e. Those suitable for service in the "direction of material of war" *i. e.*, ordnance department.

f. Those qualified for special duty of various kind.

g. Officers who are not fitted for promotion to the next higher grade.

h. Those who do not fulfil the requirements of their present positions.

Details shall be made by the Personnel Department of the Ministry of War, in accordance with the foregoing lists.

Military authority shall request and propose the names of officers for special duty, according to regulations.

Article 32:

The following officers shall be credited with having obtained the "advantage of promotion" hereinafter set forth as follows:

a. Majors and captains, who, as a result of the selection made persuant to regulations from among all officers of like grade and of having served a probationary period of one or two years, are for the first time in the new grade detailed as members of the general staff corps shall be entitled to an

"advantage for promotion"* of two years counted from the date of last commission.

b. Captains detailed as higher adjutants *i. e.* as adjutants of brigade shall in the same manner be entitled to an "advantage for promotion" of one year.

c. Officers between the grades of first lieutenant and major inclusive, serving with troops or in other capacities, who excel in efficiency and in the performance of their duty, clearly demonstrating their fitness for the next higher grade, and whose names are contained in the annual list for "promotion with advantage" made by the Personnel Department shall, according to circumstances, be credited with an "advantage" of one or two years.

"Advantages" obtained as provided for in paragraph "e" of this article will be announced annually by degrees. In the cases referred to in paragraphs "a" and "b" the "advantage" accrues by the appointment alone.

Article 33:

The following are the commands and duties appropriate to the grades of general officer, colonel and lieutenant-colonel:

a. General of Division or of Brigade:

Command of a division, chief of the general staff or director of material of war (Chief of Ordnance)

b. Colonel:

Inspectors of Arms (*i. e.* chiefs of infantry, cavalry, artillery and engineers), commanders of brigades, chiefs of departments in the ministry of war, inspector of the remount service, chiefs of departments in the War Department general staff, director of the Academy of War, or chiefs of sections in the direction of material of war, *i. e.* Ordnance Department.

The duties of chiefs of department in the ministry of

* By "advantage for promotion" is meant antedating the commission, thus, in accordance with the above, if an officer were promoted captain in 1908 and later detailed as a member of the general staff corps he would be promoted major by seniority as if his commission dated from 1906 instead of 1908. If, as a major, he were again detailed he would once more be entitled to an "advantage" of two years.

war and of inspectors of arms may be performed by generals of brigades. Lieutenant colonels may be detailed as chiefs of department in the War Department general staff or of section in the direction of material of war.

c. Lieutenant Colonel, and Exceptionally Major:

Regimental commanders, chiefs of sections in the ministry of war or in the War Department general staff, directors of service schools, arsenals or military factories.

Article 34:

Those majors who, after eight years service as such, though qualified in accordance with the provisions of this law have, on account of a lack of vacancies, not been promoted, shall be advanced to the grade of lieutenant colonel.

The President of the Republic will annually fix the number of extra lieutenant colonels which shall be maintained and, in accordance with the recommendation of a board of general officers appointed for the purpose, will order the retirement of as many as are in addition to this number. The retirement board will be composed of six members, presided over by the Minister of War. In default of generals, senior colonels may be detailed as members.

Those lieutenant colonels retired pursuant to the above shall be considered as if retired for age, *i. e.* they will receive as retired pay as many fortieths of 100 per cent of the active pay of their grade as they have years of service. This is liberal elimination.

Article 35:

The names of all officers between the grades of second lieutenant and colonel inclusive shall be arranged lineally on lists of cavalry, artillery, infantry and engineers. These lists shall be so arranged that, as far as practicable, promotion may be even throughout the service.

Officers of wagon train troops shall be detailed from all arms, especially the mounted ones. The general staff corps shall be composed of officers detailed from all arms of the service and shall preserve the lineal rank in the arm to which they belong.

Article 36:

All officers who arrive to be the seniors on the lineal list in their grade, but who have not fulfilled the requirements for promotion, except those provisions of paragraph "a" of Article 25 (minimum length of service in grade) shall be called to retirement.

B. Of Officers of the Sanitary Service.

Article 37:

The requirements for promotion are:

To the grade of major doctor:

Service with troops or in a military establishment as a captain doctor for four years and to have demonstrated the necessary abilities.

To the grade of lieutenant colonel doctor;

Service as a major doctor with troops or in a military establishment for five years and to have demonstrated the necessary abilities.

To the grade of colonel doctor:

To have served as a lieutenant colonel doctor for five years, two of which have been with the sanitary service of a division.

To General of Brigade Doctor Director of the Sanitary Service, being a colonel doctor.*

C. Of Officers of Reserve and of the Sanitary Service of Reserve.

Article 38:

Officers of reserves may be promoted up to and including the grade of captain. They take precedence after all

*By Article 11 the promotion of these officers is by seniority. It is presumed, although the law leaves it indefinite, that they are promoted to fill vacancies only, and not as might be inferred at the expiration of the time limit, set forth for permanence in each grade. This is minimum and not a fixed permanence, presumably, and the law should read "at least so many years, etc."

It is also worthy of note that for promotion of all other officers and military employees, the law requires that "they shall have observed good conduct, social and domestic, and have no unpayable debts." Article 37 is silent upon this point and it consequently appears that doctors are required neither to behave themselves nor keep out of debt. This, of course, is an omission.

officers of the same grade and date of commission on the active list.

Before promotion to the next higher grade they shall perform a regulation period of service with troops of from four to eight weeks, which shall be in addition to the ordinary period.

Article 39:

Promotions and details of officers of reserves shall be in accordance with the efficiency reports made upon them by the commander of that body of troops in which the officer served as an "Aspirant for Commission as an Officer of Reserve" and by the "Commandant of Arms" of that place in which he resides. The first document shall relate his military efficiency and the second the conditions of his ordinary life.*

Article 40:

The names of all officers of reserve shall be borne on lineal lists according to their rank and arm of the service. Those inscribed in each garrison shall form a corps of officers under the direction of the military chief of that garrison or, in his default of the "Commandant at Arms."†

Article 41:

Those officers of reserve who attain the age of thirty years shall, unless they declare before the military chief of the garrison or the "Commandant of Arms" that they desire to remain in the reserve (first) and promise to perform the required periods of service, pass to the national guard (second reserve).

Article 42:

Those officers of the army who are retired from active service, by reason of age or at their own request, but who on account of their youth are still liable for military service shall enter the reserve or the national guard (second reserve)

*Officers of reserve perform their periodical terms of service with the same body of troops as that in which they had previously been "aspirants."

†By garrison is meant, city, town or territorial district.

in the grade held by them in the army, in the same manner as other officers of reserve.*

Article 43:

Those citizens who have obtained the degree of doctor of medicine or medical surgeon, have performed their military service in the ranks and who promise to perform the required periods with the reserve shall be appointed lieutenant and captain doctors of reserve respectively.

D. Of Military Employees.

Article 44:

Military employees shall be promoted by strict seniority subject to the requirements that they demonstrate their fitness for advancement by efficiency in the performance of duty, by the reports made upon them by their superiors and by the solution of annual tasks and problems based on their special service in time of war. Chaplains and judge-advocates are excepted from the provisions of this article.

Article 45:

The requirements for promotion to grades between that of third and major accountant, the latter inclusive, are:

a. To have served four years in each grade.

b. To have observed good conduct, social and domestic, and to have no unpayable debts.

c. To have successfully passed an examination to determine fitness for promotion.

Article 46:

The requirements for promotion up to and including the grade of major veterinarian are:

a. To have served three years in the next lower grade.

b. To have observed good conduct, social and domestic, and to have no unpayable debts.

c. To have successfully passed an examination to determine fitness for advancement.

*From the above it would appear that officers of the army "called to retirement" would not obtain commissions in the reserve.

The time which veterinarians may have spent as students at the school for veterinatians shall be counted as compulsory military service.

Article 47:

The requirements for promotion to the grades up to and including that of major artificer are:

a. To have served three years in the next lower grade.

b. To have observed good social and domestic conduct and to have no unpayable debts.

c. To have successfully passed an examination to determine fitness for advancement.

Service as students in the school for artificers shall be counted as compulsory "military service."

GENERAL DISPOSITIONS.

Article 48:

"Rank" (rango) confer the same military and disciplinary attributes and command over their subordinates as that held by officers of the line of the same grade.*

The "character" confers the same quality, social position, and individual manifestations of respect as are held by officers of the line of the same grade.

Article 49:

The efficiency reports, see Article 30, shall be kept in the Ministry of War as follows:

a. Those of officers of the line of the active army and reserve in the Personnel Department.

b. Those of officers of the sanitary service in the Sanitary Section.

c. Those of officers of the supply department in the Administration (supply) Department.

d. Those of military storekeepers in the General Department of War.

e. Those of veterinarians in the office of the "Chief of the Bureau of Instruction."

* Doctors and superior officers of the supply department hold, according to this bill, the rank or "rango" of their grade.

f. Those of chaplains and judge-advocates in the Department of Justice and Recompense.

Article 50:

The President of the Republic will fix the number of posts in the government service of railways, telegraphs, post office, police and customs which shall be filled exclusively by the appointment of non-commissioned officers of the army who have served ten years.*

Article 51:

Those officers in the active service of foreign armies, contracted for service in the Chilian Army, shall have the title of "honorary officers" and the rank of other officers. They shall receive the privileges and emoluments granted them in their contracts, but shall in no case occupy any of the positions enumerated in paragraph 33. They shall serve as professors in the Academy of War, counsellors, etc.†

Article 52:

Officers of the line shall take rank in their grade from the date of the signing of their commissions by the President of the Republic.

Officers of the sanitary service, superior officers of the supply department, military employees and individuals of the ranks shall take rank in their grades from the date of appointment.

If commissions and appointments bear the same date, rank shall be governed by the previous commissions or appointments, and should these be equal by age.

Second lieutenants appointed on the same day shall take rank among themselves in the order in which their names appear in the decree nominating them, which shall be in accordance with the results obtained from their examination.

Article 53:

Officers temporarily retired or passed to the reserve who

* This is a provision worthy of emulation.

† This refers to the three German general staff offiers acting as professor in the Academy of War and as counsellors in the general staff.

return to active service reënter with the rank and senority held at the date of retirement. They shall not be credited with the time spent in retirement.

Article 54:

The examinations required by this law shall be taken in Santiago before a board of officers appointed by the Ministers of War.

Article 55:

All laws relating to the subjects treated in this bill, including those portions which do not conflict with these provisions, are hereby repealed.*

*The above article leaves judge-advocates, chaplains, professors of swordsmanship and masters of arms, and military pharmacists in a precarious position since the bill prescribes nothing concerning their appointment grades nor organization and repeals the existing regulations.

To be Continued.

Reprints and Translations.

PEACE TRAINING FOR COMMAND.*

By Colonel J E. GOUGH, V. C., C. M. G., A. D. C., General Staff.

THE subject of command in the field is one which must always be attractive to soldiers. We, probably, all study the question according to our opportunities and to the best of our ability. Our study is, however, often restricted to general principles, and no attempt is made to apply these general principles by actually working out the methods which we should adopt for the solution of a definite problem. We seldom carry our studies to their logical conclusion by actually writing the orders and then criticizing them closely.

It will not be possible to discuss the subject fully in the scope of this article; but an effort will be made to show how our officers might possibly be encouraged to study war, with a view to applying to present conditions the lessons and general principles which can be learnt from past campaigns.

At the present moment there seems to be a tendency to demand a ruling or "doctrine" as to how war should be conducted. Somewhat naturally there is considerable difference of opinion as to what is actually meant by the term "doctrine." Some officers understand a "doctrine" of war to mean a cut-and-dried method of making war which will be applicable to all cases. They advocate that we should adopt a so-called German method, or a so-called French method; that we should either envelop the enemy by advancing on a

*From *The Army Review* (*British*), October, 1911.

broad front with next to no reserve—or that we should employ a strategical advance guard and maneuver our main force in rear of it. The argument, apparently, is that one of these methods must be better than the other, and should, therefore, be adopted.

We appear to be in danger of crediting the Germans and the French with cut-and-dried methods of making war which would cause them considerable surprise, as it is hardly conceivable that any soldier would advocate the same methods for, say, sixteen army corps operating on the Franco-German frontier, as he would adopt for, say 70,000 men operating by themselves in Norfolk.

There must be something very wrong with our teaching of war if officers really are anxious to see our General Staff produce a doctrine definitely advocating either the so-called German or so-called French method That some officers do desire this, the writer can state as a fact from personal experience, and it shows that we are suffering from ten years of peace. Such theories and demands for cut-and-dried methods always seem to arise after a long period of peace. They are the outcome of academic study, not the fruit of practicle experience of war. Probably the above frame of mind arise from our General Staff not having had time to make its teaching felt throughout the army.

Most officers, however, when they urge the necessity for a "doctrine," are anxious to see our army trained to a proper understanding of war, with a knowledge of the advantages and disadvantages of the different methods, and, above all, to know how and when to apply this knowledge.

At present, when a young officer joins his battalion he picks up his ideas on war, in all probability, from his company commander and his colonel, and in a lesser degree from his brigade and divisional commanders, all of whom, perhaps, have different views on the subject.

Britishers have always been individualists and our Empire has been built up mostly by individual enterprise, but modern war is so complicated that unless we are grounded in its general principles, and have a true understanding of its realities, we are bound to come to grief. When officers

have thoroughly grasped what war is like, and realize what can and what cannot be done with our army, then by all means let their individual tendancies have full play. We should hear less about the necessity for cut-and-dried methods if our army were better grounded in the elementary whys and wherefores of the different methods of making war, and if officers were instructed not only in general principles but in applying these principles to concrete problems. We require first-class instructors who themselves thoroughly understand the teachings of our General Staff. This appears to be our difficulty.

Beyond our field service regulations and training manuals, we have no sort of authorative literature on war. The regulations are naturally very condensed and deal with general principles, no attempt being made to apply them. Many officers are unable to apply the principles when it comes to dealing with an actual problem It is in this application that practice and instruction are required.

Something might be done in this direction if military history were studied more with a view to its lessons for the future than with the idea that knowledge of a campaign is, in itself, of any value to a soldier. This, of course, is a platitude, but the fact remains that our officers do not, as a general rule, study war from this point of view. It is doubtful whether our examinations for promotion, and even for the Staff College, encourage officers sufficiently to try and apply the lessons of the campaigns which they are being examined in. We have certainly improved in this direction. Importance is no longer attached to dates or to the names of commanders and units; officers are now required to state the lessons that they have learnt; but they are not asked to apply the lessons to concrete problems, which, after all is said and done, is the real test as to whether value has been obtained from the study of the campaign. If our history examination papers contained at least one problem, and officers were asked to work it out and to state how their decisions were affected by the lessons of the campaign, then we might find that military history would be regarded in a somewhat new light.

As a general rule, it is seldom of practical value to ask officers to state what they would have done if they had been Napoleon, Wellington or Moltke at a certain date; this is not the sort of problem that is going to face us in the future. Far better value would be obtained from the problem if it dealt with modern conditions.

What were good solutions formerly are not necessarily good solutions to-day. The lessons are there certainly, and to that extent it is always good value to study history from this point of view. But we should go further, because modern inventions, such as quick-firing weapons, smokeless powder, aeroplanes, railways and motor vehicles, etc., have naturally altered the application of the general principles of war —and it is just this application of old principles that should be taught. This especially applies to anything approaching tactics, and to a great extent to strategy also. Moreover, if questions were set in the military history paper which obliged officers to think out for themselves how to apply the lessons of the past to present conditions, much would have been done towards encouraging the correct study of history.

Our present system of examination in military history does not encourage officers to study campaigns with their minds intent upon how to apply what they read to modern conditions. This, and this only, is the value to be obtained from studying past campaigns, and it is for this reason that the writer is anxious to see at least one problem in all military history examination papers.

When we look at Moltke's method of instructing the German Army, we find that he used to produce problems, and that he himself would give a solution, explain his reasons, and the principles which guided him. To a great extent by means of a series of these exercises he gradually instilled his idea of war into the German General Staff. Moltke dealt with the application of principles, not with the principles alone.

As a race, with few exceptions, we are singularly devoid of imagination—a spade is a spade, and there is no more to be said about it. This quality has many practical advantages, but it does not conduce to the forming of sound ideas

of war unless the individual has had considerable personal experience.

The ordinary Englishman seems singularly incapable of applying the lessons he has learnt unless the problem he is confronted with is almost exactly similar to some situation in the campaign he has studied. His imagination altogether fails him. He either comes to the conclusion that military history is a snare and a delusion—or, being quite determined to get full value from his studies, he insists on treating a small stream as though it were an unfordable river which played an important part in some campaign. Much might be done to rectify this, if officers from the day they joined the service were taught to study history in a more practical manner. But the instructors must be first-class, and their teaching should always be directed to applying the lessons of the past to situations which may face us in the future.

We are also perhaps inclined to study too many wars, and do not really master even one phase of a campaign, with the result that frequently wrong lessons are drawn. Many officers have read a great deal, but few have read deeply.

We are somewhat handicapped in our military literature; it is difficult to find works in English which give all the details required; most of our books leave out the personal element, and few give the information actually in the possession of the commanders when they formed their decisions. Without this knowledge it is impossible to form an opinion as to the correctness of the commander's action; nor can we say whether another and a better system might have been employed to gain information; nor can the state of uncertainty in which commanders are kept in war be realized. Unless these things are understood, we shall go to war most inadequately equipped for the trial awaiting us.

Superficial study of war is responsible for many of the theories we see advanced; the theories are often plausible, but they are not always war. There is, also, a danger of building up theories on war based upon peace training and maneuvers. No matter how good maneuvers may be, they can only represent war up to a certain point; therefore, we should be careful not to arrive at wrong conclusions, or

allow ourselves to imagine that maneuvers and war are anything more than second cousins.

To refer now to the subject of writing orders. It is impossible to discuss the question of training for command without also considering the writing of orders, as it is only by means of orders that a general is able to command.

After the South African War great importance was, very rightly, attached to giving the object to be attained, while the method of attaining it was to be left to the utmost extent possible to the recipient of the order.

No one can dispute the correctness of this principle, but to apply it is another matter. The subject requires the closest study and much practice. If we try to apply it in a casual manner there is every chance of our doing more harm than good.

Many officers seem unable to differentiate between the object to be attained and the method of attaining it; others err in the other extreme, and word their orders so that the subordinate commanders can do almost anything, with the result that all control by the superior general is lost.

Not only do we find some officers falling into the first error and others into the second, but, curiously enough, it is by no means rare to find the same officer committing both errors in the same set of orders. This shows that the subject has not been closely studied and reasoned out, otherwise these mistakes would not occur.

The first form of error, *i. e.*, confusing the true object with the method of attaining it, is usually seen in the orders and instructions issued to cavalry or to other troops on a more or less independent mission.

It may be that the commander wishes to keep the enemy's advanced troops at a distance, and, under cover of his own cavalry, hopes to bring up his main columns so as to surprise the enemy. This being his object, he studies the map and comes to the conclusion that the enemy will probably advance from a certain direction. Further study of the map leads him to the conclusion that the best way to attain his object is to order his cavalry to seize some high

ground or secure a certain locality—both very favorite objectives for cavalry in our army.

The order is then written, and the cavalry commander is told that his object is to seize the high ground or to secure the locality, the writer of the order being doubtless under the impression that he has applied the principle enunciated in Field Service Regulations, as he argues that he has given the cavalry commander his object, and has left him a free hand as to the method of attaining it. As a matter of fact, however, he has mis-stated the object which the commander had in his mind; but he sends the order out all the same, in blissful ignorance that there is anything wrong, or that he is laying up trouble for the near future. Even when the trouble has taken place, and everyone is busy looking for a culprit, it is seldom that the blame is attached to the right person, *i. e.*, the writer of the order.

Sometimes, but not often, the enemy does what he is expected to do, and all may go well. Even then the cavalry commander could have carried out his mission just as well if he had been given his true object; he would have seized the high ground or secured the locality if by doing so he would have achieved his object.

What generally happens, however, is that the enemy does something that he was not expected to do, and the occupation of the high ground or locality is useless, and perhaps, even positively dangerous. The cavalry commander finds himself actually hindered in carrying out his proper task by the orders of his superior, the trouble being directly attributable to a lack of clear thinking on the part of the writer of the orders, and to his failure to apply correctly the the principle laid down in the Field Service Regulations.

It is not meant to imply that cavalry should never receive orders to seize certain localities. Far from it. The real objective may be to secure a passage across an obstacle, and in such cases the orders should say so definitely. But the commander should be very sure that the place to be secured is his *real* object.

An excellent little pamphlet called the "Art of Command," by Colonel von Spohn, has been translated by the

General Staff; it discusses the subject of orders and puts the case clearly. It is a pity that this pamphlet is not more generally known throughout the army.

Time and again, both at staff tours and maneuvers, we find mistakes made which are caused by the bad wording of orders; with a little care these mistakes should never occur. Unless more attention is paid to the subject, bad habits may be acquired which will lead to disaster in war.

The second form of error, *i. e.*, allowing subordinates too free a hand, is usually seen in the orders to troops who are working under the immediate control of the superior. We do not differentiate sufficiently between the class of order required by officers who are acting more or less independently and by those who are under immediate control.

In the latter case the method of achieving the object is to a greater extent a matter for the superior, and it is for him to say more definitely how the subordinates are to act. It will often be right and proper for the superior to say this or that locality is to be occupied *by a certain time and in a certain strength.* If the superior is to retain control and really *command,* he must give such orders as will ensure his wishes being carried out. The subordinates should, certainly, be left as free a hand as possible, but always provided that the wishes of the superior are carried out.

It may appear that what has been said is only a splitting of hairs, or that the subject is so simple that any ordinary commander or staff officer knows all about it; but the fact remains that our orders are not, as a rule, good examples of what orders ought to be. Few officers have given serious thought to the subject; consequently, atrocities are committed with the greatest complacency, and are even repeated without the writer being aware that anything is wrong. What is required is practice in writing orders, and above all good instructors who will carefully consider the wording and can explain where mistakes have occurred and show officers how the order should have been expressed. These instructors are required not only at places like our Staff Colleges, but throughout the service in commands both at home and abroad.

THE STRATEGIC RECONNAISSANCE SERVICE.

By Colonel JOSEPH BREIT, Austrian General Staff.*

CONDITIONS under which the larger bodies of cavalry have to perform reconnaissance service are so different in each case that it is impossible, if not altogether a grave error, to lay down any hard and fast rules to govern all cases alike.

The general situation, the distance separating the contending armies, the manner in which the hostile cavalry is used, and other means employed by the enemy to gain information, the conduct of the inhabitants in the theater of war, conditions of the terrain, and finally the season and in some measure weather conditions, are the more important factors governing the formation of a larger body of cavalry on strategic reconnaissance.

The actual activities of bodies of cavalry on reconnaissance service commences at the inception of the strategic march into position; that of a body of cavalry being at the frontier commences at the opening of hostilities. In a normal course of the war, corresponding to European conditions where the two opposing forces are probably always very near the frontier, the following phases in the reconnoissance service of bodies of cavalry may be differentiated:

(1.) Duties before and during the strategic march into position.

(2.) Duties after crossing the frontier to the first hostile contact.

(3.) Reconnaissance activity during the battle.

(4.) Reconnaissance activity after different contacts and

*Translated from *Kavalleristische Monatshefte*, by M. S. E. Harry Bell, U. S. Army.

conduct of the main body of cavalry during the pursuit of the enemy or our retreat.

(5.) Reconnaissance activity after the close of pursuit or retreat up to next contact.

(1) Reconnaissance by cavalry during the strategic march into position is a task hard to solve because it has to be carried on in secrecy, by not too numerous nor numerically strong detachments, and made more difficult by the fact that detachments and patrols can cross and recross the closely watched frontier only by employing cunning and artfulness. This duty is also exceedingly dangerous as detection in the enemy's country means probable annihilation because detachments and patrols have of necessity to be made numerically weak and thus lack proper resistance efficiency. Still, in order to be able to prove the correctness of information received through spies and through other methods concerning the march into position and concentration of the hostile forces on the one hand, and on the other to gain entirely new information concerning the strength, intentions, and morale of the enemy, it appears absolutely essential to send "feeling" organs far into the enemy's country at the very first stages of the campaign, in order to gain timely knowledge of the grouping of the hostile forces during the strategic march into position as well as the concentration of different groups, shifting of concentrations and other measures taken for the march to the front as well as of construction and occupation of probable defensive positions.

For these duties the detachments or patrols should be numerically weak, but composed of only the best and tried men; should be well mounted; if possible, composed of single officers; or, best of all, of volunteers for such danger ous service. Needless to say that these patrols or detachments will, as a general rule, have to solve their task during night or fog. Being weak and considering the dangers attending the ride back, numerous messages cannot be expected of them. Therefore these patrols and single troopers should receive definite and precise short tasks, because the fulfillment of manyfold tasks or such which require much time or much deployment of force is out of the question. Consequently reconnaissance and observation during this period should be confined to gaining information concerning points of value only to the highest leader in coming to his decision; ascertainment of minor details can easily be left for later reconnaissance.

For these reasons it appears best to charge officers of the general staff and officers of the technical branches of the service with such tasks, or to attach such officers to the respective patrols.

The officer commanding the cavalry guarding the frontier issues the necessary orders for such details and reconnaissance work until the arrival of army headquarters in the field which thereafter is charged with that duty; if there are more than one army in the field, these orders are then issued by general headquarters.

During the reconnaissance of the hostile territory by patrols, etc., the main body of the cavalry, sent ahead to the frontier for protecting the strategic march into position and reinforced by infantry, artillery, technical troops, etc., is strung along the frontier in groups composed of one or more squadrons, of a regiment or brigade, according to terrain conditions and importance of the different frontier sectors. Each one of these groups maintains, during day as well as during night, a continuous patrol service along the frontier, and across the frontier at favorable opportunities to disturb the enemy on outpost and to ascertain conditions as to position and location of enemy, terrain, streams, obstacles, etc. The strength of such patrols and reconnaissance detachments differs with the different tasks set them; very often entire squadrons may be employed for such service.

With exception of the units on outpost, etc., the remainder of the groups may be kept closely together at the most convenient point to timely give assistance and support to the detachments on outpost, etc.

(2.) After completion of the strategic march into position begins, as an introduction to subsequent operations, a new activity for the bodies of cavalry, *i. e.*, crossing the frontier and commencing the strategic reconnaissance proper.

In order to tear as many gaps, and as large ones as possible, in the line of the hostile frontier guard troops, it appears best to form in each cavalry division several invasion groups, which should be supported by the other arms, especially by artillery, according to conditions of terrain and the resistance expected to be made by the enemy. In this, a part of the cavalry will have to be dismounted partly before and partly after crossing the frontier, while the remaining part executes the breaking through and the attack mounted. It will depend entirely on operative, tactical and terrain conditions whether the single groups within the cavalry divisions are inserted simultaneously for breaking through or whether it may be more advantageous to make an attempt earlier at some other place or on a flank, to draw off the enemy's attention from the projected main point selected for breaking through. The patrols and detachments charged with reconnaissance in the hostile terrain, properly instructed before the start, are attached to these breaking through groups, to enable them to immediately start for the front after breaking through has been accomplished. Whether these patrols should be of a strength of from ten to fifteen troopers, or whether whole platoons or even squadrons should be employed on that duty, depends on the amount of resistance expected to be offered by the hostile security detachments, and further depends on the distance to the hostile infantry masses which are to be reconnoitered. If the latter are not very far off, numerous well led patrols will be sufficient, followed at a distance of some five km. by groups from the main body of the cavalry bodies as support and receiving groups. The cavalry divisions on the wings will do better, however, to send whole squadrons to reconnoiter the flank and rear of the enemy, mainly for the reason that here there will be more room for the cavalry to take up broader and deeper formations than there is generally found in the center. Each division will send out one or two of such information squadrons, which in turn send out patrols for detailed reconnaissance. The main bodies of the divisions on the wings should, as a rule, be kept together, to have and to hold the superiority in contact.

(3.) Immediately before and during an engagement (battle) the largest part of the near reconnaissance is taken over by the divisional cavalry attached to the different army corps and by the infantry.

As the distance between the contending fighting forces continually decreases, it is well, for the purpose of forming and getting into hand a passably strong body of cavalry to collect the patrols and squadrons heretofore on reconnaissance service into one body and to leave only such out in front which are expected to operate on flank and in rear of the enemy, to furnish information concerning the bringing up of hostile reserves, happenings in rear of the hostile army, ascertainment of hostile wings, etc. These patrols and detachments, however, must definitely know that they cannot count on support of the main body of the cavalry divisions, because the latter will now have to give their entire attention to the engagement or battle.

(4.) From the moment the decision has fallen the cavalry main bodies have their hands full with tasks which draw them away more or less from reconnaissance service. Some of these tasks are: To fully gather the fruits of victory in the pursuit; to make the enemy's defeat more thorough and complete; to hold the enemy as far away as possible from our own troops in retreat. In the majority of cases, especially in the retreat, this will mean that the cavalry must be kept together as much as possible in one body, for smaller bodies of cavalry will have but little effect on the enemy either in pursuit or retreat.

However, together with arranging for these duties, proper steps should be taken for the continuation of reconnaissance by patrols, so that touch may never be lost with the enemy. For this purpose all patrols in touch with the enemy must, without waiting for special orders to that effect, continue in close contact with the retreating or pursuing (as the case may be) enemy and must immediately report where and when the enemy comes to a halt. New patrols or detachments should also be sent out, charged with the same duties, by the cavalry as well as the infantry commander. These patrols may on the whole be made weaker, as their observa-

tions can be carried on, as a general rule, without having to fight, and because, being in close touch with their main bodies, they need but few men for sending back reports.

(5.) After conclusion of either our pursuit or our retreat, the entire cavalry can again take up its reconnaissance service. If the two opposing sides are far apart, the intervening space may well be divided into two sectors: One sector two or three days march in front of our army front, the other sector from there to the enemy or to a line sharply defined by either a chain of mountains or large stream in the theater of war. The latter sector we would designate for the far, the fomer for the near strategic reconnaissance. In consequence of the daily advance of the one or the other side, the far reconnaissance sector will become smaller from day to day, it may therefore be designated as that of the far reaching, less intensive strategic reconnaissance, while the near sector is the one which the independent cavalry has to reconnoiter in detail. For reconnoitering the far sector, patrols will as a rule be employed, which have to be made considerably strong as they will have to stay out for days at a time; they should never be of less strength than a platoon. The patrols, to distinguish them from others, might be designated as independent information patrols.

Of course, the number of such patrols depends on different existing conditions; in general we would send out just as many patrols on that service as there are squadrons on the same service employed in near reconnaissance. Each main line or direction of advance should be covered, however, in each case by one patrol, without, however, forcing that patrol to stick to line or direction absolutely. It will be the task of these independent patrols to learn in general only if there are hostile forces in that sector; if there are large bodies of the enemy present, plain signs will be found along the route, and the patrol need not search a large tract of country thoroughly to learn this fact, for which they are not strong enough anyway, nor have they time enough for that. An independent patrol may also be charged with ascertaining the truth of reports received from other scurces as to presence of hostile forces in some village or other and with gaining reliable data concerning them.

In consideration of the dangers and vicissitudes to which the patrols are exposed, their commanders, members and horses should be selected with the greatest care; men volunteering for such service should receive preference. The commander should be left a free hand in the matter of connection, subsistence, sending back reports, etc.

For purpose of reconnoitering the near strategic reconnaissance sector we have the information squadrons and their patrols. It hardly seems necessary to discuss the number of such squadrons to be sent out, their composition and strength, the sector each one of them and its patrols are to examine, etc.; because text books and other military publications are filled with such information. The same holds good of their order of march. The following only deserves mention:

As long as there is more than two days' march between the main bodies of the hostile cavalry, used on strategic reconnaissance, from the line of our information squadrons, the main body of our cavalry divisions can march in groups or by brigades, depending on facilities of quarters and subsistence, several kilometers alongside or behind each other. This will assure quick support of the information squadrons marching on the wings. But when two days' march or less distance intervenes, the main bodies should be kept together, to have the numerical superiority, if ever possible, in the contact about to ensue at any time with the hostile main body. Considering the rapid course of cavalry battles, we can never count with certainty on having our forces together where wanted if the different units march separated. Should the sector to be reconnoitered be divided entirely by a strong obstacle, we had best form two entirely independent reconnoisance units alongside of each other.

Concerning the distance between patrols and information squadrons and between the latter and the main body, I would council *short* distances, because this will facilitate quicker messenger service and make less demands on horseflesh. I believe that five to six km. for patrols and fifteen to twenty for information squadrons is sufficient. The pat-

rols to be sent out by the information squadrons can, as a general rule, be kept weak; keeping to the above mentioned distances, four to six troopers will be found sufficient for any patrol.

Under normal conditions in normal country, I imagine the reconnaissance duties of the cavalry divisions to be carried on as follows:

1. *At Commencement of War and During the Strategic March into Position:*

(*a*) By a few weak, but specially selected patrols and single troopers sent into the hostile territory to reconnoiter conditions with the hostile main body.

(*b*) By numerous, strong patrols going as far as the frontier, and in exceptional cases across it, to observe the activity of the hostile frontier guards and outposts; to gain information concerning certain objects in the terrain, obstacles, etc.

(*c*) A part of the main body of the cavalry division to be on outpost service.

(*d*) The remainder resting on its arms.

2. *From the Commencement of Operations to the First Contact:*

(*a*) In front of the army by numerous strong patrols, to be followed by the main body, possibly in several groups, with not too much distance.

(*b*) On the wings by a few independent information squadrons, which on their part send out weak patrols for short distances; the main body following, closed up, a very short distance.

3. *During the Engagement and Battle:*

Reconnaissance is carried on exclusively by strong patrols still out, or sent out anew, and information squadrons. The main body, held together in fighting readiness, awaits favorable opportunity to participate in the battle, be that with the saber in hand mounted, or for the fire fight dismounted.

4. *During the Pursuit and On the Retreat:*

All patrols in touch with the enemy and all reconnoitering detachments must stick to the enemy. The commanders of

cavalry and infantry will send out additional numerous though weak patrols to keep up touch with the enemy. The main body of the cavalry division has other duties to perform, interfering with proper reconnaissance duties.

5. *After Conclusion of Pursuit or Retreat:*

Now commences the organization and grouping of the entire cavalry for purposes of strategic reconnaissance proper. In this two zones may be perceived, that of the far and that of the near strategic reconnaissance service. To reconnoiter the first zone, strong, independent information patrols are sent out; information squadrons, sending out weak patrols, perform that service in the second zone. Only when far from the enemy follows the main body by groups or brigades, in all other cases it follows closed up behind the center or behind the most important flank.

It should be understood that the above discussed manner of grouping and using the cavalry bodies in the service of reconnaissance must not be taken as suitable to all cases. It should specially be modified in country hard to traverse, such as mountainous terrain, marshy country with complex woods, etc., when it is out of the question to send single patrols far to the front. In winter also, when there happens to be much snow, making all by-roads unrecognizable, grouping of the cavalry bodies will have to be simplified. All these exceptional cases, however, cannot be discussed here on account of lack of space.

Since we have come to the perception that the cavalry divisions are much hindered in their movements by attaching infantry to them, cavalry machine gun detachments have increased in value. It undoubtedly would be advantageous to attach to a division two such detachments instead of only one, which could perform excellent service in battle as well as in opening defiles. Were such the case single information squadrons might receive one machine gun occasionally if thought necessary.

To attach infantry detachments to cavalry divisions appears to be justifiable only in exceptional cases, *i. e.*, to occupy lines of obstacles in rear of the cavalry, thus simultaneously

serving for screening purposes by preventing hostile cavalry detachments from crossing these obstacles, etc. Infantry may also become useful in taking over relays for messages to the rear, guarding assembly stations and trains, etc. It is especially advisable to relieve the cavalry from the last named service. Very desirable also are cyclist detachments attached to cavalry divisions; they would perform good service and make the attaching of infantry detachments superfluous. There is no need to discuss the question of attaching technical means to each cavalry division, such as telegraph, telephone, visual signaling and wireless detachments; that these means are now-a-days absolutely necessary to cavalry in the field, no one will deny.

IMPROVISED ARMIES OF THE NINETEENTH CENTURY.*

A HISTORICAL ANALYSIS.

By T. MILLER MAGUIRE, M. A., LL. D., F. R. Hist. S.

WE have come here this afternoon to discuss the lessons of wars not only in Europe, but also in other Continents. As the gallant officer in the chair has reminded me, this is not the place for acrimonious politics or party politics of any kind, or for personalties. In this hall, this afternoon particularly, we are bound to confine ourselves strictly to one subject, and that is, how history views the transactions of politicians or generals, or nations, small or great, who commit their future to speculative philosophers and rationalists, to improvisation, to temporising and to extemporising. Vote catchers court disaster; they ought to be at least as careful about the building of great Empires and Kingdoms in their charge as they are about their own dwellings and

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about the insurance on their shops and mansions. That is simply the subject that we have to discuss, this and nothing else, and as Bacon says, it is a topic worthy of careful attention by princes and statesmen who would sow greatness for posterity.

ARBITRATION AND THE MILLENNIUM.

Now, at present in the air there are notions about a New Era, an Era of Peace, an Era of Arbitration, an Era of Prize Courts and other Courts, which are immediately, by the skill of lawyers, to abolish the necessity for admirals and generals and to start the good ship "Millennium" on her voyage. It is nothing to these that the good ship is not even complete; it is to be started on its future voyage before being constructed. For my part, I have not the slightest trust in arbitration as a security against national wars. A nation that has a good case is not going to lose that case by arbitration in a crisis. A person will not arbitrate about his honor, except it be such a person, who, as Sheakespeare says, may well swear on his honor, because he has none and therefore he cannot be perjured. There are questions about which no nation ever will arbitrate if that nation is fit to continue an independent existence. We love peace, and I may say that no men love peace more than the gallant officers of both our services, and we are bound to preserve peace to the utmost; but the time must come with us again, as it has in the past, when we must fight, and if we are not ready to fight we may be beaten; and if, by reason of the happy position of our islands, we escape disasters which will occur at once to nations with other than sea frontiers, or even if we ultimately win, we shall only have won at a cost enormously greater, in money and in life and in risk and in sorrow of women and in woe of children, than we would have endured if we had been more ready, and ready sooner. Now, this result is well worth preparing for and well worthy of careful study and of self-denial.

LESSONS FOR POLITICIANS.

Although I start in the nineteenth century I might equally well have started in any other century. I am only

going to speak here this afternoon of the experience set forth by writers as to the nineteenth century, which experience is condensed in these few volumes that you see before you; if the politicians sitting within a few hundred yards of us to-day would only carefully study "The Valor of Ignorance," an American book, they would save the nation in all probability many millions in money. If that book, or similar books, had been studied—"Napier" for example, or "The People's War," by the veteran officer I see before me, Colonel Lonsdale Hale—we should be in quite a different position now. If the politicians would study, for example, Colonel Lonsdale Hale's book, they would not need to trouble themselves very much about going into many details of the history of the nineteenth century. Such as the defeat of the forces of Chanzy and Faidherbe after the capture of Orleans, which he describes, and the awful calamities of Bourbaki's corps. But they will not study these questions which do not interest the partisans of the hour, and therefore we are here for about the hundredth time recapitulating and discussing the most certain "oracles of time."

The philosophy of the ancient historians and poets and writers every schoolboy should be well acquainted with on leaving his public school. They are only the old proverb repeated almost "*ad nauseam*": "*Si vis pacem para bellum.*" For peace, for commerce, for honor, prepare for war in time of peace. That is all.

ENGLAND'S POSITION IN THE NAPOLEONIC ERA.

When this century began we were not in anything like as dangerous a position with regard to our future, or the potentialities of our future, as we are now after our nation is another hundred years old. Let me point out that Napoleon, at the beginning of the century, crossed the Alps and won the great battle of Marengo, and he immediately proceeded, having made peace with Austria, to organize a new army after the fashion of the Romans. That new army was located along the French coast in 1804–5, and it was thought that it might possibly invade England. The English people, considering the time and the resources, made most creditable

and strenuous efforts, and as a matter of fact had been doing so for years before. The consequence was that they had absolute command of the sea, and Napoleon was not able to cross the channel. His naval force—relatively small—if not in numbers at least in fighting power—was beaten, not as is generally supposed at Trafalgar, but off the coast of Spain, near Cape Finisterre. When that naval battle between Calder and Villeneuve took place, before Nelson's return from the West Indies, Napoleon's dream of an invasion of England was over. With startling rapidity he put in motion that army which he had just organized so completely as to surpass in mobility the Roman legions, each corps a complete entity in its place. Armies had previously been divisions, and before that, integers. Having got these corps so organized, in the twinkling of an eye almost, he was across the Rhine into Austria and by the 19th of October he had taken Ulm. He was in Vienna in November; at Austerlitz in December; in 1806 he was in Berlin; in 1808 he was in Madrid. But ours was a *mare clausum*. And yet we were not in as serious a position, relatively, as to resources and as to risks as we are in now. Because, as will be told you in a very short time, the Pacific is the new center of international gravity (as we proved in 1904); we have now to deal with new powers and new situations, whose activities, whose resources, and whose ambitions are unfortunately greater relatively to our empire and more easily carried out and put into effect than were Napoleon's schemes.

Napoleon, as a matter of fact, had no chance whatever of commanding the sea from 1805 till his death, and he could not touch from that date any part of the United Kingdom of Great Britain and Ireland.

NEW POWERS AND NEW SITUATIONS.

Just look at this map of the world; here you have new powers and new situation. Japan is not at all likely to sit down to a millennium. The Japanese are not philosophical humanitarians. They are mere men but they are practical people. All Australasia suspects that they have their eyes

on Australia and accordingly the Australians are beginning to prepare for war.

Here is a great nation, the United States of America. We are told that we are going to have an era of universal peace, not only with America but with everybody else. Well, I will suggest one practical question. Are the United States of America going to arbitrate about the Monroe doctrine? I have here before me the statement of most eminent Americans that it is perfectly out of the question to suppose the United States and its people can have a reign of peace, having regard to the principles of the Monroe doctrine.

There is another little matter here that will alter the whole face of the world even more than the Suez Canal, and that is the Panama Canal and its proposed fortification. Have regard to the fact that Russia is moving again; have regard to the Mexican question—Mexico was a big question before the war between France and Germany in 1870, causing great trouble and distress—I ask any gentle Arcadian shepherd to tell me if he still thinks that this state of things indicates that we have reached an era of eternal peace? You will see in your Sunday "*Observers*" that the Latin race of South America have not the slightest intention of adopting an era of peace that is incompatible with their interests, and that they resent the Monroe doctrine and the idea that they ought not to launch forth into careers for themselves. Have our front bench men read carefully the annals of Chili and Peru and Brazil?

PROVIDENCE AND SELF-RELIANCE.

Such are some of the conditions that ought to teach us to pay attention to some, at any rate, of the facts of history, so that we may have guidance for our readiness if by chance any war does come, although of course we must fervently desire that war should not come. We must not merely trust in Providence that it should not come, but as the Ambassador of Australia, Sir George Reid, recently said, we must cease to trust in any Providence external to ourselves, and must remember that in ourselves, and in forces given us by

Nature and by our Creator, Providence largely consists. That man will be providentially situated with regard to his family who takes skilful measures for the protection of their health and education and food supplies; that man will be providentially situated and will earn the esteem of Providence who with regard to his nation, acts with reasonable forethought and does not trust to mere improvised bravery in the defense of his nation and his empire The rich man who trusts to poor men, the man who will, as an American general said, deliberately hand over to poor boys, half drilled, badly armed, without a proper commissariat, the honor of his country, is not a man providentially situated. With regard to the commissariat, armies march on their stomachs, we are told; shall we give them empty stomachs before they rush to death, and send them into action with a weapon a few hundred yards inferior to that of their opponents? The man, or the nation, who takes this course is despicable.

THE FUTILITY OF GUERILLA WARFARE.

Now a word with regard to guerilla warfare When Napoleon became master of Europe after his corps, representing the old Roman legions, had entered into Rome, Vienna, Munich and Berlin, and commanded Europe from the Rhine to the Vistula, and from the source of the Danube to Bohemia—then he tried to ruin England's commerce—by Berlin and Milan decrees. As he could not get across the sea to conquer the United Kingdom he tried another scheme, which might well be in the minds of the negotiators of the Declaration of London—a Declaration which apparently no one can understand, and which seems to fly in the face of history. Having failed to cross the sea and to invade England, and having beaten the allies of England in Austria and Prussia, Napoleon tried to get on the flank of England, just as Australia is on the flank of Japan or Japan on the flank of Australia, or Hawaii on the flank of Japan or Japan on the flank of Hawaii, or Canada on the flank of an American strategetic line drawn from San Francisco to the Philippines.

He tried, I say, to get on the flank of the British Empire and to seize Spain and Portugal, but Junot was soon driven

out of Portugal by a small army of English, and the guerilla warfare started in Spain. It would take me hours to deal with that alone. Although the Spanish were brave, determined, reckless of their lives, occasionally brutal and cruel to the enemy, yet it was not the Spanish guerillas that defeated Napoleon. I will leave it to Colonel Lonsdale Hale to say whether Napoleon's defeat was due to careful study or to improvisioned speeches on political platforms. The gruellas failed to do more than threaten the lines of communication. It is a certain fact of history that the deliverance of Spain was mainly due to the regular well-trained army of the British. In fact, the great French authority La Pene agrees with Napier and Alison. It was not the guerillas but the regular army of the British, based on the invincible power of the sea, that was the cause of Napoleon's defeat.

When Napoleon for the second time entered Vienna as a conqueror in the year 1809 the people of the Tyrol proceeded to organize guerilla warfare. They were brave, as mountaineers nearly always are; they had very fine tactical leaders for mountain warfare, among others Andreas Hofer. But did they win? Certainly not. They were forthwith beaten, and after some struggles Hofer was, in my opinion, most unjustly executed. But go where you will I contend that these mountain races, like the Afghans and like the Highlanders of Scotland, can give quite a considerable amount of trouble, as did Schamyl and the people of Circassia, but they do not win, and cannot win against great invasions of regular armies. They fight well, only to be beaten. The people of Afghanistan may have surprised and ruined one British force, but the forces under Roberts invaded Afghanistan and the Afghans were defeated

I might go on lecturing about guerilla warfare the whole afternoon, and the lesson would be still the same, that when the enemy brings against them the full force of organized and civilized States, with the determination to stick to it, and with the necessary amount of valor, guerilla warfare is soon at an end. And nearly every State has the necessary amount of valor. It is not exactly the fighting that men fail in. It is the wisdom in fighting that men fail in. Bravery without skill in any walk of life is an absurdity. In war it is a form of insanity. Once civilized people know how to deal with mountaineers they crush them.

I may mention here the Irish and the Scots, who have played not an inconsiderable part in the history of the British Isles. The Highland Scots were able to make a rush against Southern Britain in 1745, but once the British gathered together a regular army, even the mercenaries and foreigners, the Scots soon had to retire. Their fighting was of no effect once the dragoons had pulled themselves together and the forces had come from the Netherlands. I have here the view of "Prince Charlie" himself in a book called "The Irish Brigades in the French Army," by O'Callahan, who quotes the views of Prince Charlie and also the views of MacDonald, whose skilful leadership did not cause them to succeed. They said that if they could only have had in the campaign of Culloden about twelve hundred regular soldiers such as a few members of the Irish Brigade lent by the French king, and some Scotsmen also, such as had fought on the Danube in the Thirty Years War, there is not the smallest doubt they would have won the campaign of Culloden, and I believe the Duke of Cumberland himself was of the same opinion. The Duke had seen war on a grand scale on the Continent.

THE MEN OF A NATION.

I must drop now all kinds of guerilla semi-civilized warfare, and come to the wars carried on by great States of enormous means and of vast territory, who will not listen to what Lord Bacon calls the "most certain oracle of time," who will not be wise in time, who are eaten by the canker of wealth. The moment that a State begins to be so wealthy that it worships money the State becomes poor in men. Poverty really consists in deficiency of "moral," deficiency of brain, deficiency of body, deficiency of soul. What will it serve a man or a State to obtain the whole world's gold if he has not these four essential essences of true greatness? One thing is sure, that neither numbers, nor wealth, nor armaments, nor frontiers, nor navies, nor anything material whatever, has in any age saved any State in any crisis. There is

only one condition that can give security, and that is high spirit, plenty of courage, and health of body in strong men *fit to be soldiers; not weaklings, but men fit to be soldiers.*

Mark you it is false to say that Napoleon won with improvised conscripts. He won his great campaigns with the Grand Army and as the quality of his troops diminished, so his columns were deepened. The raw boys that rushed to the field in 1813 perished on the march, and he is as eloquent on the merits of veterans as was Napier himself. Our soldiers must be *men* fit to bear the burden of our empire on their own backs skillfully organized for war betimes. I shall try to prove this doctrine for the remainder of my lecture.

AN EXAMPLE OF IMPROVISATION: THE CRIMEAN WAR.

We have been told over and over again in the lifetime of many of us here, and it was said in the days of our fathers, that universal peace was about to hover over us and was about to come—as the Latins said, Astræa would supplant Minerva. In 1851 we had an exhibition of our wealth and commerce. After that exhibition we were to have no more war; that exhibition was intended to illustrate the triumph of commerce and the riches of our State and was to be the beginning of a new era, as the *Observer* newspaper says of Sir Edward Grey's speech. Now, Sir Edward Grey may be an excellent man, but if he only had studied a little more of these books I have in front of me, he might not perhaps have been so sanguine. The exhibition was a splendid one, and I am perfectly certain much money changed hands, but it did not inaugurate a new era of universal peace. During the exhibition period the Duke of Wellington wrote a little article to the *Morning Post* and for that article he was as bitterly insulted as a man could possible be. This was said about him:

"His Grace is tottering on the verge of the grave; is it not a most lamentable spectacle that the hand which is no longer capable of wielding a sword should devote its still remaining feeble strenth to the penning of a letter more calculated in the present day to excite passions and animosities in the breasts of two great and neighboring nations?"

The duke did nothing of the kind; he wanted our people

to prepare for war. The philosopher Cobden, who made the attack on the duke, went on to say:

"It is for you taxpayers of England to decide whether you will run the risk of war and keep your money in your pockets or whether you will allow an additional number of men in red coats and blue jackets to live in idleness under the pretence of protecting you."

What wisdom! What foresight!

But only a very few years later these poor boys thus ridiculed by this philosopher ceased to trouble the British nation. They embarked for the Crimea, as Sir Evelyn Wood told us the other night at Lincoln's Inn, without any proper organization whereby an army can live. They had bodies and they had bravery, and they had officers who were willing to die leading them, but the nation gave them nothing necessary to enable them to carry out ther duty with efficiency. What a beautiful philosophy! But it did not keep them alive, did it? It so happened that the Duke of Wellington was right and the philosopher was wrong. It so happened that the Duke of Wellington in 1852 could look backward on having told the truth to his nation, and in the year 1856 the philosopher could look backward on having been responsible for the death of 25,000 boys and men in the Crimea, as we were told in this room only a few weeks ago. And of these 25,000 men, 20,000 died through the government, through the government's incapacity and inefficiency which this philosopher helped to promote, and only 5,000 died by reason of wounds inflicted by the enemy! And but for a woman, Miss Florence Nightingale, many more would have died of disease. That is one specimen in modern history showing what will happen owing to the want of proper organizatian.

Would you like another similar display of philanthropy in the storm centers of the Near or the Middle or the Far East?

AN EXAMPLE OF ORGANIZATION: PRUSSIA.

Between 1861 and 1866 a lot of Prussian "Junkers" took upon themselves to organize the "brain of the army." Professor Wilkinson in his celebrated book has set this forth at

length, not at too great length, pehaps too concisely, but he has set it forth well and clearly. Colonel Lonsdale Hale, ever since, has been preaching the same doctrine.

These "Junkers" and poor scholars from the miserable swamps of the mouth of the Vistula and of the Elbe imitated Napoleon and got together proper army corps. Napoleon imitated not only the Romans but even the Irish of the third century, who absolutely sent and studied the Roman legion system. The celebrated Finmacoul of Ossin was merely the general of that part of the country where I come from myself; in fact he was a captain under one of my own ancestors; I think I like his name, it sounds sweetly in my ears. Finmacoul imitated the Roman discipline and challenged the Romans to invade Ireland and he had his own legions ready for them. Well, the Prussians imitated the example of Finmacoul, and did what Prince Charlie would have done if he could, and what Napoleon did, they got together good corps and the brain of an army. In seven weeks from the beginning of the wâr of 1866 they had defeated Austria, although all Europe had been told it was quite out of the question the Prussians should beat the Austrians, especially as the latter had South Germany, Hanover, and other small States on their side. But they did.

AN EXAMPLE OF IMPROVISATION FROM AMERICA, 1861.

Let us turn westward. The Americans in 1775 taught their successors of the nineteenth century a good lesson. In 1775 the British had to come thousands of miles across the sea in sailing ships of a few hundred tons, and yet their rebellious children would have been knocked to pieces but for Washington reorganizing the army from the militia into regulars. Three thousand British in point of fact were able to treat the capital, Washington, much as they pleased, and in fact burned its buildings in 1814. The Japanese could more easily, distance being now abolished, put 100,000 men at San Francisco within seven weeks than the British could put their forces on the east coast of American in 1776 or 1778 or 1781 in seventeen weeks. One modern vessel would carry a whole brigade. Therefore every single lesson

that is necessary to learn about preparation in the nineteenth century is of ten times more importance in the twentieth century. Relatively speaking, distance is abolished. Take the Trans-Siberian Railway, or look at the various trans-continental railways crossing that map of the world to-day. Consider that one power has fifty vessels of over 5,000 tons. Compare that with the vessel in which Lord Roberts went to India—600 tons. The lessons in consequence are of stupendous importance—and the danger to us quadrupled, as is the danger to the United States in comparison with that of the year of the Trent incident.

But the Americans thought they would make fools of themselves like everybody else, and although Washington had written that that nation which trusts to a hasty organization or mere militia levies is certain of ruin, the Americans continued to trust to hasty organization and went into the war in 1861 absolutely unprepared. As the Americans were the same race as ourselves, and as Bosh is rampant on every political platform, and in all our press to-day, I read to you the warning General Sherman gave to the government at Washington in what it believed was a mere Southern freak. We all know how, in that terrible war, in an area of operations of only a few hundred miles (indeed, in Virginia in only one hundred miles) 300,000 died, out of a population of twenty millions, in four years, and a thousand million sterling was spent. That could not have occurred if the advice of General Sherman had been thought worthy of serious attention. Immediately after the war began at Charleston and in Virginia, Sherman went to Washington, about the time of Lincoln's inauguration, and he talked about the state of affairs with characteristic freedom.

He believed that war was inevitable; that it would not be a "pantomine of wooden swords," but a fierce and bitter struggle, and he endeavored in fervent language to impress his convictions upon the country. Nobody listened to him except the President, who listened to everybody. Sherman went to him to offer his services in any capacity, but his strong words elicited a smile from Mr. Lincoln. "Oh," says the President, "We will not need many men like you very

long, General. The affair will soon be all over." He needed him for four years. and Sherman had to destroy 400 miles of Georgia and thirty miles on each side of the railway and almost turn the country into a wilderness before he could make sure of his campaign. It was said, "The affair will soon blow over." Precisely the same was said about the Boer War, but the affair did not soon blow over. It would have blown over if Sherman had been listened too, as other wars would have been blown over. Some of Sherman's friends in the army, believing there was to be a long war, urged his appointment to a good position. "Sherman knew the Southern people; the administration of the North did not." The President called out 75,000 men to serve for three months and Sherman urged them to call out a corps. He said that three months' men were no use whatever; "that the affair was not a riot but a revolution, not a mob, but an army." He said, "You might just as well attempt to put out a conflagration with a toy penny water-squirter as try to get to Richmond with these forces."

What do you think of all this? Have not I shown you by two examples that impovised armies whether in our wars and epoch, or in any other nation and epoch are always a danger and may be a disaster to the State?

IMPROVISATION OF MEDICAL SERVICES.

But listen. It is not alone necessary to organize artillery and cavalry and infantry. You must organize hospitals. Now, the Japanese organization against disease did them even more credit than their organization against weapons. The lack of organization against disease was almost incredible in the war in America. The number of deaths from disease in the American Civil War cannot be positively ascertained, but careful calculations show that more died after than during the war. It is said on authority that 190,000 died from disease. I confess this awful reckoning staggered me, but suppose 100,000 died of disease, mark you, all had passed the doctors before joining. Is it not awful? The Japanese prepared and were careful. They put into the war of 1904–5 about 1,250,000 troops of various kinds, perhaps more. The total

number of typhoid cases only amounted to 9,700, and the deaths from that disease only to 2,073. Of dysentery there were 7,600 cases, resulting in 1,800 deaths. When the Americans went to war with Spain (1898), they had a great number more deaths from diseases, in a comparatively short time, than the Japanese had. Why? Because one improvised its medical system, and the other did not! This is a very simple answer. This lesson alone from the United States wars of the nineteenth century is worthy of the most careful study.

RELATIVE VALUE OF CONSCRIPTS AND ENLISTED MEN.

It has been said recently that experience proves that volunteers and voluntarily enlisted men are better men for the purpose of warfare than conscripts and obligatory men. The history of the United States of America alone proves the opposite. Washington warned the authorities that mere roughly organized militia were of no use at all. and Washington was right. The United States of America could not have concluded the war as long as they relied on enlisted men and militia. The United States had to adopt a system of wholesale obligatory military service in 1863, or they could not possibly have reached Richmond and captured it. It seems to me incredible that the platform of this country could resound with such tomfoolery as is now deluding our people! There was no proper organization whatever amongst the so colled volunteers. Do not think that I am going to disparage America. I have friends in America, and I have been as well treated by Americans as any man possibly could be — not by Molly Maguires and that kind of folk, but by really sound, wise and responsible professional business men.

I am taking my figures from American statistics! The number of desertions amongst the regulars in four years was five officers and 16,360 enlisted men of different nationalities. I would not say a word against volunteers — I was a member of the Devil's Own Volunteers myself for sixteen or seventeen years — but during the Civil War in America, the number of desertions amongst the volunteers was 187 officers and 170,000 men. With all their talk about race and blood and

color, and so on, they had to employ negroes as soldiers, and some of the fiercest deeds of valor were done by negroes; take the assault of Petersburg and the mine crater! Yet amongst the colored troops twenty-four officers and 3,449 men deserted. That is a total of 216 officers and 189,000 men deserting during one war. I am, therefore, convinced that you cannot trust to improvisation in time of Civil war, let alone foreign war; and Gustavus Adolphus and Cromwell and "Chinese" Gordon were of my opinion.

The consequence was that nine million Southerners, of whom only five millions were white, the other four millions being slaves, held up the Federals, with all their wealth and armaments, and reduced them to despair till they got proper cavalry under Sheridan, and until Sherman and Grant—who were despised and rejected, and their counsel ignored at the beginning of the war—obtained commands, and stuck to it and won, being lavishly supplied with myriads of troops, tens of millions of dollars, and vast stores of impedimenta.

IMPROVISATION IN THE WAR OF 1870.

The campaign of Koniggrätz or Sadowa was only over for four years when jealous France in 1870 took it into her head to challenge Germany, and I am going to narrate very shortly one of the saddest episodes in the whole history of the human race. If the fall into poverty and distress of any man is deplorable, and if the sighs and tears of any woman must excite emotion in any manly breast, surely the fall a great nation is something more sad still. Surely the death and disease and captivity of 300,000 soldiers in six weeks is an awful fact! The fact that millions of women were sighing and miserable, not an occasional poor woman, such as we see on the embankment by night wanting food and shelter, but 500,000 women and children, not to speak of the men, were shut up for months, and starved and fed on "rats and such small deer," that, surely, was a sad episode. Yet that all occurred between July 15 1870, and January 28, 1871.

Now, I see I am being watched by Colonel Lonsdale Hale, who has taught us so much about the Franco-German War years ago in this hall; that is to say, not only about that

part of the war up to the Battle of Sedan and the investment of Paris. Now, Colonel Lonsdale Hale has recently published a book on one portion of the improvisation, the magnificent improvisation after its fashion, of Gambetta after the investment of Paris was completed. The French took to war in spite of the advice of all the best students of war on the Continent of Europe. A fine general, Trochu, had warned them, in a splendid book, many people here are familiar with, that their army was not fit for its purpose, and would not be for some time. Marèchal Niel, who was alluded to here in the last lecture by General Arbuthnot, also warned them, their attaché in Berlin gave them most significant information betimes, yet they believed they could go to war with a light heart, lightheartedness taking the place of strategy. I remember seeing lightheartedness or hysteria taking the place of strategy in London, people dancing about and kissing girls they had never met before in the streets, all because of one small incident in the midst of the gloom of 1899 to 1900. The French were singing "A Berlin," just as the Americans, a few years before, were singing "We will hang Jeff Davis on a sour apple tree." They did not; and the French did not go to Berlin. It was the people of Berlin who came to France, it was the people of Berlin, where Napoleon had been in 1806, who adopted, with the encouragement of the girls, universal military service. I think the Prussian girls, in that case, deserved kissing. Why? Because no man dare make love to a Prussian girl after 1806 unless he was a soldier. It was the Berlin people who came to Paris in 1870, and not the people of Paris who went to Berlin. Why? Merely because the principle of the brain of an army had been properly adopted by Germany; merely because the German nation was organized for military purposes; merely because, as Von der Goltz magnificently describes it in his able book, Germany was a "Nation in Arms."

When Paris was invested, corps after corps was improvised in the north and along the Loire and near Belfort and Besancon, and, as Colonel Lonsdale Hale pointed out in his book, as each successive corps was being formed, so it deteriorated, each successive improvisation being inferior to the

preceding one. At any rate, this is true: That the German army not only invested Paris and shut up Paris to starve, not only took Metz and then marched 173,000 French into Germany, not only won the battle of Sedan and took 83,000 prisoners, and drove Bourbaki's 80,000 into Switzerland, starving and bootless in the snow; but they repulsed in every direction every one of these improvised armies. What was the financial result of having improvised armies? Two hundred and sixty millions sterling of indemnity! This war, carried on with such a vast expenditure of forces on both sides, was brought to an end by incessant and restless energy in the short period of seven months; and it cost France 260,000,000 sterling paid down to Germany, and about £300,000,000 on its own forces.

We shall be in like case some time or other if we trust to improvisation and hasty recruiting instead of to organization and properly trained men. We shall have our women starving worse than the women starved in Paris if we agree to have our food supply cut off from us by any new system of international law under the Declaration of London And, above all, we shall be thus ruined if ever any principle of false economy for one year permits our navy to fall below the standard of its responsibilities.

Let me read Von Moltke's short summary:

"Even in the first four weeks eight battles were fought, under which the French Empire crumbled and the French army was swept from the field. The French forces, incompetent but numerous, equalized the original numerical superiority of the Germans. So numerous were the French and so rich that they could put 600,000 men in the field with armaments, and twelve more battles needed to be fought to safeguard the decisive siege of the enemy's capital. Twenty fortified places were taken and not a single day passed in which there was not fighting somewhere on a larger or smaller scale."

We pity the French, and we pity the Germans, too, because this war was forced upon them by the incompetence of their neighbors.

Lord Grenville, the foreign secretary, absolutely assured the country there was not the slightest cloud of war on the horizon in June, 1870, and Mr. Hammond, the permanent secretary, of course, said ditto to Lord Grenville, and informed the nation that he never knew of a time in which there was less danger of war. Yet the Germans lost, a few months later, in dead and wounded, 6,247 officers and 123,000 men. I am quoting Von Moltke himself. That was the German loss. What about the French? The total losses of the French were incalculable, according to Von Moltke. In prisoners alone in Germany there were 11,860 officers and 371,000 men. In Paris, shut up in that city, were 7,000 officers and 241,000 men, while disarmed in Switzerland, wretched, naked, starving, were 2,192 officers and 88,000 men.

THE "ORACLE OF TIME."

Now, I have given you another example of the "Oracle of Time," that whether you are Frenchmen, Americans, Britons, Romans or Greeks, the most certain oracle is:

"Let no nation expect to continue great that does not make a study of arms its principal honor, attention and occupation."

I have a similar repetition of history to make about the Boer War, 1899–1902.

M. Bloch warned us that we were to have no more wars; but we had several. Kuropatkin warned Russia against the war with the Japanese, but they went into war just the same as though Kuropatkin had never said a word at all. Here is Bloch's book, "Modern Weapons and Modern War," in which he supports the theory of the Hague convention. Councillor Bloch, you will remember, spoke in this room, and said there would be no more cavalry in war, and, indeed, he declared that no force of any army dare face modern weapons. We did not all believe him, and that unbelief was justified because we had several hundred thousand horses dying in South Africa forthwith. Coucillor Bloch said that artillery would sweep all opposition from the face of the earth, and there would be no more bayonet charges, but there have

been bayonet charges over and over again, and the fiercest artillery fire did not stop infantry in Manchuria.

We have recently had another book, a most extraordinary book, before us, called "Compulsory Service." I spent hours wondering what kind of book it was. I saw it was a very long "Introduction," and I looked into about three hundred other books with "Introductions," and I found it was the longest "Introduction" in proportion I had ever seen. The book has an "Introduction" of forty-two pages, and the matter of the book itself runs about 148 pages. It tells us really that we depend on "hobble-de-hoys" for our Empire.

Up to the year 1815 a large proportion of our navy and army men were obligatory service men. We had obligatory service men for the volunteers and the militia, and we had the ballot at the time of the Peninsular War, and for Britons to say that obligatory service men are relatively inferior to any others is to laugh at the past history of England from Crecy to Waterloo.

I have here another excellent book, which I have read so carefully that I know it almost verbatim. It is called a "Staff Officer's Scrap book." This is a compulsory service book:—

"How happy would I be with either
Were the other dear charmer away;
But if both of em's talking together
To neither a word can I say."

THE TRUE BASIS OF DEFENSE.

I advise you to read Baron Suyematzu's "Risen Sun," Chapter V, page 144, and see what he says about the true basis of the defense of the State. The Japanese listened to the voice of history. They might be "poor little monkeys," living on remote islands in the Pacific, but they were monkeys who had descended from their trees. I myself did not think they were monkeys. They had a very fine history, even before the war of 1894–5 and 1904–5; they were efficient in every art, and in poetry, and they had a kindly nature. But when the Western people bombarded them about the year

1868, they said to themselves that one or two bombardments were quite enough for anybody. There is a vulgar phrase, "We are not taking anymore," and they adopted it, if not in phrase, in spirit.

They organized, they adopted modern armaments and weapons. Russia, that monstrous State which had rudely shaken the Empire of Napoleon, that State which had gave us so much to do because we were not ready, in the Crimean War, that State, with her enormous population and enormous wealth, by means of that great railway, put into the field in a few months more than a million privates, 25,000 officers, 250,000 horses, 700,000 tons of material, and 1,600 guns. That was done on one railway. Russia challenged Japan, and Russia was beaten by Japan.

THE LESSONS OF HISTORY AND THEIR APPLICATION.

I have only quoted from history several of the lessons of the nineteenth century, and how the last great war has fully confirmed our views, supplementing the history of the past centuries. We are now at the beginning of a new century, which will not be an era of universal peace. Peace, as a matter of fact, might be a bad thing for a nation. I am by no means clear that, from a moral point of view, even war is not valuable as a storm is valuable in the calmest season. The Irish prelate poet Alexander wrote:—

"And as we see how nobly nature forms,
Beneath the war's red rain, we deem it true
That He who made the tempest and the storm
Perhaps made battles too."

I am not at all sure that in the present state of morality and humanity, in the face of such sights as you see in the back parts of your cities, universal peace would be an era of universal benefit for mankind. I do not believe it.

"Adversity doth best discover virtue, prosperity does best discover vice."

This is another lesson of mankind. If you are coming to an era of universal peace, well and good. But if, as I say, you are not, what then? Your Declarations of London, your International Arbitration is worse than vanity of vanities,

because you will have to pay the usual forfeit; and for you with your island home, depending on supplies from all parts of the world, a Declaration of London will be worse than a bombardment of Paris. You must make yourselves as impregnable as God and nature and your resurces will enable you to make yourselves. If you do, these isles must not only be fairly safe. They must be impregnable. If you see to this betimes, you can dispense justice amongst your own people, and you can stand alone, none daring to make you afraid. That can be only done by nurturing a race of military men. Men, as a poet said more than a hundred years ago:—

"Not such as nations breed in their decay,
But such as they have when they are stout and young,
When heavenly flame doth animate their clay,
And they by future poets shall be sung."

Men who have within them the heavenly flame of valor and skill and discipline, and self-confidence and self-denial —they are the men the nation wants. Get them—and that right speedily.

CAVALRY STUDIES.

[The following questions and answers are reprinted from the *Austrian Cavalry Journal* for the information of our cavalry officers.—EDITOR.*]

"I DESIRE to study the Russo-Japanese War from a purely cavalry standpoint. What events, episodes, etc., do you consider of main importance in such a study?"

Answer: The following events furnish the best material for the study:

1. Recconnaissance activity of the Russian cavalry prior to the battle of the Yalu.

The Russian East Detachment (Sassulitch), sent far to the front on the Yalu, had orders to stop the advance of the

*Translated by M. S. E. Harry Bell, Army Service Schools.

Japanese First Army, which had landed in Corea. Its cavalry, sent to beyond the Yalu, which naturally was charged with reconnoitering the Japanese advance, solved its task very diffidently. General Mischtschenko, in place of falling back in a northeasterly direction in face of the hostile advance to thus secure to himself the possibility of reconnoitering the right flank and rear of the Japanese, fell back across the Yalu on April 3d without having any reason for doing so. As a recrossing of that formidable obstacle was almost impossible, the reconnaissance was entirely fruitless. Madritow's detachment of 500 troopers, the only Russian cavalry body remaining on the left bank of the Yalu and which could have performed excellent service in reconnaissance, entirely ignored its main task and occupied itself with fruitless operations against the Japanese communications in Northern Corea. Thus it was useless not only in reconnaissance, but was absent also in the battle.

2. Reconnaissance of the Cossack Division Rennekampf against Fenghuantscheng and Kuandiasa.

During cessation of operations after the battle on the Yalu the Cossack Division Rennekampf kept touch, at Saimatsy, with the First Japanese Army, which had pursued to Fenghuantscheng. At reconnoitering patrols in the mountainous country, traversed by but few roads, furnish only scant information, General Rennenkampf resorted to reconnaissances in force. Their results were, however, small compared with the losses sustained. Through late starts and slow marches—marching being done only during day time —the factor of surprise could not be brought into play. In many cases the Russians encountered the enemy entirely unexpectedly, their near-reconnaissance having failed, and thus became the surprised themselves.

3. Cavalry fight at Yudsiatun and participation of the Japanese First Cavalry Brigade in the victory at Wafangou.

After the capture of the position at Kintschou, on May 26, 1904, Kuropatkin decided to make an advance in a southerly direction for the relief of Port Arthur. For this purpose the Siberian First Army Corps (Stackelberg), reinforced

by parts of the Thirty-fifth Division and the Siberian Cossack Division, was to assemble at Wafangou to advance southward. On the part of the Japanese, the largest part of the Second Army (Oku) had been started from Kintschou to meet this advance, bringing about the battle at Wafangou on June 15th.

The Russian advance guard, consisting of two cavalry regiments, three Cossack frontier guard sotnias, one Cossack battery, encountered at Yudsiatun the Japanese First Cavalry Brigade (Akiyama), reinforced by two companies, which had advanced northward for reconnoitering purposes. The fight, partly carried on mounted and partly by dismounted fire action, was finally decided in favor of the Japanese by the interference of the Japanese companies.

The first Japanese Cavalry Brigade took part in the defeat of Stackelberg at Wafangou on June 15th in so far as it defeated the attempt of the Russians to envelop the right Japanese wing. After one Japanese regiment of divisional cavalry engaged the Russian enveloping detachment (three battalions, one battery) in a fire fight, the First Cavalry Brigade attacked the opponent with the carbine and completely defeated him. Thus the endangered Japanese right wing became secure.

4. Mischtschenko's detachment in June, 1904.

During the course of June the Japanese First Army slowly pressed back in the mountains, the Russians into a northwesterly direction. The cavalry detachment under Mischtschenko (five Cossack regiments, one battery) retreated on the Russian right wing, though continuously offering resistance. On June 26th, reinforced by one Siberian infantry regiment, it held the heights northwest of Siandiapu with twelve sotnias, one battalion and one battery, while the rest of the detachment was at Wandiaputzy southeast of the Daling Pass, about twenty-five km. distant. Early on the 26th the detachment at Siandiapu, with which Mischtschenko was, was attacked by three battalions, one squadron and one battery, while stronger Japanese forces simultaneously advanced against the Daling Pass. Although an additional

four Japanese battalions, one squadron and one battery were inserted against Miscthschenko's left flank at Siandiapu and although the Russians lost the Daling Pass on the 27th, (Mischtschenko held his position at Siandiapu until the evening of the 27th) and started the retreat only after having offered a two-day's resistance; he was not pursued.

5. The detachment Samsonow in the battle of Liaoyang.

When in the battle of Liaoyang on September 2d the Russian Infantry Brigade Orlow, which had been started to attack the Japanese right flank (Kuroki), passed west of the coal mines at Yentai, completely defeated and in great disorder, the cavalry detachment Samsonow, four Cossack regiments, one battery, held the coal mines and brought the pursuit of the Japanese Twelfth Brigade to a standstill.

6. The Japanese Second Cavalry Brigade in the battle on the Scha-ho.

While the Cossack Division Samsonow attacked, in the battle on the Scha-ho on October 12th, a Japanese detachment sent out by General Kuroki as a flank guard, the Japanese Second Cavalry Brigade succeeded in gaining the rear of the Cossack Division entirely unobserved and throwing that brigade into utter confusion by fire surprise. Headquarters of the Russian East Detachment was thereby deceived into the belief that a stronger attack was being made against the Russian left wing and slackened its energy of attack.

7. Mischtschenko's Raid toward Yinkou.

During the protracted pause in the operations after the battle of the Scha-ho, General Mischtschenko started on January 9, 1905, with sixty nine squadrons, twenty-two guns and four machine guns on a raid against the Japanese communications to the rear in the direction of Yinkou. The entire failure of the undertaking may be traced back to the following: Not keeping the matter secret; primary choice of an unimportant objective; slowness of movement; unreasonable delay in attack; attack being made without energy.

8. Operations of Japanese cavalry against the Russian communications to the rear prior to the battle of Mukden.

Two Japanese squadrons rode around the Russian right wing, blew up after a hot fight, a railroad bridge 250 km. north of Mukden, destroyed a magazine during their retreat, defeated a detachment sent out against them and returned in safety to their army with a captured gun. The main success of this daring ride was that Kuropatkin greatly fearing for the safety of his communications to the rear, detached very material forces for their protection at a time when he should have called up every man of his force for the decisive battle.

9. The cavalry in the battle at Sandepu.

Japanese cavalry detachments resisted with great gallantry the several superior attacks made by the Russians until the Japanese counter attack could be started. Among others, four squadrons with weak infantry and two guns held their position for two days, in spite of having been fired on, on the 25th of January, by fifty, and on the 26th by 150 Russian guns, and being attacked on the latter date by an entire Russian division.

The great activity of the Russian cavalry detachment under Mischtschenko in the battle furnishes a very interesting example of the error of frittering away the force.

10. The Cavalry in the Battle of Mukden.

Here also the Russian fault of splitting up their forces is made itself felt; although the cavalry was numerically strong it appeared at no one point in sufficient fighting force. The two independent cavalry brigades of the Japanese, combined into a division, executed their task of protecting the left flank of Nogi's army very efficiently. They succeeded in defeating a reinforced Russian infantry brigade, which had been sent out for flank protection, and driving it away from its line of retreat in such a direction that it was lost to the Russians in the battle.

"What were the best achievements of officers' patrols in the Franco-Prussian War in the line of covering distances?"

Answer: On November 28, 1870, Lieutenant V. Wedell of the Zieten Hussars, accompanied by one non-commissioned officer and eight Hussars, covered the distance from Longey via Cloyes to Beaugency and return, having had many encounters with the enemy—distance 105 to 112 km. =70 miles.

Lieutenant V. König, 17th Hussar Regiment, attached to headquarters staff of the Second Army, rode from Orleans at 10:00 P. M. December 10th, reached Vierzon between 5 and 6 A. M., and arrived back in Orleans at 4:30 P. M. the 11th. In eighteen and one-half hours, including a halt of two hours in Vierzon, he covered 160 km.= 100 miles.

On December 8th, Lieutenant Count Arnim of the Reserve of the Zeiten Hussar Regiment covered the same road from 6.A. M. to 12 midnight. 100 miles.

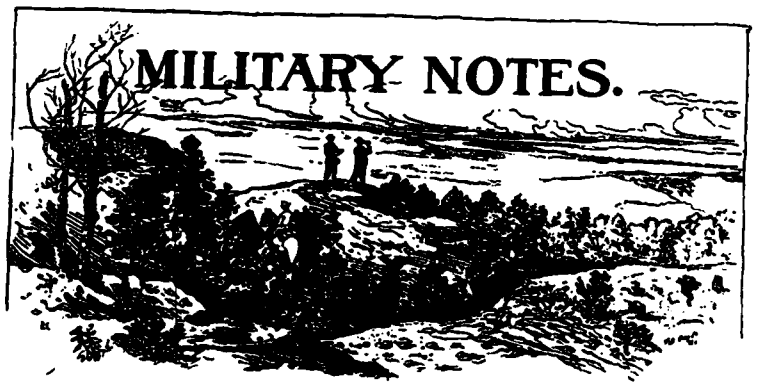
On December 9th and 10th, Lieutenant V. Hagenow of the 13th Hussar Regiment rode from the 22d Division to General V. D. Tann and back, covering, on one horse, about 157 km. in twenty-five hours.=98 miles.

Lieutenant V. Tschierschky of the Guard Cuirassier Regiment, accompanied by a patrol, covered 120 to 130 km. in twenty-four hours.=80 miles.

On December 24th and 25th, a platoon of the King's Hussar Regiment, accompanying an officer carrying a message, covered 120 km in 28 hours.=75 miles.

On November 14, 1870, a platoon of the Uhlan Regiment, No. 8, covered 100 km in fifteen hours.=63 miles.

On January 21, 1871, the 2d Squadron of the Baden Life Dragoon Regiment, No. 20, seeking for the connection of the troops under General V. Werder with the 7th Army Corps, covered 105 km in twelve and one half hours.=65½ miles.



ONE LIST FOR LINE OFFICERS.

LOOKED at from the viewpoint of the efficiency of the army as a whole, there has been no legislation proposed in years that promises such good results as the proposition to place all officers of the fighting arms of the mobile army on a single list for purposes of promotion.

All our legislation for years has been dominated by the one idea of promotion, either to get promotion for some one or ones or some branch.

In self protection, all those adversely affected have had to oppose such bills, with the result that the mobile arms are always unable to agree among themselves as to what is desirable legislation. The efficiency of the service thus comes to be a consideration secondary to personal advancement.

A number of officers have, through the accidents of such hap-hazard legislation, gained promotion to which they are no more entitled than are those who have in a similar way lost rank. Those who have thus gained naturally desire to keep their advantage, yet many of them are ready and willing to lose such advantage for the good of the service as a whole.

It has been noticed that articles advocating the measure are usually signed, while those opposing it are frequently not so. This has led to a suspicion that some of them are inspired by motives that would be readily understood if they were signed. At any rate it is thought that in discussing this measure we should lend to our views the support of our names.

By the nature of things each of the staff departments and the coast artillery are each united among themselves. They have only one object, the good of their own special service. This unity, while the mobile arms are not united, has led to their getting influence and consideration out of all proportion to their relative usefulness. The officers of these special services are working and thinking continually along a special line. In times their ideas get a permanent bent in that direction and they can see or care for nothing else. Most of us have competed with the engineers for class standing without success, so it is a fair statement to say that the engineer officers are the brightest men in our service. Yet an engineer officer always looks for a chance to use his special trade. In a war game or maneuver an engineer officer who has been given an offensive mission and ample means to carry it out will nevertheless usually promptly begin to look for "a position." In other words, his previous training as an engineer in the construction of field fortifications has given his mind a permanent bent that usually unfits him for the command of a mobile force. An analysis of McClellan's actions while in the command of the Union Army will lead to the conclusion that his training as an engineer officer was responsible for much that seems like timidity in the Peninsular campaign. In the same way the officers of our supply departments get a permanent bent to their minds that makes them instinctively place regularity of methods according to the rules of their departments above the needs of the troops they are supplying. To such an extent does this natural law work that it has been noticed that efficient supply officers *in the field* are seldom found among those who have been for

years accustomed to departmental rule. In this as in the mental attitude of engineer officers there are exceptions, but they are so rare as to do no more than prove the rule. Officering the supply departments by detail will no doubt help to eliminate this fault in future.

The above is in no sense a criticism but a statement of what it is thought is to be expected from the action of natural mental laws.

For similar reasons, now that our coast artillery is really artillery and not "red legged infantry," it can see nothing but forts as a defense for the country. They would have a sort of "Chinese wall" built around the country and expect thus to keep all enemies out, forgetting that while permanent fortifications are invaluable as points of support to a mobile army and coast defenses can be made impregnable from the sea, yet in either case the sphere they dominate is very limited in extent and they are easily captured unless they have strong mobile armies, with their almost unlimited sphere of action, available to prevent a systematic land attack. Naturally the coast artillery would like to be prepared to defend every harbor at any time. As to what proportion of the funds available for expenditure by the War Department should go toward coast defense, it must, however, be considered that the chances of any one particular fort ever being attacked are very small and the chance that a large proportion of them will be attacked or need to be prepared to meet immediate attack *at the same time* is so small as to be negligible.

Our coast artillery is rapidly becoming most efficient, but this very efficiency requires them to concentrate their minds on their own particular problems to the exclusion of all others. As they become more and more efficient as heavy artillery they will become less and less available or useful outside of a permanent fortification.

Each of these special services has charge of the expenditure of enormous sums of money. In this way their officers acquire business and social relations with men of wide power and influence and are able to have their views given a full hearing, so that the special views of men whose minds must

have a bias are really accorded much more consideration than is given to the needs of the mobile army. This is no fault of any one but the officers of the mobile forces who by their failure to unite and work together have lost the opportunity to get a fair presentation of the needs of the mobile arms.

This failure of the officers of the mobile arms to work unitedly has been almost entirely due to jealousies aroused over the question of relative promotion. All questions of organization, etc., are invariably so complicated by these jealousies over promotion as to soon become a mere incident to the discussion as to the effect such and such a reorganization would have on promotion of individuals. If we were all on one list we could consider these questions with a view simply to giving the country the most and best for its money.

At present the time and attention of Congress and the money of the country are expended too largely in improvements of the side issues. What the special departments and special services ask for is usually something that is desirable in itself and always is desirable from their own special point of view, but it does not follow that it is wise for the country to so divide the money and energy that is available for land defense that the main strength of such defense, the mobile forces, is left in a secondary position.

It is generally conceded that Congress would give the army good legislation if it could find out what was most desirable. Under present conditions Congress is advised in one way by one set of officers and in an opposite way by others. Eventually Congress has come to look for the colored gentleman in the wood-pile every time army legislation comes up.

The duty of the General Staff is to overlook the affairs of the army in such a way as to remove the personal and branch bias of all schemes of organization, supply, training, etc., and, taking a broad outlook of the situation, coördinate everything to the one end, efficiency. But the General Staff is composed of men from the various branches and corps who come to their duties on the General Staff with a mind biased by years of past service in a single branch.

The objection most frequently raised to placing all officers of the mobile forces on a single list is that some

officers might be promoted out of their own branch of the service. With the opportunity offered by the presented scheme to use the unasigned list as a reservoir to preserve the equality of promotion between the arms, it is doubtful whether such involuntary service in another branch would occur. On the other hand an officer would be best fitted for higher command or for duty as staff officer on the staff of a higher commander by having had such service. Before an officer goes on the general staff he should be well acquainted with all three arms. He can become well acquainted with the needs and peculiarities of the different arms only by service in them. The War Department might well inaugurate a policy of having every officer of the mobile arms who is likely to serve on the General Staff prepared for such service by a detail of six months or a year in one or both branches of the service with which he is not familiar. If this opportunity were given to the best qualified and more promising officers there would be no need to fear that any officer would be taken out of his special branch against his desires.

Would it not be well for other cavalry officers to publish their opinions on this important measure?

LEROY ELTINGE,
Captain Fifteenth Cavalry.

CAVALRY NOTES.

To the Editor:

I am sending you herewith a copy of the Cavalry Notes, which have just come from the printer.

Perhaps there may be in them some data useful to your readers. In any event. I hope there may be something contained in them that will cause some concentration of thought on cavalry organization.

It is extraordinary that the majority of our officers think that our present organization was the result of war experiences.

In this connection the following recent statements of distinguished Civil War veterans is enlightening:

From Major General James H. Wilson, September 18, 1911:

"If I mistake not, these tactics (Cooke's) called for a single rank formation which was used by preference in the Army of the Potomac, but when I went west to reorganize and command the cavalry of the Military Division of the Mississippi, most of which I gathered in the camps at Gravelly Springs, I found it necessary in all display organizations, reviews, etc., and generally in practical work to reduce the formation to double ranks. Sometime in February, 1865, I held a review in which their were five divisions, amounting to 17,000 mounted men in the various fields in which the cavalry assembled. You can readily see that it would be impossible to find enough open land in Lauderdale County to handle any such force of division front in single rank.

"Somewhere in the records of that corps in the War Department you will find the order issued by me requiring the habitual use of the double rank formation."

From the same September 25, 1911:

"I enclose herewith a note just received from General Gregg, from which you will see that while in the Army of the Potomac the old double rank formation was continued to the end. He approves my letter to you, the point of which was that whatever the tactics of the western cavalry, the double rank formation was continued for all practicable purposes."

From Major General D. Mc. M. Gregg, September 25, 1911:

"I am in receipt of your letter of the 21st instant enclosing a copy of that sent by you to the War Department relating to the tactics used by our cavalry in the War of the Rebellion.

"The bulk of the volunteer cavalry regiments of the Army of the Potomac received their instruction in drill from the date of their organization in 1861, until May, 1862, when the Army of the Potomac started on the Peninsular Campaign. The system of tactics used was the one double rank, and this was continued in my division, so far as my knowledge goes, until the end of the War. After the spring of 1862 there was but little, if any, opportunity for cavalry drilling in the Army of the Potomac. The summers were spent in marching, scouting and fighting, and in the winters if not employed in like manner then a change to picketing to the exclusion of drilling.

"Your letter to General Allen gives him the required information as fully as can be given."

From same, October 11, 1911:

"I thank you for your courtesy in having sent me a copy of the pamphlet containing your cavalry notes. I have read it with great interest and fully coincide with your views of the proper organization of a regiment or a company of cavalry. In the years preceding the War of the Rebellion, the service of the dragoons, cavalry and mounted rifles on the frontier was impaired and injured by faulty organization—too many small units. The same cause lessened the efficiency of the mounted arm in the War of 61-65. That the loss of

horses in that war was enormous, is true. The small units had much to do in causing this, but other causes contributed largely. One of these was, that the great size of the mounted service made such a heavy demand on the horse stock of the country, that in the later years of the war, horses totally unfit for the service were accepted. Contractors managed to have accepted at government yards anything in the shape of a horse. Horses too old, too young, unsound, were sent out, and of course these under the hard service to which they were subjected, winter and summer, were soon condemed as unfit for use. Then, too, recruits without previous training were sent to regiments in the field. These inexperienced men knew nothing about the care of horses and as a consequence injured them.

"I trust your strong presentation of a needed reform in organization will bring about a change."

From Lieutenant General S. B. M. Young, September, 18, 1911:

"The old Scott Tactics with the double rank formation were in force but that sometime in the winter of 1861–62 while in camp near Washington, his squadron was selected to try out the new Cooke Tactics upon which he reported favorably, but in the spring of 1862 they reverted to the Scott double rank tactics which were used from that time until the end of the war."

From Brigadier General T. F. Rodenbough, September 18, 1911:

"The regular cavalry used Poinset's double rank two troop squadron tactics during the Civil War, but some volunteers in western armies may have used Cooke's single rank formation."

There are others who insist that universal (barring the United States) cavalry organization would be too complicated for volunteers. These persons fail to recognize the fact that it is much easier to handle one large squadron than three small ones. The ease with which our troops at Leon Springs went to double rank demonstrated that it was not difficult; moreover there is a tremendous advantage in putting new men where (in rear rank) they always have a guide and friend immediately in front.

There is a fallacy that has for some unknown reason crept into the minds of many of us, and that is that double rank formations are not as well adapted to foot fighting as single rank. The question involved in this would simply be one of numbers with the advantage in favor of the formation which causes the total of distances traveled by the troopers in reaching a given position to be the least. That is capable of ready geometrical demonstration.

The most remarkable fallacy that has found lodgement in the minds of some of us is that European terrain is totally

different from ours, and therefore requires different organizations and formations. I leave that to be answered by any man who has traveled in Europe. But if that principle were recognized as important, why should all other countries, including Asiatic and South American, not have recognized it? If that principle were true, why should the organization suited for the principal battle fields of the Civil War not be changed for the regions contiguous to the Canadian and Mexican boundaries, and in fact for two-thirds of the area of our own country and of those contiguous to us?

Finally, it has been reported by some that certain European powers would adopt our organization were it not for the expense involved. I have followed the European trend of cavalry many years rather closely, and it can be truly said that this report is not well founded. Moreover, I fail to understand how our organization is relatively more expensive than theirs, since they have relatively more field and more troop officers than we have.

Two great desiderata in the proposed changes are: economy in detached men and economy in barracks, stables, parking, streets and sewers. These matters merit careful consideration.

There is a minor consideration, but, nevertheless, one that is seriously and closely related to efficiency: An effort to have grades conform to ages, or rather ages to grades, more than at present—to have an organization wherein there is a reasonable flow of promotion. If I were to state one cause as more powerful than any other in preventing the highest military efficiency in our service, I would name *excess of age for grades*. What is still worse is the fact that it is precisely in the cavalry where that burden falls the heaviest—in a branch where it should be the lightest.

It seems to me that our standard of efficiency should require us to equal any cavalry in shock action, and, man for man, when dismounted to equal any foot soldiers. In my opinion no standard lower than this should be set for our officers and troopers, nor taught at our institutions of learning.

HENRY T. ALLEN,
Major, General Staff U. S. Army.

OFFICERS' CHARGERS

AS has been stated many times in previous numbers of the CAVALRY JOURNAL, we would be pleased to receive and publish photographs of officers' chargers with a view of our mounted officers becoming familiar with what is thought to be the best type of such horses.

The one reproduced herewith below has been furnished by one of our members.

POWHATAN.

OWNED AND RIDDEN BY CAPTAIN HUGH D. WISE, NINTH INFANTRY.
(Winner in the Charger Class at Fort Leavenworth, 1910.)
Height 15-3 1-2; weight, 1,060; color, bay; gelding; eight years old.
Sire, Montgomery Chief; out of a thoroughbred mare.

CAVALRY REORGANIZATION.

The Editor:

DUE to the urgency under which my article, "Cavalry Reorganization," published in the September, 1911, number of the JOURNAL, was written, there is an omission. While this discrepancy does not change the conclusion reached, its mere existence may be misinterpreted in some places, and, therefore, I write now to make the necessary correction.

On page 267 is the statement: "The tactics in use by the Union Cavalry at this time were those of Colonel P. St. George Cooke, adopted in 1861." As stated, these tactics were approved and were published for the government of the service. The drill provided for the maneuver of the squadron (our troop) of which there were ten to the regiment, of the regiment, and of the brigade. Between the squadron (our troop) and the regiment, there was no intermediate organization corresponding to our present squadron. The ten squadrons were maneuvered by the direct commands of the colonel, the majors having no specific command as now provided for in our organization. These tactics provided, for the first time in our mounted service, for drill in single rank.

In 1826 a board was appointed and the same year reported "A Complete System of Cavalry Tactics." This was published to the service in 1834, at which time there was but one mounted regiment, the First Dragoons, which had been created the year before, in the regular service. These tactics were known as the "Scott Tactics." General Scott having been president of the board.

In 1841 there was adopted and published to the service a "cavalry tactics, adapted to the organization of dragoon regiments." These were generally known as the "Poinsett Tactics" or "'41 Tactics." They were chiefly a translation

of the tactics of the French service. An edition of these tactics was also published in 1864.

So far as concerns organization, the Scott Tactics provided for a regiment of four squadrons and the Poinsett Tactics for a regiment of five squadrons. Each squadron was composed of two troops or companies, as they were variously designated, the squadron being commanded by the senior captain, the other captain having no command but being merely a file closer. The colonel commanded the regiment and the lieutenant colonel and major had merely nominal or supervisory duties. The major had no direct command, such as is now prescribed for him in regimental drill. The drill was in double rank. Neither of these tactics prescribed any organization higher than the regiment. The troops (or companies) when acting alone were each commanded by their respective captains.

The Cooke, Scott, and Poinsett Tactics were all used during the Civil War. In fact, unlike our present practice, rigid adherence to one drill book was not exacted throughout the service.

The text used in the Civil War and the other references were cited for the purpose of showing the legislative and tactical organizations of the cavalry at that time and of comparing those organizations with those which we now have. An examination of the tactics cited above will further sustain the contention advanced in my article that our "present organization and system of drill cannot be said to be based directly on our experiences in the Civil War."

HOWARD R. HICKOK,
Captain, Fifteenth Cavalry.

RIDING AT WEST POINT.

THE following has been sent us by one of our most progressive cavalry officers:

"From the Official Register of Officers and Cadets of the United States Military Academy, for 1911, we glean that the amount of instruction in riding at West Point is as follows:

"During the first year no riding.

"During the second year, forty-three drills of sixty minutes each.

"During the third year, thirty-five drills of forty-five minutes each.

"During the fourth year, 103 drills of sixty minutes each.

"A grand total of 167 hours of riding during the four years.

"Deducting from the above the ten minutes consumed in marching to each drill, or about thirty hours in all, it would appear that the cadet, during his four years' course has 137 hours of mounted instruction, or about as much as a cavalry recruit gets in two months, riding two and one-half hours per day, not including Sundays.

"Is this, even approximately correct?"

OFFICERS' INTER-REGIMENTAL RACES IN RUSSIA.

ONE event among the different ceremonies which we attended this year in Russia was of especial interest. This was the inter-regimental racing, inaugurated a few years ago by the Commander-in-Chief, the Grand Duke Nicholas, and in which all the mounted regiments, artillery, as well as cavalry, are obliged to compete. To the winning regiment a handsome silver cup is presented by the Emperor, in person, who hands it with a short speech of congratulation to the colonel.

The conditions of the race are as follows: All the officers of the mounted regiments in camp must attend unless detached or sick. Each regiment must be led by its colonel, and the officers of the regiment must keep behind him. Officers who cross the finish line more than fifteen seconds

after his colonel is considered out and this affects his regiment's standing. The distance is six versts (four miles), over six jumps as well as other obstacles, such as high banks and ditches, and must be covered in less than twelve minutes.

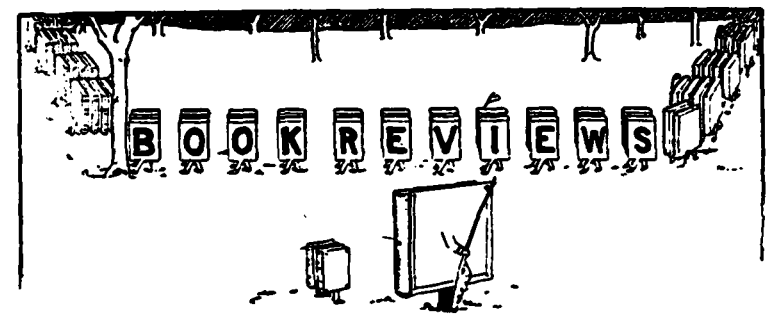
Each regiment starts with all the officers behind the colonel, and time is taken from the time the colonel crosses the starting line till he finishes in the lead. The final standing of the regiment is determined from the two factors, the number finishing within fifteen seconds after the colonel, and the time in which he makes the course. As nearly as I could time them, the winning regiment covered the distance in close to ten minutes, though the papers said even less. As this would be galloping at the rate of a mile in two and one half minutes it can be seen that the pace was a stiff one.

Such a competition necessarily means not only that each officer must own a good horse, but that all, from the colonel down, must be hard riders; and to win the colenel must be a good judge of pace, splendidly mounted, and physically fit to lead his regiment.

In this connection I may state that I have seen a Russian cavalry regiment drill for twenty-one minutes without a halt or even a walk, and entirely at a gallop, part of which when wheeling to change direction was at the run and the final charge was also at a fast run. During all this twenty-one minutes the colonel was at the head of his regiment, giving but few commands but causing it to follow him almost entirely by signals with his saber.

In sixteen years in the cavalry service, I have never before seen or heard of a regimental drill that approached this exhibition and I feel sure that it was due entirely to the physically fit and hard riding colonel.

N. K. A.



Nan Shan and Port Arthur.*

The bitterness that usually characterizes personal memoirs written so soon after the events to which they relate is entirely absent from this narrative of the experience of one who was present at and took a conspicuous part in the fighting at and near Port Arthur. The author simply states facts as he saw them, without references to underlying causes or criticism of any one.

Historically the account seems to be remarkably accurate as it checks closely with any of the good historical accounts of that war. Where the account differs historically from the British Official History of the Russo-Japanese War the fact is noted by the translator.

The volume is well printed in good type, beautifully illustrated and contains good maps.

It will be of the greatest value to any officer who wishes to make a systematic study of the Manchurian War by enabling him to get a clear idea of the Russian situation and view-point, such as no purely historical account will give.

* "My Experiences at Nan Shan and Port Arthur with the Fifth East Siberian Rifles." By Lieutenant General N. A. Tretyakov. Translated by Lieutenant A. C. Alford, R. A. Edited by Captain F. Nolan Baker, R. A. Maps and illustrations. Hugh Rees, Ltd., London. Price, 12s. 6d., net.

As an example, the author in one place tells how two adjoining company commanders agreed that, as verbal messages had frequently led to misunderstandings that caused a lack of mutual support, they would neither of them leave their positions without notifying the other and that such notification should be in writing. Later one company commander went on his firing line, leaving a subordinate in command of his reserve and failed to notify his second in command of the agreement with the adjoining company. This company commander was killed and his company routed. The first intimation the commander of the company reserve had of this was when he saw the front line flee past him. He thereupon followed the retreating front line and of course did not notify the adjacent company, which did not know that the adjoining part of the position had been abandoned till the Japanese began to fire into it from the rear.

Similar mistakes in the transmission of orders and messages are frequently recorded, showing a lack of peace-time training among the Russian officers and plainly bringing out how the absence of such training causes a lack of team work that greatly lowers efficiency and results in mutual recrimination after the events.

No careful student of the Manchurian War should overlook this book which will put him in a position to fully understand many otherwise inexplicable happenings in the Russian forces. E.

As to Polo.*

The author of "As to Polo" needs no introduction to the army. His chapter, "The Game," contains a number of suggestions to the polo player which its author should not hesitate to call axioms. They should be posted on the bulletin board of every polo club and field so that the beginner may study carefully at the outset what he must have pounded into him thoroughly later before he is fit for a match.

*"As to Polo." By William Cameron Forbes, Governor General of the Philippine Islands. 1911. Privately printed.

Some of our horsemen may take issue with Governor Forbes on seats, bitting and the hand, but all will read the chapter on horsemanship with interest, and the one who must take up horsemanship along with polo will find it very helpful.

The chapters on the use of the mallet, team play and the duties of the individual players are careful studies which will appeal to polo players generally.

The diagrammatic analysis of play in twenty-four full-page plates in colors will be found particularly valuable, not only because the plays illustrated are a safe guide, but also because they are sure to provoke a wholesome discussion and study of the game.

There are chapters on the polo club, rules, the field, ponies and equipment, making it a standard reference book.

"As to Polo" is privately printed in the interests of the game and should receive a warm welcome from all lovers of the king of sports. Army players will read it with additional interest on account of the author's well known support of the game in Manila, which has been of great assistance to polo in the army. H. C. W.

Cadet Life at West Point.*

This is the third edition of Captain Reed's book which gives an interesting account of a cadet's life at the Point as it was in the days of a generation and more ago. In this edition Captain Reed has brought the data as to the appointment and requirements for entrance up to date and has also made the historical part complete as regards the later officials of the academy.

The book is fully and well illustrated with many plates showing the buildings, etc., as they were in the past, are now, and one as the place will be when the many improvements now under way and contemplated are completed.

The several chapters of the book are: The Appointment; The Preparation; The Candidate; The Plebe in

*"Cadet Life at West Point." By Captain Hugh T. Reed, U. S. Army Retired. Irvin Reed & Son, Richmond, Indiana. Price, $1.50.

Camp; The Plebe in Barracks; The Yearling; The Furlough Man; The Graduate; The U. S. Military Academy and The Appendix.

To the graduate of the Military Academy the book is of interest on account of the many pleasant reminiscences brought to mind and to the young man who is contemplating entering the academy because it will give him many valuable pointers as to the entrance requirements.

Military Law Examiner.*

This is the eighth edition of Colonel Pratt's book on this subject, two previous editions of which have been reviewed in the CAVALRY JOURNAL. There is little that can be said of this book beyond what was mentioned in these two previous reviews and also in the two reviews in this number of the JOURNAL of books published by Gale & Polden and for the same purpose, that of preparing officers of the British service for their examinations for promotion.

For those of our service who are anxious to learn something of the military code of the British army, this work would answer the purpose fully.

Soul of the Indian.†

The "Soul of the Indian" is an especially valuable and enlightening estimate of Indian character, from the fact that the author, Dr. Charles Eastman, is himself an Indian—the son of "Many Lightnings," a full blooded Sioux and his Sioux wife. Dr. Eastman has attempted to show us the true Indian, freed from the prejudices and legends which prevail in the minds of most white men.

*"The Military Law Examiner." By Lieutenant Colonel Sisson C. Pratt, Royal Artillery, (Retired). Eighth edition, 1911. Gale & Polden, Ltd. London. Price four shillings and six pence, net.

†"The Soul of the Indian." By Charles Alexander Eastman, Houghton Mifflin Company, Boston and New York. Price, $1.00.

"Since there is nothing left us but remembrance," he writes, "let that remembrance be just." A few of his chapters discuss "The Great Mystery," "The Family Leader," "Barbarism," and "Ceremonial and Symbolic Worship." The book is written strongly and convincingly and is interesting psychologically and ethnologically.

Dr. Eastman graduated from the Boston University Medical School in 1890 and then became the government physician at the Pine Ridge Indian Agency.

Guide to Promotion.*

This is another of the numerous books published by Gale & Polden for the use of the officers of the British army in preparing for examination for promotion, and which are so popular with the officers of their service.

This is the third edition of this work and, as is necessary with such books, it has been revised and brought up to date. It covers the subject of "Regimental Duties" and, in addition to covering all the different subjects on which the officer is liable to be examined, it gives a list of all books that it is necessary for him to study.

For the officers of our service, this book is only of use in giving him an idea of the duties of regimental officers of the British service and the scope of their examination for promotion.

The following is an extract from the Introduction:

"According to the system at present in vogue in the service, officers of all ranks up to and including that of major, must undergo an examination and obtain a certain percentage of marks to pass before being promoted a step in rank. Warrant officers and non-commissioned officers in addition are compelled to pass an examination before they can obtain their commissions as second lieutenants; also

*"Guide to Promotion" for Officers in Subject (a) (i), (Regimental Duties). By Major R. F. Legge, The Prince of Wales' Leinster Regiment. Gale & Polden, Ltd., London and Aldershot. Third edition, 1911. Price, four shillings, net.

quartermasters and riding masters before attaining the combatant rank of lieutenant.

"The object of these examinations is not so much to ensure a simple passing of the tests, which are really fixed at a rairly low standard, as to encourage officers to improve themselves by reading and practice in professional knowledge and attainments."

Organization, Equipment, Etc.* That this book is valuable and popular with the British Army officer is evidenced by the fact that it is now less than a year that a review of the tenth edition of this work appeared in the CAVALRY JOURNAL.

According to the preface to this edition, it has been carefully revised and brought up to date, especially as regards the Colonial Forces.

The following is from the previous review mentioned above:

"That it is running in the tenth edition is proof positive that it is popular and valuable to the British army officer. In this respect it might be compared to the Officers' Manual for Subalterns by Moss, though the purpose of the two books do not appear to be exactly similar.

"Lieutenant Colonel Banning's book has been compiled with especial reference to presenting the subject matter on which officers must pass examinations for promotion in a concise and easily digested form."

*"Organization, Administration and Equipment Made Easy." By Lieutenant Colonel S. T. Banning, Late Royal Muster Fusileers. Eleventh edition. Gale and Polden, Ltd., London. Price four and six, net.

Editor's Table.

RECENT PUBLICATIONS OF MILITARY INTEREST.

It has been suggested recently by one of our members that there be published in each number of the CAVALRY JOURNAL the "Digest of selected information carded in the War College Division of the General Staff" as issued each month by that branch of the General Staff. Another member has advanced the idea that there should be kept set up and published in each issue of the JOURNAL a list of the latest and best military books, similar to the one published in the November, 1909, number of this JOURNAL, the same to be revised from time to time as later or better books appear.

To follow out the first suggestion would require us to use from twenty to thirty, or even more, pages of the CAVALRY JOURNAL for this purpose. The latter idea is more feasible but it is thought that the list above mentioned, together with the published book reviews, would answer the purpose. However, it might be well to republish this from time to time as some of those books become obsolete and others take their place. Also, it must be remembered that only a small portion of the military literature published appears in book form and that the matter printed in the many military periodicals is frequently of equal or greater value to the military student.

There are now two such lists of military information published, one in this country and one in England. There may be others in foreign countries. These are the "Index

to Current Military Literature" that has been for several years issued with the *Artillery Journal*, at Fort Monroe, and "Recent Publications of Military Interest" published by the British War Office. The publication of the latter in the form heretofore issued has been discontinued and it now appears as an appendix to the "*Army Review*," a military magazine also issued from the British War Office.

Both of the above mentioned publications are of value to the military student, but, still, in case he desires to pursue the investigation of any particular military subject to a conclusion, it is necessary for him to wade through the back numbers of either or both of these or similar publications.

A few years since the Editor of the CAVALRY JOURNAL, in his official capacity as Librarian of the Army Service Schools at Fort Leavenworth, proposed to the War Department authorities that there be established a central bureau in some one of the divisions of the General Staff, or elsewhere in the Department, for the purpose of preparing and issuing index cards of all publications of military interest similar to those issued by the Library of Congress. He had learned previously from the Librarian of Congress that his office did not issue such cards for military books as they did not purchase such works. It was suggested that these index cards of all military publications when prepared should be issued to the libraries of all the military schools of the country and also to at least all of the larger garrisons, if not to all or them.

This plan would enable each school and the more important garrisons to keep an up-to-date subject index, and possibly an author index also, of all military literature which would be accessible to a large proportion of our officers.

The War Department, while admitting the value of such a scheme, stated that it was impracticable for it to be carried out by any of the divisions of the General Staff or other bureau of the Department.

However, this question of publishing these "Digests" or other lists of military information is open for discussion.

It might possibly be practicable to publish in each number of the JOURNAL a well selected list of the more important publications or to print only those of especial interest to the cavalry service.

CAVALRY NOTES.

There has been published recently by the War Department a small pamphlet under the above title. It was prepared by our Acting Chief of Cavalry, Major Henry T. Allen, General Staff. The sub-heads of this interesting little work are the following: Importance of larger cavalry posts; regiments of fewer but larger units; striking similarity of cavalry formations everywhere; value of Civil War experiences; drill regulations; experiments with provisional regiments; creation of present cavalry organization; outlines of a six-troop cavalry regiment; peace strength of cavalry and its ratio to infantry; and cavalry drill regulations of the Civil War.

It is illustrated with numerous plates which show the formations for maneuver for cavalry regiments of the more important countries and the formation of our own cavalry regiments during the Civil War.

It was our intention to reprint a part or all of this interesting pamphlet in this number of the CAVALRY JOURNAL, but this was prevented by the non-arrival of the plates.

THE CAVALRY EQUIPMENT BOARD.

It was hoped that further information as to the work of this board would be forthcoming for publication in this number of the JOURNAL. Especial interest is being taken in the

tests of the several articles of the new equipments that have been made recently.

A squadron of the Thirteenth Cavalry recently made a march of over 500 miles, under charge of the Equipment Board, for the purpose of trying out the new equipment and of comparing it with the old under the same conditions as to weather, hard riding, etc.

One half of this squadron used the old equipment, the other half being outfitted with the new.

The test was a severe one, owing to the fact that at times it was very hot and much rain and mud was encountered; also, two spurts of over 100 miles in three days were made.

While the board would not commit themselves as to the results of the tests, yet it was learned that the members were well satisfied with the new equipment as a whole: some minor changes, however, will probably be made before their final report is rendered.

While this squadron was at Fort Leavenworth, this equipment was examined by many cavalry officers, just after the second of the over 100 mile spurts was made, and the general opinion was that "it looked good to them."

Of course, special interest centered in the new saddle and its attachments for carrying the pack, and particularly as to the production of sore backs by its use under the trying circumstances of this test.

As a whole the equipment is believed to be greatly superior to that which we have had for so many years and particularly as to the method of carrying the rifle saber and the the pack in general.

It is hoped that something more definite as to the results of this practice march may be had for our next number.

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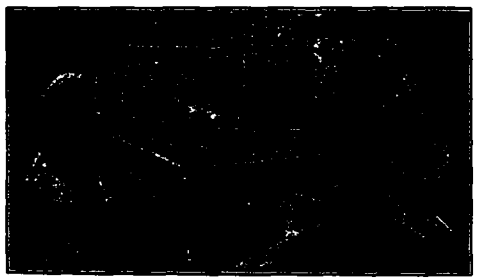

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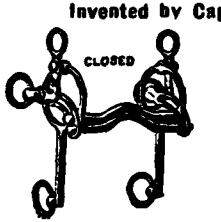

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At all first-class Saddlery Dealers. Write for Booklet.

LIBERAL DISCOUNT TO U. S. ARMY OFFICERS.

THE STALKER MFG. CO. **71 and 73 W. Broadway, NEW YORK, N. Y.**
Sole Distributing Agents for the United States.

Publisher's Notices.

THE SUNNYSIDE FLORAL CO.

The attention of our readers is called to the advertisement of this firm which appears in this number of the JOURNAL. Their reputation for fair dealing and satisfactory business methods have given them a standing in this community second to none.

As officers and their families are steady patrons of florists, we commend this firm to their favorable consideration.

A NEW MODEL TYPEWRITER.

In this issue appears an announcement that will cause typewriter users to "sit up and take notice." The Royal Typewriter Company comes out with a New Model, the No. 5 Royal, comprising every "modern improvement" and many new features not found on other machines. Among the well known features not heretofore included in the Royal make-up, which have been incorporated in the New Model, are the back-space key, the two-color ribbon and the tabulator. The latter, to be sure, has been furnished heretofore on special order, at an extra charge; but is now one of the "inbuilt" features supplied with every No. 5 machine. New and exclusive features, for which the Royal people are claiming much merit, are the Tilting Paper-table, which gives ready access to margin and tabulator stops; and the Hinged Paper Clamps, an innovation which permits writing to either edge of the paper without moving the clamps or

releasing their grip on the paper. There are a number of other new features of less importance, but which are said to greatly enhance the convenience and efficiency of the machine.

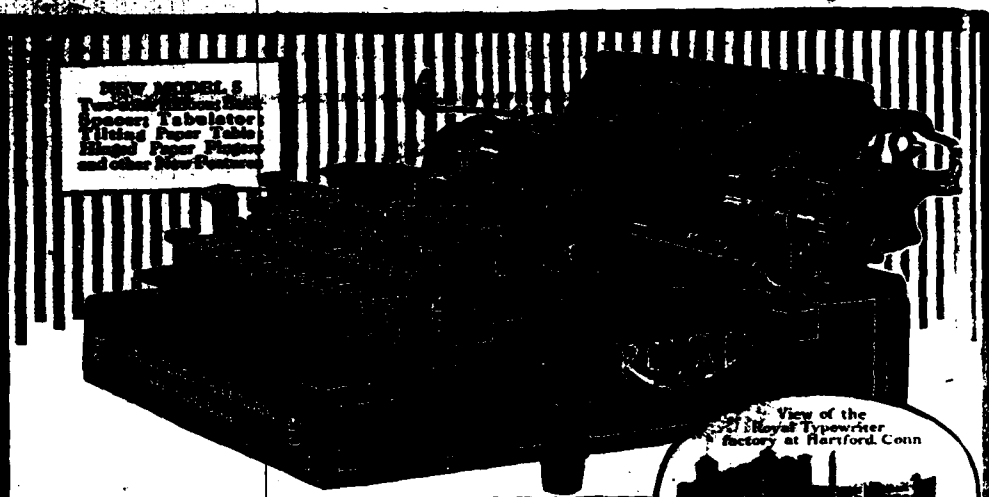
The new machine with its complete equipment of popular features, places the Royal on an equal footing with the other standard typewriters—in fact, it may be said the Royal has a considerable advantage in the fact that the price of this highly improved New Model No. 5 is only $75.00.

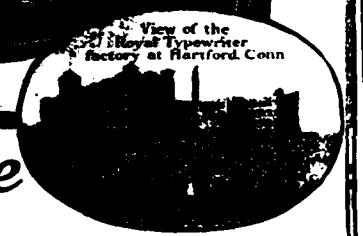
C. L. KNAPP & CO.

Owing to the frequent changes of the Fort Leavenworth garrison, especially at the Schools, new officers are continually arriving. And, as every move means a more or less of breakage of china, etc., they are compelled to replenish their losses.

There is no place in the West where this can be done to better advantage than at "Knapp's."

Also, the ladies can procure here their bridge and other prizes as the stock of bric-a-brac is complete and varied.





A NEW MODEL *of the* ROYAL

Back of the Royal is one of the largest and most important typewriter manufacturing concerns in the world, with unlimited resources and ample ability, offering every advantage of dealing with a high-grade business institution.

THE Royal always has been abreast with the best; here is a new model which places it far in the lead. Read about Royal Model 5—every office manager, every stenographer, every up-to-date typewriter user!

Feature 1. **TWO-COLOR RIBBON DEVICE.** The only one that insures *perfect* two-color writing; over-lapping of colors impossible.

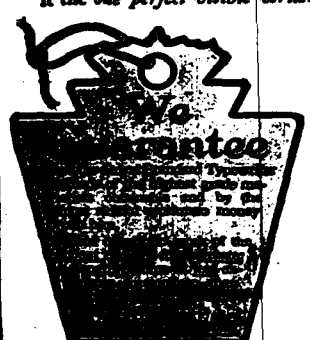
Feature 2. **TABULATOR.** An important improvement, perfected with usual Royal simplicity.

Feature 3. **BACK SPACER.** Touch the key and carriage draws back one space. A popular feature—convenient in billing, tabulating or correcting.

Feature 4. **TILTING PAPER TABLE.** Found only on Royal—gives instant access to all margin and tabulator stops; a time-saver and great convenience.

Feature 5. **HINGED PAPER FINGERS.** This feature, *exclusive* with Royal, permits writing to extreme of either edge of paper.

And so on through all the points of Royal supremacy—the direct vision of writing, making it the *one perfect visible writer*; the special facilities for quick and easy handling of the paper, the Royal type-bar accelerating principle, famous among typewriter men, a feature which is admitted to be the greatest single invention since typewriters began.



Write at Once for Complete Literature

not only describing the wonderful new model, but telling *why the Royal is the marvel among all typewriters* for durability, for ease and speed of operation, for perfect alignment and unusual manifolding power. It is really *important* that you get this book.

Read Our Guarantee! That is the basis upon which we want to demonstrate the Royal to you. All we ask is an opportunity to give this machine a severe test in your own office on your own work, *alongside of any other machine.*

$75 is the price of Model 5—same as charged for Model 1 with Tabulator. Everything included. No extras.

ROYAL TYPEWRITER CO.
Room 54 Royal Typewriter Building, New York
Branch offices and agencies in all principal cities of the world.

Place a picket against the decay-germs—save your teeth from their attack.

These decay-germs are active belligerents and without constant care will break your line of defense.

COLGATE'S
RIBBON DENTAL CREAM

is different from other dentrifrices—it does double duty. Not only destroys the germs of decay at the time of use, but also leaves the mouth sweet, clean and non-acid—the condition which checks germ growth.

The Delicious Flavor

makes its use a pleasure. It has not the usual "druggy" taste.

Cleans---Preserves---Polishes
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Send 4 cents for
generous trial tube

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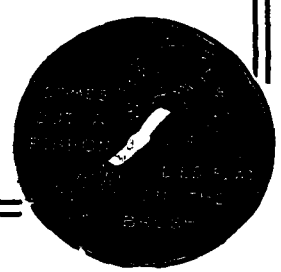
Makers of the famous Cashmere Bouquet Soap
—lasting, luxurious, refined.



BACK NUMBERS

¶We can furnish all back numbers, except Nos. 1, 2, 3, 4, 5, 6, and 47.

¶The Association will pay a liberal price for these numbers.

¶One Complete Set of the JOURNAL bound in cloth, for sale.

Underwood Standard Typewriter

MECHANICAL EFFICIENCY

"A writing machine of extraordinary perfection in its minutest details."—*Committee on Science and the Arts, Franklin Institute.*

The Franklin Institute of Pennsylvania, recognized as comprising the foremost body of the mechanical engineers in this country, awarded the Elliott Cresson Medal, its highest award, to the UNDERWOOD TYPEWRITER on February 2, 1910, after a thorough investigation of the machine by its Committee on Science and the Arts. An extract from the certificate accompanying the award is given below.

"Abundant opportunity was given the committee to examine minutely every detail of the manufacture of its writing machine at the Factory in Hartford, Conn., where, under the most able management, the best materials obtainable are converted by a very superior equipment and through exacting workmanship into a writing machine of extraordinary perfection in its minutest details."

"The Machine You Will Eventually Buy."

UNDERWOOD TYPEWRITER CO., INC.

Underwood Building
New York

Branch Offices Throughout the World.

It will help the Cavalry Journal if you mention it when writing.

The Army National Bank
OF FORT LEAVENWORTH, KANSAS.

CHARTER NO. 8796.

Commenced Business July 16, 1907.

CAPITAL, - - - $25,000.00.
SURPLUS AND PROFITS, - 7,500.00.

This Bank solicits the business of the entire Army. Our checks are par everywhere as they are "payable in Eastern exchange if desired."

E. A. KELLY, President. **P. B. JOHNSON, Vice-President.**
M. A. PRZYBYLOWICZ, Cashier.

Endorse your pay voucher. "Place to my credit with **THE ARMY NATIONAL BANK,"** **Fort Leavenworth, Kan.**

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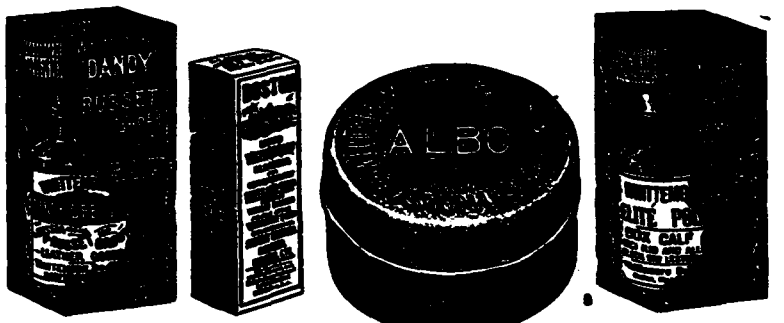
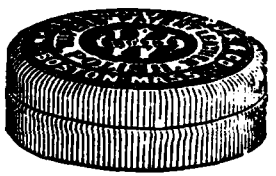
LARGEST IN VARIETY! **FINEST IN QUALITY!**

The Oldest and Largest Manufacturers of Shoe Polishes in the World





"DANDY" combination for cleansing and polishing all kinds of Russet or Tan Boots, Shoes, Saddles, Bridles, Etc. 2oc. "Star" size, 10c.

"ELITE" combination for gentlemen who take pride in having their shoes look A 1, restores color and lustre to all black shoes. Polish with a brush or cloth, 25c "Baby Elite," size 10c.

"ALBO" make dirty Canvas Shoes *clean* and *white*, Each cake in a handsome aluminum box, with good sponge 25c.

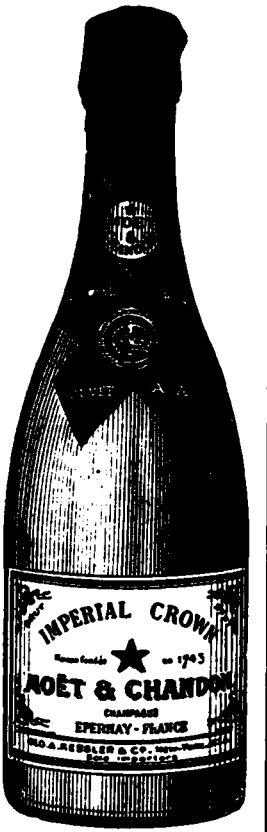
"SUPERB," (a paste) for polishing Patent and Shiny Leather Shoes, and all Shiny Leather Articles, 10c.

"SOMTON," a black liquid for Men's and Boys' shoes Produces a Patent Leather shine without brushing 25c.

The Pre-eminent Cuvées of Champagne

MOËT & CHANDON
WHITE SEAL
"VERY DRY"

Their fine quality will at once commend them to the most critical



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"BRUT"

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