

INDEX TO VOLUME VIII, 1895.

	PAGE.
A HUNDRED VERSTS' (66 3 MILES) RACE.—Lieutenant H. T. ALLEN, Second Cavalry...	61
CONVERSATIONS ON CAVALRY.—By Prince KRAFTZU HOHENLOHE-INGELFINGEN. Translated by Lieutenant CARL REICHMANN.	
ELEVENTH CONVERSATION.—Of the Training Proper of the Remounts.....	23
TWELFTH CONVERSATION.—Of the Training of the Recruits.....	118
THIRTEENTH CONVERSATION.—The Subsequent Training of the Older Men and Horses.....	192
THIRTEENTH CONVERSATION.—(continued).....	283
GENERAL HENRY LEAVENWORTH.—Major GEORGE B. DAVIS.....	261
HIGH EXPLOSIVES AND INTRENCHING TOOLS IN THEIR RELATIONS TO CAVALRY.—Captain WILLIAM D. BEACH.....	3
LIFE AND SERVICES OF GENERAL PHILIP ST. GEORGE COOKE, U. S. ARMY.—Major-General WESLEY MERRITT.....	79
MAJOR-GENERAL JOHN BUFORD.—Major-General JAMES H. WILSON, U. S. V.....	171
MILITARY READING; ITS USE AND ABUSE.—Lieutenant MATTHEW F. STEELE.....	98
NAVICULAR DISEASE.—Lieutenant A. M. DAVIS.....	17
PROFESSIONAL NOTES.—American Horses for French Remounts.....	296
A Record of the Experience with the Field Sketching Case at the Infantry and Cavalry School.....	314
Austrian Cavalry.....	306
Cavalry Equipments.....	302
"Custer's Last Fight".....	69
Essex Troop's New Armory.....	71
Extracts from Report of Commandant U. S. Cavalry and Light Artillery School.....	65
German and French Cavalry Maneuvers.....	308
Horses and Bicycles.....	285
Horses at \$2.00 Each.....	156
How the First Maine Heavy Artillery Lost 1,179 Men in Thirty Days.....	227
Making Paper Horseshoes.....	156
Manner of Carrying Equipments in the German Cavalry.....	64
Military Officers: Past, Present and Future.....	311
Military Reorganization in Switzerland.....	245
Mounted Orderlies.....	239
New Cavalry Bit, Model 1892.....	70
No Money for More Mounted Troops in New York.....	71
Our Cavalry.....	306
Our New Cavalry Bit.....	148
Promotion from the Ranks in the British Army.....	238
Purchasing Cavalry Horses.....	284
Rules of the Fort Leavenworth Polo Club.....	269
Sketch of General Philip St. George Cooke.....	71

INDEX TO VOLUME VIII.

	PAGE.
PROFESSIONAL NOTES.— State Roads.....	157
Stations of British Cavalry Regiments.....	238
The Cavalry Maneuvers.....	243, 304
The Cavalry Society of the Armies of the United States.....	245
The German and French Maneuver Armies Compared.....	306
The Revolver as a Cavalry Weapon.....	150
The Royal United Service Institution.....	160
The Sequel of War.....	244
Troop "A" National Guard of New York in the Recent Brooklyn Riots.....	139
Use of Cavalry in Quelling Riots.....	70
REMINISCENCES.— Brigadier-General R. W. JOHNSON.....	15
SOME CAVALRY LESSONS FROM THE CIVIL WAR.— Lieutenant J. P. RYAN.....	268
THE OFFICER'S PATROL.— Lieutenant EDWARD D. ANDERSON.....	210
THE PRINCIPLES OF MILITARY ADMINISTRATION: THEIR APPLICATION TO METHODS OF SUPPLYING HORSES FOR THE CAVALRY SERVICE; WITH SUGGESTIONS FOR THE REMOUNT OF THE FIRST CAVALRY.— Lieutenant J. G. GALBRAITH.....	105
THE SIEGE OF CHITRAL.— Lieutenant C. G. STEWART, R. A.....	220
THE TRAINING OF THE RECRUIT.— Lieutenant FREDERICK S. FOLTZ.....	184
THE U. S. MAGAZINE CARBINE, MODEL 1896.— Lieutenant JOHN T. HAINES.....	137
THE U. S. MAGAZINE RIFLE, MODEL 1892.— Lieutenant JOHN T. HAINES.....	38

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**HIGH EXPLOSIVES AND INTRENCHING TOOLS IN THEIR
RELATIONS TO CAVALRY.**

BY CAPTAIN WILLIAM D. BEACH, THIRD CAVALRY.

IN order that our cavalry may fulfill three of its most important functions in war, an additional equipment would seem to be not only desirable but absolutely necessary. The uses of the mounted arm referred to are: 1st. The holding of an important defensive position until the arrival of our infantry and field artillery (horse artillery would usually accompany the cavalry); 2d. To assume successive defensive positions beyond a retreating enemy or as rear guard during a retreat of our own forces, thus compelling the enemy to deploy and attack; 3d. The quick destruction of masonry or iron truss bridges, canal locks, railroads, tunnels, reservoirs or telegraph lines.

These various uses of cavalry are contemplated in several paragraphs of our Drill Regulations, under "Employment of Cavalry," which read as follows:

"§969. To occupy distant and important points and hold them against the enemy until the arrival of infantry. During a retreat to offer resistance to compel the enemy to deploy, thus gaining time.

“§970. In the pursuit a portion of the cavalry may be dismounted to take up and strengthen positions on the enemy's line of retreat, acting as a delaying force while other portions go farther on and take up other positions. When a delaying force is compelled to give way, it is mounted and taken to another position beyond those of the delaying forces that have preceded.

“§973. Raids.—To threaten, interrupt and destroy his communications, to destroy his depots and source of supplies.”

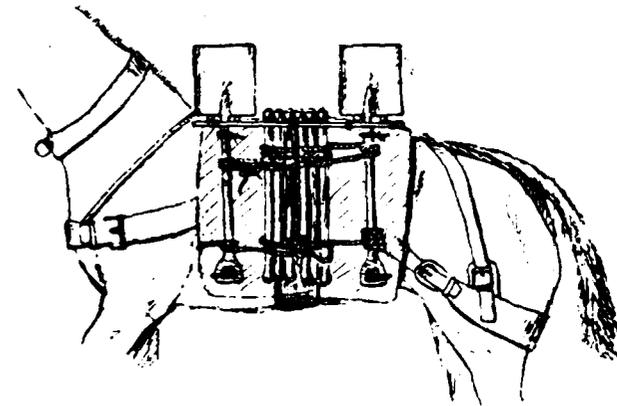
Drill Regulations further state that these operations should not be undertaken with a smaller force than a regiment or a squadron.

In the event of our own nation becoming involved in a war, that combatant who is best prepared and moves first has a certain great advantage, physical and moral, over his opponent. The first consideration in which we of the cavalry would be vitally interested, would undoubtedly be to quickly secure and hold certain advantageous points in the enemy's territory (the location of which are well known) pending the arrival of sufficient reinforcements to hold them; the second would probably involve the interruption of certain important lines of supply and communication. To accomplish the first successfully an intrenching tool of some description would be an important addition to the equipment; for there is no difference of opinion as to the immense advantage afforded by well made shelter trenches when a body of troops comparatively weak in numbers are to act solely on the defensive. As for the second, the result of a raid in the vicinity of an active enemy, in so far at least as demolitions are concerned, would be more than problematical without a supply of high explosives and an accurate knowledge of how and where to use them.

It is with the desire of inducing a discussion on these important points that this article is written.

With all foreign nations it is a maxim that infantry should be equipped with some form of light intrenching tool carried by the soldier, nor is their cavalry entirely exempt, although the carrying of an intrenching tool by the trooper is the exception and not the rule. The objection, and a sound one too, is made at the start, that our cavalry horses have enough to carry already without the additional burden of even a light pick or shovel. This is admitted. The same objection applies to the carrying of high explosives by the trooper, so that the first requisite (assuming without further argument that the equipment mentioned is necessary) would seem to be a suitable light cart or an aparejo adapted to the purpose. Whatever form of cart or wagon is used for transporting ammunition, it

can in all probability be improvised for the tools and explosives as well, but the trouble begins at that epoch common to all rapid and long continued cavalry marches, when the wagon train cannot keep up, and the expedition must proceed with packs. The explosives can be readily packed in the same manner that ammunition boxes are, two to a mule, but only those who have experienced it know how exasperating it is to pack any considerable number of shovels, picks or axes on the ordinary aparejo. To obviate this a specially devised pack saddle, somewhat on the plan shown in the cut, might be gotten up, which it is thought would fulfill all requisite conditions, relieve the trooper from carrying additional weight, be quickly available in case of need, and be always up with the column, whether



mounted or on foot, for a mule can be taken wherever a footman can go. One pack mule, assuming the weight of cargo to be only 150 pounds, can carry twenty-four short handled shovels and twelve picks (the handle of the latter reduced eight inches in length), or equipment in that line sufficient for a squadron. The advantage to be gained in weight by carrying a light intrenching tool would not compensate for the immense advantage the regular sized tools have in lifting capacity and ease of handling. Before passing from this branch of the subject to that of high explosives, it is to be noted that while our troopers are sufficiently expert in handling the pick and shovel, their officers will be looked to for such knowledge of how, when and where to lay out hasty intrenchments, that the labor expended may be utilized to the best advantage. Soldiers will stand physical hardship to the verge of endurance uncomplainingly if

they believe their labor is needful and properly directed, and not otherwise.

Conceding then that our troopers are sufficiently expert with intrenching tools, and that their officers are fully qualified to direct them, is it not, on the contrary, an indisputable fact that the handling, care and use of high explosives is becoming one of the lost arts among us? Should we not as a body turn our attention to this important subject, instead of waiting till circumstances and ignorance compel us either to take unnecessary risks or to use useless caution, which latter under some conditions might be equally as fatal? Our motto should be, "Familiarity with and a practical knowledge of whatever pertains to the cavalry arm." Suppose, for example, the brigade or regimental commander is ordered to destroy a certain bridge or culvert in an enemy's country. Its importance and the time necessary to replace it would very likely be proportioned to the care with which it would be guarded, so that a fight for its possession would be one of the probabilities. The force guarding the bridge being intrenched, the brigade commander might decide that a stormy night would afford better chances for success, in view of the fact that all he requires is temporary possession. Having obtained possession, the work of destruction is but the occupation of a few minutes, provided he has the proper explosives. Gunpowder under the circumstances would be well nigh useless owing to its great bulk as compared to explosive effect. Gun cotton or dynamite in several separate charges fired simultaneously would be absolutely necessary unless chances of failure are to be incurred. To explode several charges at once makes an electrical exploder an absolute necessity. The entire operation as to handling the explosive, properly placing it and detonating it could be quickly learned; but the lack of this little knowledge might prove fatal to the expedition. Lack of opportunity, of course, debars most officers from acquiring this knowledge, and will continue to do so until the high explosive, whatever it may be, is supplied to regiments as other necessary material is.

To examine into the details of the various explosives, as regards their keeping qualities and care required in handling, as well as their relative strengths is believed will be of advantage in deciding which of the many is best adapted to our needs.

Explosives are classed under two general heads of mechanical mixtures, such as gunpowder; or chemical compounds, such as gun cotton, nitro-glycerine and dynamite. The first or weaker class are slow burning mixtures, their effect being to rend or tear apart what-

ever confines them: the second in which ignition of the entire mass may be said to be simultaneous, has a shattering effect on objects in contact. The common and apparently mysterious effect of the latter class of explosives, acting downward when in the open air more violently than upward, is explained by the force of the explosion taking the line of least resistance, the weight of the surrounding air actually offering greater resistance to the intensely violent shock than the more solid mass below. In powders the combustion is progressive, but in the chemical compounds the ignition is instantaneous throughout the mass, so that the initial pressure is the maximum one.

For reasons at once apparent, chemical compounds are the best suited to military work involving demolition: the effect desired is to shatter not rend, while at the same time weight and bulk are greatly in its favor.

The composition, keeping qualities and explosive effects of common gunpowder are too well known to be referred to, whereas similar data as to the so-called high explosives are more or less of a mystery to our mounted service, for the very simple reason that we are never required to handle or use them.

The familiarity of the miner with his sticks of dynamite, fostered by daily use year after year, engenders in him a contempt for the few ordinary precautions laid down for its handling and care: he continues to thaw it out in his oven because he has done so scores of times with perfect safety, until finally another addition to the long list of accidents fills the novice who reads of it with a greater dread of the stuff than ever. There is danger in handling dynamite: there is also danger, probably equally as great, in handling small arm fixed ammunition with its fulminate of mercury primer in contact with the powder, and yet who ever gives the latter a thought. It would seem the policy of wisdom to require at least the officers of our mounted service to familiarize themselves with the handling, care and usefulness of the more common nitro-compounds, so that this essential to a perfect mounted service will not have to be entrusted to civilians. Telegraphy among our officers has been more or less of a fad for the past fifteen years, and yet, in the event of war, our government could hire a thousand skilled civilian operators where it could not hire ten men skilled in handling high explosives and using them intelligently in demolishing railroads, bridges or canal locks.

Nitro-glycerine, which is said to be the most powerful explosive known to man, results from a reaction which takes place, when

glycerine is subjected to the action of nitric acid; it has eight times the explosive force of an equal weight of gunpowder, and may be fired by detonators or blasting caps, they being immersed in the liquid. Pure nitro-glycerine is not affected by friction or ordinary percussion, although it may be exploded by a violent blow; if it contains any free acid, decomposition is liable to occur, and this tendency is increased in hot weather, with liability to violent explosion; it is safest for handling when frozen. The presence of free acid may be very readily detected by litmus paper, but owing to its liability to this decomposition, and the fact that high temperatures and rough handling may often occur, this compound is undesirable as a military explosive.

Allied to nitro-glycerine chemically, but entirely different from it in appearance, is gun cotton. This is made by dipping dry cotton into a mixture of nitric and sulphuric acids and afterwards washing thoroughly in water. This explosive having been adopted in 1883 by our navy as a service high explosive, in the form of compressed discs, it was decided to manufacture it at the U. S. Naval Torpedo Station, so a plant was established there the following year, and now every ship in commission is supplied with it.

Gun cotton in its natural state differs little in appearance from ordinary cotton; it burns in the air with a flash, but does not explode. Shells filled with compressed discs have been fired from a twenty-four-pounder gun against a masonry wall, shattering the shell, but failing to explode the gun cotton. Dry discs of the cotton burn slowly, and a wet one, if placed in a fire, will burn from the outside as it gradually dries. It is stated that at the Naval Torpedo Station as much as 2,000 pounds of wet gun cotton has been put into a bonfire, where it was slowly consumed.

Gun cotton, in disc form, is packed while wet in cans, which are then sealed. In this condition, providing of course the proper care has been exercised in its manufacture, it is probably the safest of all high explosives. It can be raised to a comparatively high temperature without harming it, and water is a perfect protection to it if kept in the dark, as in the packing cans. Freezing does not affect it in its dry state, and the freezing and thawing of wet gun cotton, while somewhat reducing its usefulness, in no wise increases the danger of handling. Gun cotton is readily detonated by means of a primer; the explosive force when wet being greater than when dry, it is necessary in the first instance to have a small quantity of dry in contact with the primer. Gun cotton has about twice the

explosive force of gunpowder when both are tamped; untamped, it has about four times the force.

Much uncertainty has prevailed, up to quite a recent date, as to the keeping qualities of gun cotton. The Austrian government, after using it twelve years, finally rejected it on account of its instability, and some of the other powers did the same. The reason for its deterioration is now definitely known to be due to its former method of manufacture, whereby some of the free acid still remained in the compound. This defect is now entirely done away with in the prolonged and thorough washing given to the cotton after its treatment with the nitric acid.

Tonite is a gun cotton powder mixed with nitrate of barium. It is whitish in appearance, and is put up by the Tonite Powder Company, of San Francisco, in cartridges weighing from a quarter to three-quarters of a pound each, the covering being coated with paraffine to render it water-proof. It is said to be as safe as the gun cotton, from which it is made, and is not sensitive to percussion or friction. Experiments with it show that it will not explode upon the impact of a service rifle bullet, and that it requires an unusually strong detonator, such as the tonite cap furnished by the company, to explode it. It is said to resist to a remarkable degree the extremes of climate, and is about four-fifths as powerful as gun cotton.

The various forms of dynamite with which the market is flooded, such as giant powder, atlas powder, dualin, rend rock, forcite, explosive gelatine, etc., are all made by the absorption of nitro-glycerine in some porous substance, the explosive not being turned into a solid, but merely held in the pores of the absorbent by the force of capillary attraction.

The absorbent originally used was kieselguhr, an infusorial earth commonly known as tripoli or rotten stone; now, many other absorbents, such as charcoal, cannel coal, wood fibre, sawdust, white sugar and chalk, have been adopted on account of some real or fancied superiority.

Dynamite No. 1 is a mixture of one part kieselguhr and three parts, by weight, of nitro-glycerine. It is a granular substance, of a gray or reddish-brown color, and when properly made has no tendency to "leak;" that is, to exude nitro-glycerine in a liquid state unless subjected to a very high temperature. Dynamite freezes at about 40° F., in which state it is almost impossible to explode it. Small quantities of it in its ordinary state will burn in the air without explosion, while a fire in a large mass of it almost invariably causes detonation. Most of the accidents with dynamite occur in

thawing it out after freezing, it being rashly assumed that because a stick of it can be burned with reasonable safety in the air, it will do no harm to heat it before a fire or in an oven. The thawing may be done in a warm room or in a can immersed in hot water with perfect safety, but the other methods are always dangerous.

A consensus of opinion among scientists, makers of this explosive, and transportation companies, warrants the conclusions that dynamites are the most powerful of all disrupting agents now in general use; that they are the safest of all explosives both in transportation and use (many times safer than gunpowder), and that there is no good reason why, under proper regulations, they should not be transported as freely in public conveyances as ordinary merchandise.

The approximate relative strength of the explosives described is as follows:

Nitro-glycerine.....	120.3
Gun cotton.....	100.
Dynamite No. 1 (75 per cent. nitro-glycerine).....	97.8
Dynamite 50 per cent.....	72.7

The manner of exploding these compounds is invariably by means of detonators, which are copper tubes of about twice the

Figure 1.



Figure 2.

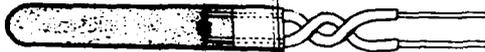
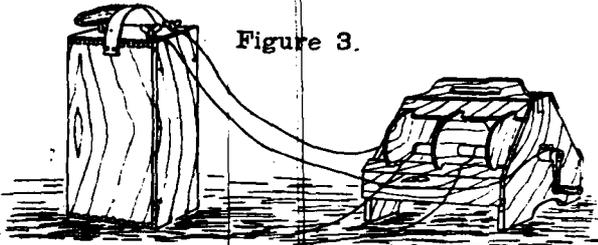


Figure 3.



thickness of a friction primer, filled with fulminate of mercury. The ordinary blasting cap or detonator (Fig. 1) is fired by a fuse and contains three, six or nine grains of the fulminate as desired. The electrical fuses and detonators are so constructed that ignition takes place upon the passage of a current of electricity through a

fine platinum wire, around which is wrapped some gun cotton (Fig. 2). The means now employed to furnish the current and the one giving the surest results, is the magneto machine. The Laffin & Rand exploder No. 3, (shown in Fig. 3) is the variety used at the Infantry and Cavalry School. It is cased in hard wood; is 13x8x5½ inches, and weighs eighteen pounds. When the charge is to be fired the connecting wires are attached to the two binding posts on top of the box, the handle is then drawn out to its full extent and thrust downward with a rapid motion. On reaching the bottom of the box, the current generated by the small dynamo inside is sent through the wire, several hundred feet of which have been unreeled, with the result of exploding the detonator and thereby the charge; this machine will explode twelve detonators simultaneously.

As to the choice between a fuse and an electrical machine for exploding the detonator, there can be no difference of opinion, but there may be as to the explosive. Dynamite being the easiest to obtain, as well as being cheap and sure in action, has much to recommend it, but it is thought that gun cotton should be the explosive adopted on account of greater strength, its greater safety (dynamite No. 1 approaching too closely to the "leaky" stage), and the lower temperature required to freeze the water packing, and the fact that the U. S. Naval Torpedo Station could easily furnish it in such quantities as our cavalry might require.

As to the advisability of equipping our cavalry in time of peace with the weapons it will have to use in war, there can be no question. A glance at the corresponding equipment of cavalry of other nations may supply useful suggestions:

	FRANCE.								
	Shovels.	Picks.	Hatchets.	Pliers.	Saws.	Small Picks.	Bill Hooks.		
Battalion of Chasseurs.....	182	68	30	5	16	1		
	ENGLAND.*								
	Shovels.	Spades.	Picks.	Crowbars.	Axes.	Bill Hooks.	Hand Saws.	Sand Bags.	Gun Cotton.
Cav. Regiment, 4 Squadrons..	40	8	48	8	20	32	4	160	192 lbs.
Cav. Brigade, 3 Regiments...	120	24	144	24	60	96	12	480	576 lbs.

*Ordinary camp equipment tools not included.

PRUSSIA. *

	Swords.	Arms.	Bag of Tools, Axes, Wrenches, Hammers, and Chisels.	Augers.	Bit and Climb, Telegraph.	Silver Wire.	Gun Cotton.	Dynamite.
Pioneers of each Sq'dron.,	8	12	2	2	1	Spool 4 discs	1 case	

* Ordinarily carried in wagons, but on expeditions on the saddle.

PRUSSIA.

	Sledge.	Hammers.	Wrenches.	Pincers.	Pliers.	Crowbars.	Augers.	Dynamite Cartridges.
Independent Cavalry Division.....	4	{ 4 large 12 small }	{ 16 large 12 small }	6	4	2	12	480

In Bavaria four men per squadron are equipped as pioneers, one of whom must be a carpenter. They are placed in the rear rank, and, if necessary, a fifth is added to hold their horses. Their arms consist of swords and revolvers. The tools with which they are provided are distributed as follows:

Pioneer No. 1.—Ax in case; bag containing one chisel, one pair pincers, one auger and handle, two gimlets, one measuring rule and eight feet of rope.

Pioneer No. 2.—Shovel and hand saws in case; bag containing one file, two clamps, twenty spikes and eight feet of rope.

Pioneer No. 3.—Shovel and hatchet in case; bag containing one clamp, ten spikes and thirty-two feet of rope.

Pioneer No. 4.—Pickax in case; bag containing one clamp, ten spikes and thirty-two feet of rope.

In the Saxon cavalry six troopers per squadron are equipped and trained as pioneers, being armed with swords and revolvers.

Foreign services, profiting by an experience learned by another, have been quick to grasp the immense advantage a raiding column possesses in the earliest stages of a war. To carry out the idea to its fullest extent, their cavalry is prepared by training and by equipment to make demolitions and interrupt communications in the quickest and most effective manner.

In the German regulations for the employment of cavalry in pioneer duty, occurs the following:

“The various duties imposed upon cavalry in the field demand that it should be trained to a high degree of independence. Dependence on the other arms checks rapidity of action and invites surprise, thereby depriving cavalry of an important factor to success.”

“Cavalry must be able to prosecute works of demolition and destruction in connection with railways, telegraph lines and other means of communication. As such operations will sometimes have to be carried out in presence of an enemy, and, as a general rule, in a very limited space of time, thorough previous training will be indispensable.

“The pioneer detachment attached to a cavalry division will consist of one officer, one sergeant, two corporals and twenty-seven pioneers, of whom eight will be blacksmiths, eight carpenters, four masons and six boatmen. They will be provided with portable intrenching tools, which as a rule will be carried in carts. Additional intrenching and other tools, explosives and telegraph material will be carried in the store wagon of the detachment.

“In the latter half of June or during July of each year one officer or non-commissioned officer with two or three pioneers is to be attached to each regiment of cavalry as instructor.

“All officers and non-commissioned officers of cavalry must familiarize themselves theoretically and practically with the subject. Of the men as many as possible should be instructed.

“Each cavalry division carries in its ammunition wagons 112 dynamite cartridges, together with sledges, crowbars, wrenches, etc.”

As to the best organization for our own service, opinions will differ. The idea of the writer would be, not to depend in any manner upon the battalion of engineers, (the real pioneers of our army), and not to assume any of their legitimate and indispensable functions. We must use high explosives, and it would seem that economy, if nothing else, would dictate (or authorize, if the permission were asked), the equipment and training of say, one subaltern, one non-commissioned officer and four privates in each squadron of our ten regiments. Twice the time spent in signal drill would keep a detachment in training.

The idea proposed would be this: At every post garrisoned by more than three troops, have a permanent detachment for each squadron, to be called “The Pioneer and Signal Detachment,” consisting of one lieutenant, one sergeant and four privates, all except the commissioned officer to be replaced at intervals of four months. The detachment should be armed with revolver only, and should accompany the squadron on all marches and maneuvers, being excused from drill, guard and fatigue. A pack mule with special aparejo should be furnished each detachment for the purpose of carrying intrenching tools for the use of the squadron, as well as a supply of gun cotton or dynamite. The kit of each pioneer should contain a pocket relay with insulators for cutting in on a working line, a file, wire nippers, wire cutters, auger and handle, measuring

tape, hand ax, ten detonators, a spool of fine wire, a set of climbers, and sufficient half-inch rope to bring the total weight up to that of saber and carbine.

Drills should include telegraphy and the making of "faults" in lines, as well as the methods of "cutting in" without interrupting the current; cordage and spar bridge building; the handling and care of high explosives, and the methods of making demolitions, also packing. The actual amount of material to be carried, as well as the scope of drills and instruction, must result from experiment and growth, but as an initiative, a plan on which to build, a suggestion to be worked out, the foregoing is submitted for the thoughtful consideration and criticism of those most interested in the mounted arm.

REMINISCENCES.

BY BRIGADIER-GENERAL R. W. JOHNSON, U. S. ARMY.

FORTY years ago the definition of dragoon, as given by Webster, was, "a man who fights indifferently on horseback or on foot." This definition did not suit the bold dragoon, and an effort was made to have it changed in subsequent editions of the dictionary, and so we find in several of the late editions this definition: "Dragoon—A soldier who is taught and armed to serve either on horseback or foot, as occasion requires." But the name dragoon, so dear to those who served in the mounted service under that appellation, has been superseded by the more appropriate name of cavalry.

The cavalry arm of the service was not brought to a very high state of efficiency in the early years of the war. I refer more particularly to the volunteer cavalry. In 1861 there were in General BUELL'S army quite a number of regiments. One could hardly call them cavalry, but rather regiments of loyal, patriotic men, associated with an equal number of horses. Seeing this unorganized body, I spoke to General BUELL about it, and suggested that I be assigned to the command of the mounted force of his army; that I thought it needed the attention of some one familiar with the drill and duties of cavalry. His reply I shall never forget: "The cavalry will not perform any conspicuous part in this war." This seemed to be the sentiment of all army commanders, so this state of things continued. Regiments were practically broken up, and the companies assigned to escort and courier duty. In this way little opportunity was offered regimental commanders to drill and discipline their commands.

It was not until 1864 that General SHERIDAN was placed in command of the cavalry of the Army of the Potomac. His experience as a cavalryman was limited by a short service with a Michigan regiment, but he soon developed the fact that he could fight on foot or horseback, as occasion required. When his assignment was an-

nounced, every one knew that PHIL SHERIDAN would not command a force of which no fighting was expected. He at once consolidated the companies into regiments, which he formed into brigades and divisions, placing these organizations under such enterprising leaders as AVERILL, CUSTER, WILSON, MERRITT, and others, and soon had a body of cavalry that was seen and felt in every engagement. I am inclined to doubt if there ever was a cavalry command superior to SHERIDAN'S, under the gallant leadership of such men as I have named.

In the West the wants of the cavalry were neglected. In many cases the men were poorly mounted, badly armed and equipped, and yet it is astonishing what good service it did under STONEMAN, STANLEY, MITCHELL, LONG, HATCH, ELLIOTT, KILPATRICK, MINTY, WILDER, and others. General J. H. WILSON was ordered West from the Army of the Potomac to assume command of all the cavalry under General SHERMAN. He was young, active and ambitious, and soon did for the Western cavalry what SHERIDAN had done for that of the Potomac. The battle of Nashville and the retreat of Hood gave WILSON a fair opportunity to show what could be done by cavalry when properly handled, and every one remarked the great improvement in the fighting qualities of regiments when brought together. The war terminated so soon after this battle that little time was allowed WILSON to perfect the discipline of his command. Had the war continued several years longer the cavalry on both sides would have been brought to a much higher state of efficiency and acted a much more prominent part in every campaign.

A few days since I was asked the question, "Whom do you think was the greatest cavalry leader developed by the war?" I replied, that is a difficult question to answer, for the reason that all men have partialities, favors and affections, and are liable to be influenced thereby. If I could divest myself of all these, I would answer, FORREST. He began without experience, and with limited education. He had to organize and discipline the troops under him without a Subsistence or Quartermaster's Department. He marched and counter-marched, living on the country, and when he was in a destitute region he and his men subsisted on loyalty to the South. He was always successful in his battles and combats, and as soon as one was over, with rapid marches he was heard of on other fields. It is said that his success was so great that a number of army commanders summoned him to their presence to learn from him his mode of warfare. His reply was, "I always try to get the most men there first." Such strategy will win every time.

NAVICULAR DISEASE.

BY LIEUTENANT A. M. DAVIS, EIGHTH CAVALRY, U. S. ARMY.

OF all the diseases which horseflesh is heir to, there is perhaps none which is so little understood as navicular disease. There is also, I am led to believe, none which is more common. The rarity of an avowed case of navicular disease is, I believe, due to the fact that it is so generally misunderstood, and also to the hesitancy on the part of the veterinarian to pronounce it a trouble which he realizes he is unable to cure. He reserves the fatal diagnosis as a last resort.

During a tour of duty in this city (Fort Wayne, Ind.) it has been my good fortune to form the acquaintance of an eminent veterinarian, Dr. HENRY A. READ, to whom I am indebted for the facts contained in this article. Early impressed with the prevailing ignorance of the causes of lameness in the horse, Dr. READ has, during a period of over thirty years, devoted himself largely to a determination of these causes, with the astonishing result that he finds nine-tenths of all horses lame in the fore legs are suffering from navicular disease.

Before proceeding to the pathology of the disease it will be interesting and instructive to glance for a moment at its history.

In PERCIVAL'S "Hippopathology," Volume IV, Part I, "Lameness of the Horse," he says, speaking of himself: "I never myself heard of the navicular disease or navicular joint disease so much even as mentioned before Mr. TURNER published his papers on the subject.* My study of veterinary science as a pupil commenced and ended under Professor COLEMAN; and certainly never by my teacher, that I have the most distant recollection of, was the word "navicular," in connection with or reference to disease once mentioned. I remember that the Professor attributed foot lameness in general either to disease of the sensitive laminae or to contraction of the hoof; and in my notes of his lectures I find this memorable

* The papers were sent to the professors of the London Veterinary College in 1816.—A. M. D.

passage: "In nine cases out of ten of what are called groggy or foundered horses, these parts (the sensitive laminae), in consequence of chronic inflammation, have become altered in structure, effusion of lymph or of bony matter taking place."

It is known that MOORCROFT recognized the existence of the disease under the term "coffin joint lameness," and practiced the operation of neurotomy in the early years of this century, but left England for India without imparting his knowledge to any one. At the time of the publication of the TURNER papers above referred to, the prevailing cause of lameness was supposed to be contraction of the hoof. This diagnosis, Mr. TURNER was led to believe, was incorrect, and to him must be given the credit of the re-discovery of navicular disease. After enumerating the causes which led him to search for some other theory than contraction of the hoof, TURNER says: "By dissection I have discovered another, and to the best of my knowledge, it is a disease which has never been described by any author. The seat of it is in the navicular joint of the foot: I mean the joint formed by the navicular bone and the flexor tendon, where the flexor tendon slides over the navicular bone."

PATHOLOGY OF NAVICULAR DISEASE.

PERCIVALL says: "The parts diseased, in cases of navicularthrititis (navicular disease) or grogginess, are the *under surface* of the navicular bone, and the upper one of the perforans tendon. It will be remembered that the inferior or posterior surface of the navicular bone is covered with cartilage for the purpose of articulating, *i. e.*, forming a bursa or joint with the opposing tendon of the perforans muscle, which, in the motions of the bone, upward and downward, plays over it something like a rope over a pulley, the surfaces of the bone and tendon being in more complete coaptation from the circumstance of the bone having a transverse eminence or crest across the middle, to which the tendon is fitted by a corresponding excavation in its substance, which hereabouts is rather of the nature of cartilage than tendon. * * * Now, it is either the said crest across the navicular bone or the opposed concavity in the tendon, or both together, which show the earliest signs of disease in navicularthrititis."* Such was TURNER's acceptance of the pathology of the disease, and bringing before his class one day a horse affected with navicular disease, he explained to them minutely the morbid condition in which the surface of the navicular bone should be found, when, on destroying the horse, the surface of the bone was found to

* Italics mine.—A. M. D.

be perfectly healthy. His disappointment was so great he ceased teaching the pathology of navicular disease, and died without learning how nearly he had arrived at the proper solution of the difficulty.

So far as I can learn, it remained for Dr. READ, above mentioned, to discover that the original seat of the disease was not in the surface of the bone at all, but in its center, or in the cancella. Had TURNER but sawed through the navicular bone which so disappointed him, he would have undoubtedly found the inflammation existing in the cancella. The true pathology of the disease then is as follows: Whatever be the immediate cause, the trouble starts with congestion of the cancellated structure at the interior of the bone. Inflammation and enlargement of the bone follow. In one specimen in my possession the color of the bone, interior and exterior, has been changed to a dingy brown by the congestion, while as yet the surface has not been abraded at all; in fact, the disease may run for months before it reaches the surface of the bone. When it does reach the surface the morbid appearances presented are ulceration or caries. At first little eminences the size of millet seeds are observed on the under surface of the bone. As it progresses, the bone looks worm-eaten, and later, holes will be found in the bone, into which, in some cases, the tendon will be found to have intruded.

It was this last phase of the disease with which TURNER was acquainted; or in other words, only its advanced stage. Further proof of the correctness of this pathology will be given in the discussion of treatment. The symptoms indicative of navicular disease depend upon the character and degree of the lameness and the condition of the foot. The approach of the disease is in some cases very slow, even stealthy; in others, very rapid. The horse may appear sound on being led from the stable, and on working awhile he will seem to favor one or the other of his fore feet. Examination fails to show any exterior cause of lameness, and a rest of a few days may cause him to appear sound again. On returning to work the same thing will appear again; this time probably more clearly defined lameness. A few days of rest again will appear to restore him. In this way, if the work is easy and not on hard ground, weeks and even months may pass before the horse is pronounced decidedly lame. The veterinarian will now be called in, the shoe removed, and the foot examined by means of the drawing-knife. It may now be found that the sole cuts dry and hard, and some contraction of the heels may also be observed. All hoof signs may,

however, be wanting until the disease has passed the first stages. Mr. TURNER recommends that both hoofs be pared out in order that any differences between them may be discovered, as it is but rare that both feet are attacked primarily at the same time.

The pain in a foot having navicular disease is probably more or less continuous, and it is but natural that the horse should advance the lame one slightly, thereby taking the weight from it and reducing the pain, "pointing the foot," as it is called. If he does stand in this way, the trouble is undoubtedly in the foot, and if so it is safe to pronounce it navicular disease. I have seen a horse that was suffering from this disease keep constantly changing the foot on the ground; first holding one foot up and then the other, and endeavoring by this means to ease the pain which he was suffering in both feet. He had had navicular disease for years, was constantly lame, and the owner did not know what the trouble was. To quote Dr. READ, "Heat of the foot, though one of the ordinary symptoms of navicular disease, will not be present in all stages of the lameness. When a horse, for example, falls suddenly lame, the cause of lameness not originating in inflammation, which as yet has not had time to set in, it cannot be expected that heat should be present. Neither will it be found in certain chronic stages of the disease, wherein lameness is rather the consequence of altered structure than of inflammation."

Careful inquiry should be made as to whether the present case is the first, second, or third attack of lameness in the same foot, and whether or not anything of the kind has ever appeared in the other foot. This is by far the most important of all symptoms. The very circumstances of relapse, from the tendency of navicular disease to return, adds the most important weight to the consideration of symptoms. PERCIVALL says: "Were a person a hundred miles off to write a letter saying, 'My horse goes lame and I can discover no cause or semblance of cause for the lameness; there is nothing to be observed to account for it. Once or twice he has through repose become sound again, though lameness has not failed to return every time he has returned to work,' I would, without apprehension of being mistaken, set it down as navicular disease. The treatment usually employed is to have the foot immersed in a warm bath, the immersion being succeeded by the envelopment of the foot in a hot poultice. By such treatment and a week's repose many have been restored."

I now come to the important part of this paper, namely, the low operation of neurotomy, practiced entirely by Dr. READ, and when

used in the first stages of the disease, with almost uniform success. To explain the *rationale* of the operation it is necessary to return again to the structure of the bone. As already explained the disease starts as a congestion and consequent inflammation and ulceration of the cancella or interior portion of the bone. This portion of the bone is rich in nerve fibre, and is the seat of the extremity of a branch of the metacarpal nerve. The pain produced by ulceration amongst this nerve fibre is probably similar to that experienced by man from an ulcerated tooth. The horse mentioned just now as continually changing the position of his feet gave me the impression that he was in constant pain, his whole appearance indicating as much. The very ulceration which causes pain, however, is at the same time nature's cure for the trouble; it tends to destroy the structure of the cancella, and in its place solid bone material is deposited from the exterior of the bone. Should this process of nature work rapidly enough, no assistance from man would be needed. But before nature's cure has been completed, the ulceration has eaten through the surface of the bone and destroyed it. The result is that the tendon instead of having a smooth, lubricated surface to work over, has one that is rough and indented, causing intense pain to the tendon. As the evil progresses the tendon becomes imbedded in the holes of the bone, and the result is stiffness in the movement of the foot. Nature's remedy suggests one to man; destroy the source of supply of the nerve fibre of the cancella, the process of ossification will be hastened and ulceration stopped. This is done by the operation of neurotomy, in which that branch of the metacarpal nerve leading to the navicular bone is cut after it leaves the main nerve.

The discovery of the operation of neurotomy is in no wise claimed for Dr. READ; it was used in the early years of the century, as already stated. What is, however, claimed for him, is the discovery of the correct pathology of the disease; and the examination of upwards of one hundred navicular bones has convinced me of its truth. Its truth is moreover shown by the splendid results of his operations. In thirty years of practice he has operated on between five hundred and a thousand horses, in the great majority of cases with a return of soundness to the horse. Facts speak for themselves. The startling discovery to me in my work in connection with this subject is the alarmingly large number of horses which are suffering from this disease. In a lot of sixty navicular bones, brought in by the person having the contract for destroying the dead animals of this city, we found scarcely any that were sound. Almost all had the disease to

greater or less extent. It was this that led me to make the opening statement of this paper, that I believe navicular disease to be the most common cause of trouble in the horse. The cuts kindly made for me by Mr. F. HALVOYD LAMBERT, show clearly the stages of the disease as described.

*Elevation.**Section.**Healthy Bone.**1st Stage of disease, inflammation.**Surface ulceration, in case where nature cured the cancella by ossification.**Specimen from horse cured by Dr. Reed, sound thereafter until death.**Advanced Stage.*

CONVERSATIONS ON CAVALRY: BY PRINCE KRAFT ZU HOHENLOHE-INGELFINGEN.

TRANSLATED FROM THE GERMAN
BY LIEUTENANT CARL REICHMANN, NINTH INFANTRY, U. S. ARMY.

ELEVENTH CONVERSATION. MARCH 28, 1886.—OF THE TRAINING PROPER OF THE REMOUNTS.

H. What do you think is the best time for passing to the training proper of the remounts?

S. As soon as the remounts are gradually gaining strength, obey the preparatory aids, seek the bit confidently with head straight to the front, and retain the feeling of the bit in all the natural paces, trot, walk and gallop. Then you may begin to work the hindhand more.

H. Since the remounts are transported by rail, the regiments of most corps get them as early as July or August. The training proper can then begin by the first of October.

S. If I were to name a specified date, I should be contradicting myself in the case of every single horse, and violate all the principles of rational riding. In the first place, the horses are not born on the same day. The remounts are therefore not of the same age, nor in the same stage of bodily development. Some horses develop more rapidly than others. Differences of build require some horses to be worked in natural gaits longer than others. It is therefore impossible to state on what date to pass with a remount squad to the training proper, the date for each horse being different; we can only say when each individual horse is ripe for training.

H. That each individual requires different treatment is plain to any intelligent rider. But I should like to have your opinion at about what season of the year the average remount arriving with the regiment in July is sufficiently progressed, barring, of course, exceptions in individual cases.

S. I must decidedly decline to name any particular season, not

even within the very widest limits. With each remount you begin the work of the hindhand, *i. e.*, the passing from the natural to the medium gait, the training proper, when the remount is ready for it. To recognize this time is the business of the judge, and, in our military training, of the instructor's eye and the rider's feeling, with which latter the instructor should come to an understanding by questioning him. Nor must you understand me as saying "To-day the training of this or that remount begins," and that from this day on I put aside all natural gaits and preparatory aids. On the contrary, you believe the horse has sufficiently progressed. You attempt to bring the hindhand well under, to raise the forehand, the nose held low. If unsuccessful you have warning that you were mistaken, and have to return at once to natural gaits and preparatory aids. With our good-natured horses, however, you will probably succeed at once. The danger for rider and horse lies in this: that the former, rejoicing over his success, will soon demand too much in quality as well as in quantity, *i. e.*, he at once raises the forehand too high, and urges the hindhand too much; rides in the first days too long at a time at gaits approaching the medium ones, and causes pain to the horse. During the succeeding days the horse resists, having suffered pain in the stable, becomes restive and loses its appetite. It is time then to return at once to the natural paces, and to make moderate demands only, for some days. A good, experienced rider, who makes no mistakes, will teach a horse everything without worrying him. He never settles on a certain task for each day. The horse learns without noticing that it is doing anything unusual. Both horse and rider are unaware how it comes that all of a sudden the Gordian knot is undone.

H. My question as to the proper time for beginning, is prompted by the division into periods with which the second part of the riding instructions begins. There it is assumed that the first training of the remounts begins on October 1st, though, since they arrive so early, it might begin in July or August. I thought that you would proceed more slowly than the riding instructions, by beginning the training proper about October 1st.

S. It should not be forgotten that the average remount is a quarter of a year younger in July than in October, and less developed physically, and that less should be demanded of it. It is possible, of course, that sometimes a remount may have sufficiently progressed by October to allow of increasing and shortening of the gait. But this will certainly be the exception.

H. But you can not delay long in the fall if, according to the

division into periods, you are to teach the medium trot, fast trot, volts with turning, etc.

S. Nothing has contributed so much to the gross misunderstanding of the entire meaning of the second part of the riding instructions as this division into periods with which this part begins. It is merely an illustration, not a regulation.

H. How can a riding instructor infer from the riding instructions what is meant as regulation and what as illustration?

S. From the entire sense of the riding instructions in harmony with the correct rider feeling. In the first place please note that the division into periods covers a space of eighteen months, and that the text refers to the fact that the remounts arrive as early as July or August, and that this time should be utilized. The division into periods ends with March of the second year. What troop commander with any sense would place the old remount in ranks as thoroughly trained on the 1st of April? What regimental commander would allow that? A careful leader, with a knowledge of his horses, will select with great care a few of the old remounts and put them in the ranks if entirely developed, taking for the large summer exercises most of the remounts for parade merely, and saving and leaving behind those which need it. As long as we have the inspections at the end of the riding course, the question is how to guard the young animals from the preparations for the inspection. The inspector can do much in contenting himself with what the horse's strength and state of training permits, in not requiring work by pattern nor expecting to see every horse fully trained ready for the ranks. Thus the real time of training lasts two years instead of eighteen months, and with some horses two years and a quarter, followed by six months, within which the training of the horse can be supplemented.

H. Will it be possible to save many of the old remounts in summer when the squadron is required to turn out for the large summer exercises with a certain number of files?

S. There are many opportunities for saving the old remounts during the maneuvers. The quartermaster, or some men not riding in ranks, are put on them. It is preferable, however, to drill in peace time with a few blank files rather than to ruin the remounts. I should prefer not to turn out, before fall, a single old remount for large fatiguing exercises in peace time.

H. Would you leave them in the garrison?

S. Certainly not. March and change of air will benefit them. It is only from severe exertions that I would guard them.

H. There you are clashing with SCHMIDT, who demands that every horse be turned out for the large divisional exercises, and says: "Those not in ranks fail to take part in the fight." He wants the number of riders and files considered in deciding whether an attack was successful or not.

S. General VON SCHMIDT was one of our greatest, perhaps the greatest, drillmaster of recent times. He did great things in preparing and carrying out the peace exercises of great masses. His demands on the rider in war are justified throughout. But I cannot accept him as authority on the individual training of man and horse in peace; he demands too much. As to the requirements of war, he is right. There it makes no difference if the horses fall by the bullet or from exhaustion, if only the object is gained; but when in peace time the highest demands are made on the horses before fully developed and obedient, they are ruined to no purpose. SCHMIDT, and still more those after him in the cavalry, who in part have failed to sustain his methods, and seek to outdo him, break down half of the remounts. The horse may not show it during the exercise, but will in the next few months or years. If you make these demands ten years in succession, you will have squadrons of which more than one-half of the horses are ruined, *i. e.*, unfit for war.

H. A squadron of full peace strength can turn out for the summer exercises with eleven files (among them two blank files): that is, eighty horses, not counting the old remounts, without which the squadron numbers 109 horses. Some of the old horses are going to go lame, or have to be spared for some other reason during the very fatiguing summer exercises; hence it would not be long before you will have to place some of the old remounts in ranks.

S. The more rationally and gently the remounts have been treated in the first two years, the better will they afterward withstand the fatigues of the maneuvers, the smaller will be the number of old horses that fall out from lameness or other causes, and the smaller the probability of having to use some of the remounts of the current year. The more the horses while yet remounts are fatigued, the surer the foundation for their ruin is laid, the sooner they will in after years break down, become lame, etc. It is better, therefore, to turn out for the maneuvers with a few blank files during a few years, than to ruin a single remount prematurely. It was war, however, that I had chiefly in mind. Would you rather take the field with a squadron with none but fresh legs under its horses than with one of which half the horses are of doubtful efficiency in the field?

H. Do you mean to leave the old remounts at home if war should break out during the time demanded for training by you, for instance in summer?

S. If up to that time I have spared them rationally, and turned them out in ranks occasionally only for exercise on days when the amount of work and the nature of the drill was not too much for them, I shall be able to use them in war to better purpose than if they have been turned out for all exercises, and have thus had the seed of ruin implanted in them.

H. I wish to revert once more to the division into periods. The riding instructions enjoin in every line a slow and gradual progression, and yet it seems to me as though by this division into periods so much is expected that no remount is able to accomplish it in the time allotted.

S. You may judge by this that a rigid adherence to this division into periods is not expected by the riding instructions. No intelligent rider will sacrifice a hair's breadth of the requirement—running like a red thread through the riding instructions—of a gradual progress in the training conforming to the physical development of the horse, for the mere purpose of fulfilling the letter of the division into periods. Adherence to the text of the riding instructions and their purport as a whole, which is in perfect accord with rational riding, should be the guide. Rigid adherence to the division into periods leads to the ruin of the horses. The procedure under the division into periods is, on the whole, correct, but should be modified so as to suit the case of each horse.

H. Still it seems to me there is much that is in opposition to your principles. If, for instance, in the first period, which, according to your principles, should for the most part be devoted to the mere preparation for the training proper as we discussed it the last time, passing of corners, changing corners across the hall, volts with turning, turning on the forehand, fast and medium trot, are to be practiced, these requirements seem to me opposed to your principles.

S. Not at all. Passing corners and changing should be practiced in the first period, if, as is assumed in the instructions, the "necessary evil" of hall riding is unavoidable. Where this evil can be avoided, I need not suffer its resulting evil effects. Volts with turning can soon be ridden, the only question being how. What else is the change of direction, under application of the inner leg for the purpose of familiarizing the horse with that application of the thigh which I recommend as preparatory aid, than part of a volt in turning? The same exercise at a halt which I discussed at the same

time, what is it but part of the turning on the forehand? If you were to begin with a volt of six paces diameter and an entire turn on the forehand, you would not have my approval, nor be acting in the sense of the riding instructions. With the fast and medium trot in the first period, it is the same. The riding instructions never contemplated thereby a perfect fast or medium trot, but merely an increasing and shortening of the gait, such as I require at the beginning of the training proper for working the hindhand. Only perfectly active horses are able to go a perfect fast and medium trot. Any good rider knows that, and it is to them that the riding instructions are addressed.

H. All this admits of no controversy. But the hapless riding instructor is inspected at the end of the first, or at any rate, of the second or third period, and he is expected to show, and the horse to do, what is prescribed for these periods in the riding instructions.

S. Where in the riding instructions do you find it stated that an inspection should take place at the end of each period? These riding inspections at the ends of the periods are a disease with which our entire cavalry is afflicted. The superior arrives and demands on the 1st of January this, on the 1st of May that. What does the riding instructor do? He lulls his remount squad to sleep and has to go mechanically through the task prescribed for that period. Volts, etc., and subsequently side paces are produced, but how? The best natured horses, whose conformation offers the least difficulties, are placed in the lead and rear, for whatever happens in the middle is not so conspicuous. During the last month before the inspection the work is confined to reeling off daily the requirements of the inspection. This consumes half the time of the training, instead of utilizing the entire time for making the horses effective for the field. Furthermore the instructor, who has exhibited his horses at the end of one period, is apt to consider them so far progressed, that he passes on to the next, and no longer concerns himself with the more primitive exercises of the former period, which, in his mind, is a thing of the past; yet it is in the sense of the riding instructions, again and again to go back to the most primitive exercises when meeting with difficulties, which were considered surmounted because an error was made and the horse advanced too rapidly. The instructor cares in the first place to come out well at the inspection. What becomes of the remounts after leaving his hands, concerns him little. The shirt is nearer to his skin than the coat. So you see what leads to precipitation in the training of the remounts, is the inspection at the end of the periods and not the di-

vision into periods which is intended merely as an illustration and guide.

H. I think the evil could be removed if the riding inspections were properly managed, and, as proposed in my letters on cavalry, would take place, not at the end of the periods, but a few weeks before that time, giving the inferior time to remedy the defects pointed out to him.

S. That would merely lessen the evil. It must be rooted out entirely. Every final riding inspection is apt to lead to the belief, that the horse or rider is "done." But in a certain sense horse and rider are never "done," for they can always learn more, while, in another sense, the squadron is expected to be "done" at all times. Of what use is a system of riding which can show its feats in April only, and forgets them again in the drill season? Of what use is a squadron which can have squadron drill only in May and June, target practice in July, regimental drill in August, and maneuvers in September? May not war break out at any season? Should not the squadron be able to drill at any time during the year? Why then the periodical inspections?

H. Without control, no achievement. As the inspection, so the work.

S. Very true. I take you at your word. As the inspection, so the work. For this very reason inspections should not take place at the end of certain periods fixed for each year, otherwise the exercises are so conducted that some riding can be exhibited at the final inspections. The inspections should be so made that the inferior will never know beforehand of the superior's coming. If the latter wants to inspect the riding of the remounts, he must not allow himself to be treated to a performance as a ballet, or a circus quadrille, but should be present during the instruction (whether during the first, second, fourth, eighth or ninth period of the riding instruction, is immaterial), and must insist with iron rigor, that no more be required of any remount than it is capable of, in view of its physical development and previous rational training. Thus the superior can exert an intelligent influence, and judge the inferior by his way of imparting instruction. That once done, you should see how the coaching for inspection will come to an end.

H. But you must fix on some date by which the remount must be ready to be placed in ranks.

S. No! No! The horse is placed in ranks when it has gained full strength and is broken to obedience. Or do you want me to say for instance, on this or that day the horse must be placed in ranks; by

that day it must have gained full strength and be rendered obedient? From the words "full strength" you will perceive that I would be saying something wrong. Many riders forget that a horse's obedience and full strength stand in close reciprocal relation; that full strength is promoted by long, rational training; that precipitate training is apt to be harmful; that only such horses can be rendered thoroughly obedient as possess their full strength, because before the development is completed they have weak points which, if disregarded, bring on obstinacy. The red thread running throughout the remount training, should be that the training of each individual horse be as slowly proceeded with as indicated by its previous exercises, conformation and development, and that it be not placed in the ranks for all kinds of service until it is fully developed and obedient.

H. Then you will not be able, as a rule, to place the old remounts in the ranks until after the great fall exercises, and you will have a remount here and there which needs additional training during the following winter with the next younger class of remounts.

S. What harm is in that? As old horses they will remain serviceable all the longer, will be trained all the better; so much the better riders will be trained on them, because then the recruit will imbibe an all the better rider feeling with the mother milk, so to speak.

H. It is not difficult to see that the training will be much more perfect, if no time is fixed by which the horses must be rendered active, than when you are tied down to a certain time. Hereafter I will ask my question on the further training with as little reference as possible to the calendar. I should like to know next whether, when you begin to work the hindhand, you would also begin to bend the horse?

S. Nothing bends the horse better than the bringing up of the hindhand in the active medium trot. It prepares the bending throughout the horse's structure. Bending sideward should, however, not begin too soon. Many riders fall in this error. It "kniebels" the horse and deprives it of the confidence in the reins which has been imparted by a rational working of the hindhand. It will creep away from the reins.

H. You have already given warning that in beginning it there should be no attempt to bring the young horse forward on the hindhand at a walk. The chief working pace for this purpose is the trot.

S. And the gallop. I need not explain to you how in both these gaits the hindhand is brought under.

H. No! The course of training as outlined by you agrees too much with what my instructor LANGENS also prescribed, to need much explanation. He increased the natural gait by driving forward with the thigh and relaxing the reins gradually at the same time. When the horse then began to seek the reins, he made us endeavor to reduce the gait gently with the reins, gradually relaxing the thigh pressure at the same time. As soon as the horse decreased its gait, it was again driven forward with the thighs, and the reins were relaxed. The aids thus given alternately by thigh and rein gradually approached each other. It required many days, weeks, even months, before thigh and rein could be applied simultaneously. This work on a straight course requires much patience, and frequently throws the rider into profuse perspiration. But when thigh and rein can once be applied simultaneously, the horse is placed "between thigh and bit," and the natural trot has been transformed into the medium trot before you know it.

S. I place much value on the gallop as a means of working the hindhand. The gallop is a gait very sympathetic and natural to the horse. But those alone can properly work at the gallop who sit correctly, conform well to the motion, and do not need the reins for keeping their seat. For this reason I speak again and again of the seat. Many riders and instructors inwardly hate the gallop, especially the extended gallop, because they do not know how to ride it; because they lack the disengaged seat; because they do not let themselves go and allow the horse to move freely; because they come in conflict with the horse in this manner. They seek to make up by force for lack of adroitness in the saddle, interfere with the gallop jumps of the horse and cause pain, to which the horse responds by stiffening itself, staring and pulling on the reins. Such choking and fighting ruins the horse's body and character, and the riders think that it was the gallop that spoiled the horse, when, in fact, it was the manner in which they rode it. Cavalry must be able to gallop for maneuvering, charging, patrolling, and producing bold riders. Whoever cannot make a long gallop with an easy rein, is not a properly trained cavalryman, and can be given no voice on campaign riding. The long gallop is the rider's touchstone; the proof of the example cheers the heart, brings self-confidence, the feeling of invincibility, without which cavalry can do nothing. In riding the young horse at a gallop, its jump should be absolutely unimpeded. By increasing or shortening, a medium gait is reached,

in which the work is the same as in the trot, consisting merely in increasing and decreasing the gait. The "short gallop," *i. e.*, the shortened gait at the gallop, should at first be as carefully avoided as the shortened gait in the trot. Both are school paces, and pertain to an entirely different period of the training.

H. Now I need not ask the next question I have had on my tongue, *i. e.*, when you would begin to bend the horse sideward, for from what you have said, it appears that the time for it has not come until the hindhand is so far brought under, and the remount takes the reins so that the natural trot and gallop have gradually been transformed into a medium gait, which admits of being increased or decreased.

S. Yes, and the walk will then have become steady without it being necessary to torment the horse by bringing the hindhand under at a walk. The work on the straight course will also have bent the haunches to a certain extent, for the bringing up of the hindhand causes the same to be placed well under, and the weight to be shifted to the hindhand.

H. With what exercise do you begin the sideward bending?

S. Before speaking of that I should like to refer to some principles in biting and handling of the reins, which I see frequently violated, for irrespective of the impracticability of rational riding without correct biting, handling of reins and biting are prime factors, especially with remounts at the beginning of their training.

H. The riding instructions and the works of KRANE and SEIDLER are the most correct on this point, I should say.

S. The only correct ones. Yet they are frequently sinned against, because in riding young horses the rider is not sufficiently careful of himself to see that the middle between the two reins and when riding on one hand, the bridle hand be exactly over the middle of the horse. This causes misunderstanding, precludes a proper "standing to the bit," control over the hindhand is lost, and one rein only, the wrong one, remains in operation. The rider should constantly feel both reins lightly, otherwise the proper action on the neck, obedience, is lost; head and neck are misplaced. Frequently horses go on one rein only, mostly the left one, as the result of faulty snaffle work, chiefly because the rider in using the curb habitually lets the bridle hand hang down on the left. This brings about a wrong bending of the neck to the left. You may observe this with most men of the squadron. It should be carefully looked out for, nor should the instructor allow his pupils to acquire this habit. It does not make so much difference in riding for pleasure,

when the rider may use both hands as in horse breaking, and in drilling, when the soldier holds the weapon in his right hand. If the reins are removed from over the horse's middle the animal becomes confused, cannot be properly turned, etc. Again, the proper position of the reins is impossible without a correct seat. It brings about refractoriness, and if you are strict with yourself you admit that it is you who is wrong. Frequently the cause of the horse's leaning on the reins is that bendings and lessons are demanded for which the horse is not yet ripe. In addition, horses that take one rein only are more quickly used up, their legs suffer from one-sided use, not to mention a galled back from great exertions in the field, refusal of food, exhaustion, etc.

H. Much harm is done also by using an unduly long rein.

S. Chiefly because the rider is apt to take the reins too short, believing to have thus better control over the horse. That is an error. The horse familiarizes itself more readily with reins of proper length, and seeks them, while it endeavors to get away from the short rein which hurts; for the rein, if too short: 1. deprives the horse of the possibility of stepping out, of extending itself, of selecting the spot where to plant its feet. It deprives the horse from beginning of the initiative, renders it systematically unsteady, which will manifest itself later in riding on uneven ground. 2. With high paces, mouth and balance are lost. 3. The position, the rider's seat, are lost. He advances the hand, draws in his left side, and leans to the right. Result: Saddle galls on the left front and right rear. 4. It invites falling. When stumbling the horse seeks to save itself from falling by planting the fore legs and stretching the neck. Too short reins prevent the horse from doing so. The rider is at the same time pulled forward, and cannot, as he should, throw back the upper part of his body, and take his weight off the fore part of the horse. 5. The horses are thus prevented from looking out for themselves, become unsteady, stupid, and the riders become diffident and cowardly, for they lose the confidence in themselves and the horses.

H. The reins should, however, not be left loose too long at a time.

S. Of course not so long that the rider loses all action upon the horse. The fault of too short reins is the more frequent one.

H. It is a pity that there can be no fixed rule for the length of the reins.

S. The length of the reins depends on the length of the horse, the position of its head and neck. Nothing better could be said on this point than what is contained in the riding instructions.

H. There are many riders who seek to remedy the defects in the construction of the horse's neck by auxiliary reins.

S. Unfortunately, yes; it is carried so far, that the anglomanics, particularly the awkward ones, cannot take a ride without a martingale. That expedient is useful only in breaking horses to the gallop for racing purposes, and under an excellent rider. For riding hall work it is injurious, produces an oblique position of the head, a faulty bend of the neck, and accustoms the horse to pull with the head upward. For campaign riding the martingale should be discarded, for reasons: 1. If short in order to be effective, it impedes the free movement of the horse, especially in the high jump, and drags the stumbling horse down on the ground, and is therefore dangerous. 2. It takes away the lateral action of the reins. 3. It causes the horses to be bridled too high, and injures the forehead. 4. Its correct use requires the use of both hands, while the soldier has but one hand available. 5. Bridling in case of alarm is delayed by the martingale, and the leading of a spare horse by the snaffle made impossible.

H. The use of the martingale was once recommended to me for a horse that had an inclination to the ewe neck when I bought it. It braced itself against the action of the martingale, and developed the ewe neck all the more.

S. I could have told you that at once. And yet the martingale has become the fashion.

H. In the division which I commanded there were infantry regiments among whose chargers more martingales could be seen than "jump reins" in a whole cavalry brigade of 1,400 horses.

S. I do not like the fixed "jump reins." They are frequently used against tossing of the head, and for confirming the position of the neck. They are injurious to the development of the paces, and of evil for man and horse. They fail of their purpose entirely. The position of the neck can be modeled over only by driving the hindhand forward against a soft, but steady hand, never by strapping up the horse forcibly. The tossing of the head is usually the result of factory-like, senseless work. When the rider begins to drive up the hindhand, to bring the horse's head and body closer to the head, it is unavoidable that the constraint should cause discomfort and pain in the compressed muscles, particularly if the nether jaw is sharp, as in blooded horses which resent any constraint. If too much be demanded at once, if some relaxation is not allowed so that the poor animal may stretch and refresh the pinched muscles, it becomes exasperated and seeks relief in tossing its head. It is the

rider's fault, and if he apply force in the way of auxiliary reins, he adds to the obstreperousness of the horse.

H. In my limited practice I had an experience which proves the correctness of what you say. I rode a horse with a short carp back, and long, slender neck. It would vault its whole neck and spinal column like a fish, and when I happened to sit carelessly, I was apt to receive a blow from the horse's head in my face that made my nose bleed. I asked the instructor's permission to use a "jump rein." He declined and demanded patience, seat and a light hand. After much work and untold patience, the animal gained confidence. I rode it many years and in two campaigns, and never had a nimbler, more comfortable or agreeable horse without "jump reins." For this reason I have always been opposed to the "jump rein." In the hussar regiment of my division, there was but one. All officers, however, who knew that horse, even the greatest opponents of this instrument, including Colonel KAHLER of the regiment, declared the "jump rein" indispensable in this case. The horse would throw the head back obliquely and, in the absence of the "jump rein," run madly away. Many a rider had been injured by it. When it felt a "jump rein," that made this maneuver impossible, and its behavior was exemplary.

S. You see how smart horses are! Had you been able, however, to follow the training of that horse from the beginning, you would have observed that the animal acquired the bad habit artificially in one way or another, and that correct treatment would have precluded the habit. For this reason I object to any kind of auxiliary reins in the training of remounts.

H. Have we the right to reject those auxiliary reins, which are enumerated in that part of our gospel, our riding instructions, which treats of the training of the remount? There we read: "Bearing-rein, cavesson, dumb jockey."

S. All works on riding, and foremost among them our riding instructions, are agreed that auxiliary reins require particularly good riders, and are dangerous instruments, which, in most cases, do more harm than good, and are not to be used by riders whose skill is doubtful and understanding defective. That is the case with all remount riders of our squadrons. However thorough the instructor's knowledge, and however great his experience, he cannot supervise every pull of the rein of his dozen of pupils or prevent faulty ones. Auxiliary reins whose action is lever-like and twice as strong as that of the simple snaffle, double the faults. Imperfect riders mean to force the horse with the help of auxiliary reins. They believe them-

selves at first to be successful, but the horse deceives them, and they themselves. The giving way sideward of the upper part of the jaw and the croup and dropping of the neck, they mistake for a proper yielding, and fail to notice that the horse is creeping behind the bit. Confirmed in this idea, they mean to reduce the poor animal to obedience by forcible means. They mean to attain forcibly, without effort, and at once, what can be the result only of gradual and progressive exercise in bending and rendering the horse supple with the help of aids and lessons intelligently applied. Impatience, lack of skill and understanding, and personal comfort, make auxiliary reins an instrument of torture. There are good-natured horses which stand this cruelty, and finally go in one way or another. Impure paces and excessive work are the result, and the poor rider does not know that he is condemning himself in saying, "The horse goes pass paces," or "runs away," or "is already broken down." Many young horses are prematurely condemned, and old, used up, dull horses have to be retained one or more years after they have ceased to be serviceable. The best auxiliary rein is the steadily driving thigh.

H. Would you also prohibit the use of the auxiliary rein in the squadron for retraining of horses?

S. There are probably one or two riders in each squadron who have made sufficient progress in riding to apply auxiliary reins intelligently. The less, however, auxiliary reins are used in the first training, and the more rationally that training is carried on, the fewer will be the horses which require retraining with the help of auxiliary reins. In the squad they should never be permitted. All works on riding assume that in the training, and particularly in the use of auxiliary reins, the rider rides by himself and can devote himself exclusively to his horse. That is impracticable if he is to pay attention to distances, other horses and commands.

H. The same may be said of too sharp a curb.

S. There are excellent riders who can ride with the sharpest bit, because they are skillful enough to ride lightly and gently in spite of the curb. In school riding, *i. e.*, the old high school, the curb is used, and applied, like all auxiliary reins, with understanding and care. Exceptionally good riders can ride with the sharp curb in the open and before the front, not however, in ranks. For purposes of campaign riding we can not caution too much against sharp bridling, *i. e.*, too long a pull, too tight a curb strap. It is unnecessary to state that the snaffle incorrectly placed, either too high or too low, ill fitting, too wide or narrow, torments the horse.

As with all auxiliary reins, so I am equally opposed to all extraordinary kinds of bits and biting, with which so many riders torment their horses.

H. The riding instructions mention among the auxiliary reins, the "training halter." Do you reject that also? LANGENS had every remount bridled, in the beginning, with a kind of riding halter, *i. e.*, with the snaffle with nose strap.

S. He was right. If you call the nose strap an auxiliary rein, which you must since it forms no longer part of the regulation equipment, I am in favor of this one auxiliary rein. I did not think of this before, for, during the greater part of my service, the nose strap was part of the equipment. It is exceedingly difficult to break a horse without nose strap, and requires particularly fine touch. If the horse is able to open its mouth wide, it will displace the upper part of the jaw, gather the tongue against the bit, or place it over the bit, let it hang out on the side and use a number of smart tricks to escape from the effect of the bit and bending of the neck, and brace its body. The rider, easily deceived, mistakes the "standing behind the bit" in the hall for light touch. In the open he begins to realize that the horse is not bent, and has deceived him by creeping behind the bit. It is difficult to break such bad habits. The nose strap prevents them. Some riders have such a hard hand and faulty application of the thigh, that horses will nevertheless acquire these bad habits. A light hand, in combination with the nose strap, prevents them.

H. The nose strap no longer forms part of the regulation field equipment.

S. Unfortunately not. If a horse is perfectly broken, *i. e.*, supple and obedient, it may confidently be ridden without nose strap for an ordinary ride, the chase, etc. In the service it is an evil. This is proven by the extraordinary increase of horses who stick out the tongue. Fifteen years ago they were infrequent, now they are numerous. For this reason I regret that it has been discarded, and hope it will again be adopted.

H. You were quite right in discussing the handling of the reins before the bending, as from faulty management of the reins and incorrect application of auxiliary reins a faulty bending must result. Permit me, therefore, to revert to the question how you begin the side bending lessons.

S. The sideward bending of the horse is begun by every rider, by most of them without knowing it, with that turning in which the hindhand steps in the trail of the forehand. It is that turning

(passing of a corner) in which the application of the inner thigh and letting go of the hindhand is no longer used to teach obedience to thigh, but in which the hindhand is checked by the outer thigh. Few riders know how in such passing of a corner a horse must bend as on a large circle, and what demands are made on the horse by beginning too early with the passing of corners.

H. Then you give the first bending lesson on the circle in the hall?

S. The large circle in the hall is too small for the beginning. Begin on a large open space, with half and quarter circles of greater diameter: but, mind you, not before the horse obeys thigh and rein on a straight course at a medium gait, makes but one trail, and can increase or decrease the gait according to the rider's will.

H. That would be about the time when riding in squads on the square with distances may be begun.

S. About, yes; but not before the horse can bend without pain on a circle so small as the large circle of half the hall. In the square the riding should at first be so regulated that along the short side a half circle is described instead of passing two corners. Under no circumstances should riding on the square with distances be begun too early or continued too long. Individual riding always remains the chief consideration. It follows from what I have stated, that not all horses should be brought into the square at the same time for riding with distances, but one after the other when sufficiently progressed. Riding with distances is of great value. It is, as previously stated, the test whether the rider has worked forward or backward. For the service it is a matter of necessity to equalize the pace; otherwise closed evolutions would be impracticable. When horses once go a medium pace, and can increase or decrease the gait, observance of distances no longer entails danger to the gait as at the beginning, when the horse must be allowed to go its natural gait.

H. I told you before that LANGENS enjoined not to regulate the distance by increasing or decreasing the gait, but invariably by rounding off the corners or following them more closely. Increase and decrease of gait be demanded, according to the horse's progress, at every stage of training, until it could be done at every step, and perfect obedience to thigh and rein obtained. For regulating distances, however, he prohibited any change of gait, driving forward, or holding back.

S. He is right as to detail. On the whole, however, all riders must pass over the same distance in the same time, and thus a uniform medium gait is obtained, such as prescribed in the regulations.

H. Further bending is obtained by riding closely into the corners.

S. Yes, but very gradually, and at first with a considerable rounding off. Then you may advance to the circle and bend the neck in motion.

H. Not at a halt?

S. In the beginning I prefer the bending while in motion, because in bending the horse at walk it is apt to get behind the bit. I begin with a lively medium trot. When it is once certain that the horse will not creep behind the bit, you may bend its neck at a walk, and finally at a halt.

H. I heard some riders say that they began with bending the forehand; others, that they began with the hindhand. I never could understand that.

S. Nor can it be understood, for the former is injurious; the latter, impossible.

H. But you stated the last time, that in beginning the turnings, the hindhand may be allowed to fall away. In doing this, in the vaults with turning, the forehand is bent alone without the hindhand.

S. You forget that it was during the preparatory stage only, in order to impart to the horse a lesson, to teach it the rider's language, to render it obedient to the thigh. If, after the hindhand has been brought under, and bending of neck and haunch in the vertical plane has been attained, sideward bending is begun for purposes of training, a gross error is committed in bending the forehand without the hindhand. Bending of the forehand without the hindhand is impossible, since we ride with thighs and reins. Whoever says that he bends the hindhand first has recognized the disadvantages of the bending of the forehand alone, begins as recommended by me by bringing under the hindhand, and believes he is bending the latter only. Without knowing he is bending the forehand at the same time, if he has a good, steady hand. The horse is a very singular being, upon which any kind of action produces effects. You cannot act upon any part without affecting other parts at the same time. Hence it should be endeavored to act correctly upon all parts of the horse's body at the same time.

H. You would seem to be decidedly opposed to bending the horse led by hand.

S. Bending by hand must be used cautiously and discreetly. The horse is apt to be brought behind the bit, as in BAUCHER's works all the horses are drawn with the bend in the region of the third vertebra. To make himself intelligible to, and familiar with

the horse, a good rider may risk the bending by hand: not too much, however, or too long, nor so that the hindhand escapes the effect of the bridle.

H. Do you accomplish the further bending by means of the volts?

S. The volt of six paces diameter is about the sharpest bending that a horse may be subjected to, for we ride even the riding paces with the bend of the body given by the volt (a sharper following of the corners in itself is a sharper bend, but only a quarter of a circle). A good volt is the touch-stone of complete training. Generally the volts are begun too early; more particularly volts with distances and command should not be ridden until the horses are thoroughly worked through. At any rate, the increasing and decreasing of the circle should be much practiced before attempting volts.

H. I knew many riders who were decidedly opposed to any circle work, and were of the opinion that the only result was that the horses got lame.

S. That is bound to be the case when it is overdone, and likewise if any bending is overdone. Most riders fail to consider what pain the poor animal is suffering in its muscles from the unwonted bending, and how necessary it is to allow the horse frequently, very frequently, to stretch itself. How our own muscles do ache when kept for some time in an uncomfortable position! How we do stretch ourselves! And to the horse we are unwilling to concede this, and lay to ill nature and unwillingness when it does what it is prompted to do by severe pain. No wonder if it does become unwilling. Hence quite short lessons; frequent opportunity for the horse to stretch itself; frequent change by bending to the other side; and, to prevent the hindhand from remaining behind, frequent change to the medium trot with which any exercise should wind up, the object of which is bending. Frequently we see such an exercise continued too long; for instance, an instructor will sometimes keep a squad on the circle on the same hand for a quarter of an hour. Nothing could be more injurious to the character and nature of the horse than the senseless riding of exercises for their own sake. With every lesson the rider should have an object in view, and when he has attained it in some slight measure, reward the horse by leaving it untormented, and practicing something else. A lesson by itself without object is senseless and harmful.

H. We frequently find even good riders too deeply enlisted in circle work for bending the horse on one hand.

S. When they do so, because they continue the exercise too

long on one side, they show that they do not understand their business and are not good riders. It happens, however, that an otherwise good rider becomes angry, practically when he begins to feel tired. Well, an angry man hardly ever does anything wise.

H. My often mentioned instructor had a good remedy for the quick anger of riders. He always carried a knife in his pocket, and whenever a rider became very angry with his horse, he would offer him the knife to kill the horse on the spot; he said that would be better than to torment it that way. This offer had invariably a calming effect.

S. I cannot refrain from inviting your attention to an error committed by most riders in bending, and revert again to the seat. They allow their seat to be deranged by the work of the hands. They then sit the horse obliquely and thus give with their weight and thigh unintentional, and therefore, faulty aids. In doing so the inner hand passes over the horse's back to the outer side, while the outer hand passes to the inner side. The crossing of the hands confuses the horse, and should not be tolerated. Yet you can see that frequently.

H. It would perhaps be well to endeavor to progress before winter sets in sufficiently far in the training of the remount to allow of riding on the square with distances.

S. Why? Errors of precipitation are always committed when a certain term is set for certain progress.

H. When the wintry season prevents work in the open because the riding places are frozen over hard, and the hall is at the disposal of the remounts for three-quarters of an hour or an hour each day, all remounts must be brought to the hall together.

S. Most of them will be sufficiently advanced. If, however, one or the other is not, it should preferably be worked by itself.

H. But the hall is occupied all day.

S. It will not be occupied all day, if the old horses are so ridden and treated as I want it. The hall is there chiefly for the sake of the remounts and recruits. They have preference. Everything else comes after them. Any kind of hall work is fruitful of result only if the horse is ridden by itself without regard to distances and commands. This alone should show you why the old school halls were built so small. They were built with regard for individual horses. Hence all such work is to be done in individual riding, so also in the hall. The instructor should dismount the squad, and let it rest or move about in the hall, and should take the riders one by one, of whom perhaps two or three at the most work by themselves

at the same time, but without reference to each other. In the beginning the whole squad, observing distances, should ride medium gaits only, and practice increasing and decreasing same, not, however, without considerably rounding off the corners.

H. Would you not put the whole squad on the circle, increase and decrease the circle, and bend in the medium trot?

S. Not until individual work has shown that the horse has made sufficient progress. Individual riding must remain the main reliance in the hall, too. In this manner an overworking of the young animals by training is avoided; the riding instructions mean to prevent overwork by prescribing a maximum of one hour use of the hall, for if you prescribe much individual riding, a part is resting, and each horse is subjected to training and fatigue during one-half only of the prescribed time; during the other half it is resting.

H. Would you let young remounts gallop in the hall?

S. Why not, if they are sufficiently advanced that it does them no harm? The duration of the gallop should, however, be shorter than in the open, because in the small hall the turnings come oftener than in the large riding place, and fatigue the horses. At any rate, it should not be considered a crime on the part of the horse when it falls into a gallop of its own accord, nor should it be held back, but it should, as I have explained for the natural gallop, be driven with the thighs, to prevent the hindhand from remaining behind.

H. What is the next bending lesson you would take up after enlarging and diminishing the circle and bending on the circle?

S. It is the riding of the medium gaits in the second position. Few riders are aware how strongly the horse must bend to go in the second position. They should be compelled once to walk even five minutes with their faces turned as far to the right as the horse must turn its face, so that the rider may see the nose and eye, and they would soon feel pain in their muscles. The position toward the same side should therefore not be continued too long, as all exercises should be continued but for a short time in the beginning. It is important to use at first lively medium gaits only. It is in these alone that the hindhand (and more particularly the inner hind foot) is so much brought under, that it begins to carry the forehand, while in a shuffling, sleepy gait the hindhand remains behind.

H. A very effective lesson is the riding in counter-position, especially on the circle.

S. A very effective lesson indeed, which is to be recommended. But because it is so effective it should be used with discretion, for its effect on the horse is in proportion. I recommend, therefore, to

make in the beginning but few successive steps in that position, and to pass not more than one corner, strongly rounded off, in the counter position, if you wish to avoid injury to the horse's hind legs. This lesson is the principal means by which trainers working for the horse traders quickly reduce horses to some kind of obedience, in order that they may be sold at an early date, not caring, of course, what becomes of the horse afterward, a method of training called "the Jew's spit." Yet this lesson is not to be rejected with horses which, while in the proper position, show inclination to give way with the croup to the outer side and to refuse the hindhand.

H. Closely connected with the second position is the "breaking off." LANGENS never liked the term, and called it instead, "giving way with the hand."

S. The term, it is true, is not well chosen, because it is apt to make one believe that the application of force is implied. This exercise should likewise not be overdone. The rider should give as soon as the horse gives, and use his thighs so that the horse may not creep behind the bit. It should therefore be begun while in motion at a medium trot, nor should it be omitted in the gallop as soon as a medium gallop is admissible, and it is only subsequently that this lesson should be taken in hand at a walk. Nor should it be done at a halt before the horse is well up to and confidently champs the bit, the hindhand well under. Like bending, the "breaking off" dismounted by hand, should be done with great caution.

H. What has struck me most regarding the division into training periods contained in the riding instructions, is, that they require that the young remounts be practiced in the "schulterherein," "travers" and "renvers" as early as March and April.

S. It is stated on page 44, that during the first year the precision required in the second year is not to be demanded at first in any of the lessons. That does not mean that they may be ridden awkwardly, in impure gaits, the hindhand falling away instead of being brought under, but that in the lessons on the double trail, the two hoof tracks must not be farther apart than in the finished side pace.

H. Your demand coincides with the principles established by LANGENS. He demanded that in the beginning the one-sixteenth "Schulterherein" should be ridden.

S. In nothing is there greater error committed than in the lessons on the double trail. They are practiced for their own sake, to show them off at the inspection, not as a gymnastic exercise, as a means to an end. When the end has been attained, the means is no

longer needed. Hence lessons on the double trail should never be "inspected," least of all in squads with distances. The efficiency of the horse trained as a military mount should be looked for as the result, and the means thereto should not be used for quadrille exhibitions.

H. I had a horse once that had never been put through the lessons on the double trail, and yet was perfectly active and fit for everything that could be demanded from a military mount. When old it went willingly under a young rider, even the paces on the double trail, which it had never been taught. I rode the horse more than seventeen years.

S. Not every horse needs the gaits on the double trail to become an efficient military mount. There are horses formed by nature so normally, and presenting so little difficulty, that they do not need these exercises. They can do them more readily, and are therefore frequently used to show the art of riding in its highest perfection. There are other horses of such difficult build, that they can never be given lessons on the double trail without injury. In such cases it is better to omit these lessons altogether, than to ride them incorrectly. Frequently, almost invariably, these lessons are begun too early and the horse's gait is spoiled. Whenever you see remounts whose hindhand is not brought up, which pace at a walk, which, at the trot, do not step with the hind hoof as far as the imprints of the fore hoof, nine times out of ten they have been spoiled by premature lessons on the double trail, ridden faultily at that, in which the hindhand falls away instead of being brought under, and carrying the forehand.

H. It is better, of course, not to give any lessons on the double trail than to give faulty ones.

S. Worst of all it is with the "schulterherein." Horses may well be broken without this lesson. That was possible before the times of its inventors, LA GUÉRINIÈRES and the DUKE OF NEWCASTLE. At the time, the invention was looked upon as the expression of the highest perfection in the high school, not as a means of instruction. These old masters of the art of riding would turn over in their graves if they should see what is now perpetrated as the "Schulterherein."

H. Yet it is prescribed in the riding instructions.

S. Whoever reads that part attentively feels what difficulties the author encountered to make himself even approximately understood. It is supplemented by an addendum explaining the many errors committed in the "schulterherein" and attributed to insufficient

work and too high demands, *i. e.*, invariably to precipitation in training. It is therefore in the sense of the riding instructions not to demand too much, and to work the horses sufficiently in elementary exercises before passing to lessons on the double trail. They should be deferred until the horse is sufficiently prepared, and if it never reaches that stage, they had better be omitted altogether.

H. Could you make a horse active for campaign riding without these lessons?

S. Not only can I do so, but I am compelled to, since, as stated above, there are horses which can never go those paces without injury. The "schulterherein" can be dispensed with altogether. The "travers" and "renvers" might be replaced, in case of difficult conformation, using position and counter position with increased application of the outer thigh, by a gait resembling the one-sixteenth travers and renvers mentioned by you, and which causes the hindhand to be brought well under the load, which is the sole object of all these exercises. You find the same idea explained in detail in the excellent book of PLINZNER.

H. Then you would prefer to do away with the "schulterherein?"

S. I should like to see it absolutely forbidden to teach these lessons to whole squads, and to have them ridden with distances, just as in the introduction of the riding instructions it is forbidden to teach the lessons intended for the third riding class to whole squads. On the other hand, the men of the preferred class, who have to do the breaking, should learn the lessons on the double trail one after the other, as their knowledge increases, provided they fulfill the preliminary requisites, *i. e.*, light hand, rider feeling, correct aids. We must insist that the non-execution of difficult lessons does no harm; that badly ridden lessons are bound to do harm.

H. You spoke above of bending and "breaking off" in the medium trot. You certainly could not practice side paces in the medium trot.

S. Certainly not. A perfect side pace can only be ridden in the shortened trot with high action.

H. But according to your statements the shortened trot belongs to the high school.

S. Yes, when perfect; just like the shortened gallop and the side paces on the double trail, if they are to be ridden faultlessly.

H. Then you want the horses taught the shortened trot on a straight course by continued work in increasing and decreasing the gait, before passing on to the side paces.

S. That would be irrational. We never complete one thing en-

tirely before beginning the next. All kind of work with the object of bending the horse must progress simultaneously. The trot "with shortened gait" must be developed simultaneously with the side pace, very gradually, however, and never more rapidly than in proportion to the horse's capability and bodily development.

H. I think I understand you now. When the horse has learned how to go the medium trot with position, and has made some progress in "breaking off," and increasing and decreasing the gait, then you shorten the gait somewhat and give more position to the forehead or to the hindhand, or to the hindhand with counter position, giving thus an idea of "schulterherin," "travers" or "renvers," and at the same time increasing and decreasing the shortened medium trot.

S. I ride the side pace on the single trail, so to speak—the one-sixteenth side pace, as LANGENN calls it. As bending, capability and development of the horse progresses, I take more position, so that finally the trail of the forehead separates from that of the hindhand, and, hand in hand with this, I strive for increased shortening of the trot.

H. I believe there is danger of being deceived by the horse by a lazy, shuffling gait, which may be a short trot in which the horse fails to bring the hindhand under.

S. When the rider perceives that the hindhand is not brought under the body, he must conclude that he is shortening too much, is taking too much position, and should at once revert to regulating the gait, *i. e.*, driving forward with the thigh and taking less position, for he had passed to the more difficult lesson prematurely. It is the prerequisite for any trot that it be ridden actively, in order that the hindhand may gradually be placed under the body, as I told you before.

H. Then you would attain the perfect side pace, with the distance between the two trails as laid down in the instructions, at the same time with the perfect, shortened trot.

S. Yes, if both are attainable at all. If not, I content myself with that measure of side pace and shortening of the gait which the horse's conformation and development permit. For I make it a point, that a perfectly developed and regularly formed riding horse alone is capable of going a perfect side pace and trot with shortened gait.

H. Then you content yourself with a measure of side pace and shortening commensurate with the conformation and development of the horse.

S. Yes; and under certain circumstances, without any side pace,

and with a mere riding with position, and increasing and decreasing of the medium trot. For there are horses which can never go side paces, and yet must and can be rendered active for use in the cavalry. This is expressly stated in the riding instructions. Now, just as there are horses unfit for side paces on account of their conformation, so there are horses which can only go them to a limited extent, and with which the requirements of the instructions must be relaxed. It is preferable to ride little or no side pace rather than to demand one from a horse such as it is as yet incapable of going. I again remind you that a horse must be in possession of its full strength; if it is not it will be injured by the school trot with shortened gait, and by far the least number of our old remounts are strong enough for this purpose.

H. Then it is your opinion, that but few of our "old remounts" are capable of going the perfect regulation shortened trot and side pace.

S. If one of the sixty-five old remounts of a regiment is capable of doing it, it is an exception. Those whose conformation admits of it at all, have not their full strength until later.

H. Is it not, on the other hand, a doubtful measure to rest satisfied with a defective side pace as a means of instruction?

S. We must distinguish between a poorly ridden side pace and one not abreast of all the demands of the riding instructions. The latter may be ridden perfectly, but does not demand more from the horse than it can do. It will always be useful. It is only necessary that the shortened trot be ridden actively, that while in the position it is intended to give the horse, the gait be not shortened for the sake of position or side pace, but be increased and decreased for the purpose of bringing up the hindhand.

H. There are many men who refer to the side paces in general by saying that they let the horse "step over." But BALLY says, that his father, the celebrated equerry, ever declared any crossing of the horses legs a fault.

S. If the side pace, travers, renvers and schulterherein are to be ridden strictly according to the rules of the high school, and with perfection, then the horse's legs must cross, must step over. But the stepping over is not the object: it is a test of the degree of training. The main thing is the stepping under of the hind legs, the bending of the hindhand. The difference between the partial lesson well ridden, and the whole lesson badly ridden, is this, that the former, whether you ride with second position or with "one-sixteenths pace," or with a trifle more distance between the two trails, has

never any other purpose than the bringing under of the hindhand, the bending of the entire spinal column, the neck and the posture of the horse around the inner thigh. The latter rests content with a senseless, sideward staggering, in which the horse stiffens itself, does not become obedient, slips away its hindquarter and hurts itself with its hoofs. Any such side pace is wrong, whether due to the fact that the aids were faulty or that more was required of the horse than suitable to its degree of training or strength. Again I revert to my principal axiom: "*Rather no side pace at all, than one badly-riden.*"

H. But there certainly are some things which all campaign horses must learn, as closing up, dressing backward, turning on the hindhand, etc.

S. In what I just said, I had reference to the higher lessons, which are used in training as gymnastics, such as renvers, travers, schulterherein, trot and gallop, with shortened gait. The movements mentioned by you, we have for their own sake, for we need them in the drill in ranks. Any horse fit for use must learn and know them. Dressing backwards, it is true, serves for purposes of gymnastics as well as training, and should be used very discreetly.

H. I would like best to ask you to detail to me the whole course of remount training on the hand of the riding instructions.

S. What for? I could only say "Yes and Amen" to everything in these instructions, and perhaps point out that it is necessary to comprehend their meaning to adapt oneself to every individual horse, and to advance in conformity with its capability and bodily development, and eschew adhering to the letter and stencil work drill. One point I will mention specially, leaving out of consideration the exercises which, the horse once thoroughly worked over, are necessary for cavalry, as for instance the use of arms, riding in the terrain, taking of obstacles, swimming, etc.; the essence of the whole riding course is the endeavor to produce a correct regulation long gallop, and the development of full speed.

H. ROSENBERG, in his "Chance Ideas," rejects full speed in the charge altogether.

S. You shall see in a moment how little ROSENBERG's and my ideas differ. When the horse is firm in the medium gallop, is up to the bit, and can increase and decrease the medium gallop according to the rider's will, the long gallop of 500 paces per minute should be diligently practiced, so that the horses can keep it up for some time, and feel at home in it, without losing their wind.

H. Not, I suppose, while confined to the covered hall?

S. Certainly not. The many corners would make many horses lame. It is to be practiced on extensive riding grounds with rounded off turns: individually at first, then two, three, four abreast, with intervals; also with distances to break any tendency to flurry, and, if they be well in hand, to instill a uniform drill pace. It should ever be kept in mind that more ground must be gained in the gallop than in the trot: for if the trot is sufficient, it is unnecessary to gallop. Whoever, at a gallop, does not experience a sense of safety and delight on his horse's back, needs force to retain his seat and control of the horse, will never experience success and delight in riding, and had better give up the idea of preparing a horse for the military service. It is only in the long gallop, with light touch of rein, that the attentive rider becomes aware of the influence of the seat upon the horse, its endurance, speed, confidence and ease. In the charge, in the shock, at full speed, the tactical action of cavalry culminates. Full speed must therefore be developed with much care and industry. The more practice man and horse have in the run, the more you can count on a well closed charge against the enemy. The closed attack is difficult to ride, especially outside of the smooth, level drill ground, and only when every rider has control of his horse. However much horses like to run, they do not like it in closed ranks, because of the absence of freedom of motion. It is only the power conferred on the rider by the training that prevails on the horse to do it. Full speed develops itself from the gallop. Whoever knows how to gallop, how to increase and diminish the gallop, can also ride full speed: whoever does not know how to gallop, whoever, as stated, is not a thoroughly instructed horseman, cannot ride full speed, for he cannot control his horse in the charge. Yet full speed frequently receives in the squadron the same stepmotherly treatment as the long gallop. The reason is, that neither horse nor rider are sufficiently trained for it, the former as regards independent seat, the latter because accustomed to the long pace. Neither will, therefore, have confidence in his own power. In the excitement over the unusual, the horses hurry, the cramped seat impedes the forward movement: some horses run away, others creep behind the bit and refuse to run. On the other hand, horses that have been made obedient, can go full speed.

H. In hearing you, one might believe himself to be listening to the doctrines of the steeple chaser.

S. Both kinds of riding, it is true, culminate in the long gallop and full speed. In the chase, the latter is the "finish:" with the soldier, it is the shock. The great difference is this, that the steeple

charger leaves entire freedom to his horse's hind quarter, while holding neck and head low, guides it with both hands and good touch, careful to so select his way that the gallop step is not interfered with. When it comes to the finish, everything depends on getting the horse to develop its fullest speed. Whether, when and how the horse is to be checked after passing the finish post, is a matter of indifference. The military mount is to be guided by one hand, and should be capable, at any moment, of being turned short or checked with hind legs well under. It must, besides, be accustomed to carry itself, to look out for itself under a light rein; in the dense column, in line, in dust and smoke, it cannot select its way, nor can the rider select its way for it; in the evolutions, the latter's attention is too much engaged with other things; the horse must therefore be accustomed to jump suddenly high and wide without onset, and yet retain its balance. Last, but not least, in the charge the speed must be regulated by that of the slower horses, if the charge is to be as closed as required by regulations. The long gallop and full speed must therefore, in military riding, be ridden with more reservation. I believe I explained that to you once before.

H. Don't you think that this reserved full speed is the one demanded by ROSENBERG who rejects full speed and demands the hunting gallop for the charge?

S. I cannot dispense entirely with the full speed, the shock in the charge, if for no other reason than that of the moral effect on both sides, I remind you of ZORN DORF. In the charge against infantry and artillery, full speed is not absolutely necessary; it is against cavalry. I prefer to keep up the trot long, gallop for but a short distance, if possible, to get well under way, and command "March! March!" just before the collision. If you simply increase the long gallop, you produce laxity, which leads to the breaking of the front, and, in the most favorable case, to a doubtful hand-to-hand fight, which costs lives unnecessarily. I agree with ROSENBERG in so far as he rejects the short, jerky full speed, as it was formerly ridden and exhibited. But the full speed which we need for the shock, for breaking the opposing front, we cannot do without, and he wants it too. He simply calls the child by another name, and calls it full run. The reason why we see outside of the drill ground so many charges which are not closed, is that in the individual training of man and horse the ultimate object, warlike efficiency, the long gallop and full speed, were not kept in view.

H. I judge from all this that you are strongly opposed to the short gallop.

S. On the contrary. The short gallop, *i. e.*, the gallop with shortened gait is a good means of instruction to make the horse supple and flexible. It is a school pace like the shortened trot and all lessons on the double trail. These lessons should therefore be taken in hand only with horses of full strength and obedience. It should be ridden with much bending of the haunch and little ground should be gained; the more the hindhand squats and the higher the forehead gallops, the better. For campaign riding it is absolutely useless. If nothing were known of Prince FREDERICK CHARLES than that he prohibited the parade march in the shortened gallop, I should judge from that fact alone that he grasped the true rider spirit. As means to an end, however, the short school gallop is very good. It should therefore be taught by the best riders only, and practiced by them in individual riding. It should not be required by squads and by command, for even among the best riders of a squadron there are some who, led astray by their care for observing distance, resort to force or fail to notice when the horse gets behind the bit. It is difficult to ride it well and beneficially. Faultily ridden, it is harmful as any faulty lesson; hence it had better be omitted altogether. The gallop with shortened gait is not to be mistaken for the shortening of the gait at the medium gallop. Any rider of the squadron ought to be able to do that.

H. But you would require of the officers the gallop with shortened gait?

S. I fail to see why all the officers should not learn the entire high school for their own enjoyment, and I should be delighted if they all could. The same way I extend my patronage and feel gratified whenever they take part in races, especially in the chase. When they are able to do these things perfectly, they will perceive in what these branches of the art of riding differ from campaign riding, and how and in what particular the three branches must be kept separate.

H. It is getting late, and I have already plied you too much with questions. Permit me just one more. How many riders in a squadron do you mean to use for horse breaking?

S. Not a single man more than those in possession of the necessary qualification, as I stated before.

H. The four-year volunteers ought to present a good contingent, because they enter the cavalry from love to the horse, and in many cases have learned riding before entering the service.

S. Their number varies a good deal in the different regiments, and averages annually about fifty, or ten per squadron, in some regi-

ments only seventeen, or three or four per squadron. It ought to be gratifying to find one-half of them suited to the training of remounts.

H. That would make from one to three per year, that is, if they are available for remount riding in their second year of service, from three to nine altogether. How many non-commissioned officers do you think possess the necessary qualification?

S. One-half of them at the most; that is, seven.

H. The squadron will then, according as it has more or fewer four-year volunteers, have to train fewer or more conscript recruits, i. e., from twenty-five to thirty-three. How many, from your experience, do you think will be sufficiently skilled for use as trainers during their second and third year of service?

S. Barely the fourth part of them.

H. Both contingents, then, would give the squadron from twelve to sixteen. With a large number of four-year volunteers this would give a total of thirty-four, with few volunteers. Taking into consideration detached service, promotion of four-year volunteers to non-commissioned officers, sickness, or other losses, the squadron might soon be unable to furnish a rider for each remount of the two contingents of thirteen horses, not to mention the horses that need re-breaking.

S. These figures do not shake my principles. It is absolutely necessary that the horses of the youngest remount class be trained by suitable riders only. If I had but three or four such riders in the squadron, I would rather let them ride three or four horses each daily, than put unsuitable riders on the young animals. The riding in the squadron will then show early progress, and in this manner in itself increase the necessary number of suitable riders. There is even some advantage in having the trainers ride more than one horse daily. For riding, riding, and again and again riding, is what produces good riders.

THE U. S. MAGAZINE RIFLE, MODEL 1892.

BY LIEUTENANT JOHN T. HAINES, FIFTH CAVALRY, U. S. ARMY.

IN the *Army and Navy Journal* of February 23d, under the heading "Ordnance Notes," appears the following:

Lieutenant H. C. Lyon, Seventeenth Infantry, is contributing to the *Army Herald*, Columbus Barracks, a series of articles on the new army magazine rifle, and in the latest number gives six principal faults, with perhaps more to follow. These are: 1. The twist should be from right to left, so as to avoid the blow on the cheek, given by the stock in firing, and to make the drift of the bullet toward the left, so as to counteract the natural "pull" of the trigger to the right. The Lebel rifle, of France, and most sporting rifles have their twist from right to left. 2. The rear sight is too far from the eye, is not properly graduated for the gun, and has no wind-gauge. 3. The magazine must be charged singly by dropping individual cartridges into it, entailing loss of time. 4. There is no apparent reason for each man carrying a ramrod, as the gun cleans itself, unless he can utilize it with his shelter tent. Each non-commissioned officer, however, should carry one, and it should slide into place easily and quickly, like the old Springfield, instead of being screwed in. 5. The cut-off lug should be bright steel or nickel plated, so as to be more readily observed by squad and company commanders. 6. There is danger in having cartridges "jam" in the chamber, especially if a soldier confused the two functions of the gun as a magazine and a single-loader."

A few of these criticisms exhibit such imperfect knowledge of the new rifle on the part of the writer that I am led to attempt to correct any erroneous ideas he may have given members of the Cavalry Association and the readers of its JOURNAL.

Considering these objections in their order:

First. "The twist should be from right to left, to avoid the blow on the cheek given by the stock in firing," etc.

Experiments have shown that the blow referred to is caused by the recoil of the piece, and that there is no twist of the stock to the left due to that of the bullet to the right.

The recoil of the new rifle is less than one-half that of the Springfield.

As to the statement that a twist of the rifling to the left would counteract the natural "pull" of the trigger to the right, it is claimed that the rifle sufficiently provides for this very thing. The sighting notch on the cross-arm of the leaf is one-hundredth of an inch to the left of the axis of the barrel, so as to correct for drift at 500 yards, while that on the slide is two-hundredths of an inch to the left, correcting for drift at 1,000 yards; consequently for all distances under 500 yards the piece will shoot to the left; from 500 to 600 yards, slightly to the right; from 600 to 1,000, to the left again, and beyond a thousand to the right. Now, if from his experience at the last army competition, where it is presumed Lieutenant LYON became acquainted with the new gun, it was found to shoot to the right, his "natural pull" must have been considerable, except between 500 and 600 yards.

This "natural pull" should not be allowed for in a military arm. It will vary with the man. Some will pull directly to the rear, others to the right, and "shooters" say that there are others still who "pull off" to the left. Therefore, the only way to have uniformity or to attempt to do so, is to teach a man to pull directly to the rear. In sporting rifles, perhaps the conditions are different. The hunting sights are usually simple, without wind-gauge, and as the ordinary huntsman is not taught how to pull a trigger, he probably will pull more or less to the right, and the left-hand twist (with no drift correction) will somewhat counteract this—all this supposing the sportsman to be right-handed.

Nearly all modern military rifles have a twist to the right. The reason for this is hard to discover. In an old book written in 1859, I have found a reason for the left to right twist given by a commission appointed to investigate the subject of chambering, rifling, etc. It is, "that a twist from left to right is selected to counteract the natural tendency of a soldier to incline his sights to the left." In opposition to this, the author thinks the twist should be the other way, as the force of recoil or flinching from the recoil tends to bring the muzzle to the right, and the twist should be to the left so as to counteract this. None of this would apply now with the slight re-

coil of modern rifles. In fact, the subject of the direction of the twist appears to be of little importance.

Second. "The rear sight is too far from the eye, is not properly graduated, and has no wind gauge."

For ranges under 600 yards, the sight notch of the new arm is about two and one-half inches further from the butt-plate than that of the Buffington sight: from 600 yards up, it is only about a quarter of an inch beyond the notch of the latter sight.

The position of the sighting notch for the short ranges could be brought nearer the eye in three ways: 1. By using the slide notch for all ranges, and doing away with the steps. 2. By moving back the sight base an inch or more. 3. By putting a sighting notch on the top of the slide, where the leaf is flat, as in the old buck-horn sight.

If the first of these methods could be adopted with the present slide, the vertical distances, corresponding to a change of 100 yards in the shorter ranges, would be about one-twentieth of an inch, and the slide could not be readily adjusted. With the steps, if you come anywhere within half an inch of the distance, your sight will have the proper elevation. It is recommended by some "battle sight extremists" that a fixed sight, correct for, say 350 yards, be used for all distances under five hundred yards, and that then the leaf should be raised and used.

In regard to the second of these methods, the moving back of the sight base, I would not do it. The piece has to be carried and handled as well as aimed. In action it would be carried naturally at the "balance," *i. e.*, where the rear rivets of the hand-guard are situated, and this can not be done if the sight is moved back. The base of the rear sight gets so hot after twenty-five to thirty shots fired rapidly, that it will burn the bare hand, and as there is just room enough now for the hand between the rear of the base of the sight and the forward end of the magazine gate, the very slight gain in accuracy at short ranges, would not compensate for the awkwardness and strain on the wrist occasioned by carrying the piece with the hand above the sight. There would be more danger, too, of burning the hand on the forward end of the sight base, holding it in this way, as the sight would be directly under the hand.

The third method suggested, *viz.*: That of putting the notch on the top of the slide, as in the old buckhorn, is, I think, the best way of meeting Lieutenant LYON's objection, in case it is acknowledged that a defect exists.

The graduations of the rear sight were not at first accurate, but the error was corrected by raising the front sight two-hundredths of an inch. The Inspector of Rifle Practice, Department of the Missouri, in reporting on the new rifle after the last army competition, states that the sight was much more accurately graduated in elevation than the Buffington sight. There is still room for improvement, however, and it is believed that when the carbine is issued the graduations on the sight will be correct.

There should be no wind-gauge until one is devised that will neither complicate the sight nor interfere with its usefulness at all times. It would be hard to improve upon the Buffington sight as a target sight, or to invent a worse one for field service of cavalry. The small field of view, the liability of the sight to be bent back or disabled by a blow from the front, the rusting or sticking of the wind-gauge and slide-binding screws, the loosening of the slide-recoil stud, the time necessary to adjust the sight, are its principal defects. Its advantage is great accuracy when you estimate the proper amount of windage, and have plenty of time in which to adjust your sight and find the object fired at, provided, of course, that you can adjust it, and that it has not jumped up or down since the last shot.

For field service, the new sight on the rifle will be a vast improvement on the old. It is a simple, stout, broad, open sight; it does not jump up or down during firing, and can be readily adjusted. For the carbine the principal objection to the sight is that the slide projects so far to the right as to make it liable to catch when the carbine is thrust into the boot.

Third. "The magazine must be charged singly."

Norway and Denmark, which use the Krag-Jorgensen system, both have a charger or clip, holding five cartridges, for the purpose of recharging the magazine. We have models, but for some reason none has yet been adopted in our service. With one of these chargers, the magazine can be refilled in less than three seconds. This time includes that of opening the magazine gate, taking charger from the pocket, loading and closing the gate again.

Fourth. "There is no apparent reason for each man carrying a ramrod, as the gun cleans itself."

Greater care than formerly must be taken in cleaning the gun after firing. The action of the gas during firing, and the residue of the smokeless powder after firing is such that the gun must not be allowed to stand for any length of time without cleaning. Rust forms if left even for a few hours. The barrel should be thoroughly

cleaned with a rag saturated with soda water, dried and thoroughly greased with cosmoline. Although it is true that the gun does clean itself, this way of cleaning is not to be recommended to the service, as accumulated rust in the bore would have a tendency to swell the barrel, if not to burst the gun. I have fired one of the new rifles a thousand times in three days without cleaning the bore or mechanism in any way, but this was done for the purpose of testing the capacity of the arm. There was a marked falling off in the initial velocity of the projectile when the weapon was fired for the first time after being left over night without cleaning: a ramrod, then, is a necessary article.

As to the manner of attaching the ramrod to the stock, a close examination of the method of putting on the knife-bayonet might indicate the reason for not having the ramrod held in place as it was in the old Springfield. In nearly all modern rifles the ramrod is screwed in.

Fifth. "The cut-off thumb-piece should be of bright steel or nickel plated," etc.

This suggestion is a good one, and has already been suggested to those having in charge the manufacture of the new arms.

Sixth. "There is danger in having cartridges 'jam' in the chamber, especially if a soldier confuse the two functions of the gun as a magazine and single-loader."

Any arm invented will jam if you try to introduce two cartridges into the same place at the same time. Human invention cannot very well overcome this jamming, but it is not the double-loading that is especially to be looked out for. The jamming that can be avoided is that which occurs after forcing a cartridge partly into the chamber so that the extractor does not seize it, then drawing back your bolt and forcing another in. In the latest model of our gun (the Norwegian 6.5 mm.) this danger has been overcome by cutting away the head of the bolt on one side, and extending the extractor-hook so far to the left, that as soon as the cartridge leaves the magazine its head is grasped by the extractor, and if then you withdraw the bolt, preparatory to pushing up another cartridge, you will draw back the first cartridge which will be thrown out by the ejector before the second one can be reached by the head of the bolt. This change could readily be made in our gun.

Having considered the criticisms of Lieutenant LYON, I wish now to offer some suggestions myself. They are made with a view of attempting to improve the gun, and not with the idea of criticis-

ing merely because it seems to be the fashion to abuse the new rifle, which has had a hard time at the hands of the "kickers" ever since its issue. I have examined carefully the leading arms submitted to the Small Arms Board, and consider the new rifle superior to any of these for our service. There are, however, several small changes that could readily be made, and which would improve the arm considerably. These minor defects, discovered while arming the infantry, could not well be corrected then, owing to delay that would have ensued, and confusion of models, but as the cavalry has not been armed at all, and will not be until after May, a few, if not all of these defects, could be easily corrected before that time.

The following are some changes that, in my opinion, would improve the new arms:

First. Reduce the Weight. The first thing one notices on comparing the rifle with other foreign arms is that it is much heavier. The weight of our rifle is 9.4 pounds without the bayonet; that of the carbine 7.65 pounds; that of the best foreign rifles about 8.6 pounds, and that of the Berthier (French) carbine 6.6 pounds.

Now, although it is not thought that a rifle of our caliber and system can be reduced in weight to that extent, still it is believed that by gauging out and cutting off useless metal and wood, the weight of each of the arms can be reduced half a pound. In the new Krag-Jorgensen rifle of Norway, cal. 6.5 mm., useless metal has been removed, and the stock bored and gauged out in certain places, until it only weighs 8.7 pounds or under.

Second. Change the bolt-head and extractor so as to prevent double loading, as in the new Norwegian gun.

Third. Reverse the action of the cut-off so that when the thumb-piece is down the weapon can be used as a single-loader, and when up, as a magazine arm. Make the thumb-piece more noticeable by leaving it bright.

Fourth. (a) If any correction for drift is to be made, the sight should have this correction at 600 yards, and again at 1,000 and 2,000 yards. With this correction, eliminating other influences, one would shoot to the left of the target at all ranges under 1,000 yards, except at 600, and would not cross to the right between 500 and 600 yards, as with the present correction. This method seems better than having no drift correction at all, as it reduces the drift to a very small amount in all cases. Beyond 1,000 yards, a soldier will have more time to think about the probable error, than at the shorter ranges.

(b) The cross-bar of the leaf should be raised slightly, and a notch made in it for firing at 2,000 yards. As it is, you do not get full benefit of the length of your sight, as there is no notch on top, and besides when the slide is at the 1,900 yards elevation, you can not sight through it. The 700 yard notch should also be made of some use. At present both the notches for 700 and for 1,900 yards are mere decorations.

Fifth. The outside and inside edges of the barrel at the muzzle should be rounded off. At present they are sharp, and any blow with a hard instrument is likely to turn the edges. If this should happen to the inside edge, the barrel would probably swell at the muzzle on firing; if to the outside edge, the bayonet could not be readily put on. The edges of the Springfield and all modern rifles are rounded in this way.

Sixth. The hand-guard should be extended to the rear over the forward end of the receiver, and its rivets countersunk, or done away with. The hand-guard sent out on the new rifle is almost useless. In firing, the rivets holding the springs and the forward end of the receiver soon get hot enough to burn, and so should be kept away from the hand. In the Mannlicher (Roumania), these rivets are done away with, and the springs fastened to the guard by means of small screws. The guard extends back over the forward end of the receiver also, and taken as a whole, it is the best type of hand-guard I have seen.

Seventh. In the carbine, the ramrod should not project beyond the stock, but should either be cut off and arranged as in the Berthier carbine, so as not to project at all, or it should be jointed and carried in the butt. As it is, the projecting end is sure to interfere with putting the carbine into the boot.

Eighth. In the carbine, that part of the sight-slide projecting to the right should be protected in some way or changed, and another slide adopted.

Ninth. The cocking-piece should be altered slightly so as to allow the safety-lock to be turned to the right when the piece is not cocked. This would lock the bolt and prevent its turning and becoming loose while handling the piece or while carrying the carbine in the boot. To lock the bolt as the piece is at present, the piece has to be cocked first, and consequently the main spring is kept compressed as long as the bolt is locked, and this, in the case of a cavalry command marching day after day, would not improve the condition of the spring. The Mauser rifle allows the safety-lock to be used at both times, as suggested.

The question of caliber and the ballistic properties of the rifle have intentionally been omitted from these remarks and suggestions.

The recoil of the new carbine will be about a pound and a half more than that of the new rifle, owing to the fact that the same ammunition is used and the weight reduced nearly two pounds. It will, however, still be about one-half what the recoil was in the old carbine. I refer to the theoretical recoil.

For the information of some, who apparently are not aware of the fact, the new rifle is known officially as "The U. S. Magazine Rifle, Model 1892." and not as the "Krag-Jorgensen."

SPRINGFIELD ARMORY, MASS., March 1, 1895.

A HUNDRED VERSTS (66.3 MILES) RACE.

BY LIEUTENANT H. T. ALLEN, SECOND CAVALRY, U. S. ARMY.

ON February 15, 1894, there occurred in the vicinity of Moscow, an officers' ride of 100 versts, which was undertaken with the avowed intention of affording a test of speed. This ride, which attracted the attention of all interested in military sport, was organized by private subscription between the officers taking part. As notice concerning it had been sent out only a week in advance, and as many of the horses had not been trained, there were only nine participants. Of these nine, one came from the Horse Guards, three from the Guard Ataman regiment, one from the Guard Lancers and four from the Guard Hussars.

The conditions governing the contest required the start and finish to be at the Moscow gate, the route lying through certain specified villages and including two hills. English or cavalry saddles were to be used, the riders being at liberty to choose their own gaits, to halt and to dismount as they saw fit. Judges were appointed for the purpose of observing the race and the relative order of the contestants. To avoid interference and unnecessary worry to the horses, it was arranged that the riders should start in pairs at fifteen minute intervals, the first pair starting at 7:30 A. M.

The weather contributed to the success of the race, the temperature being 23° F. in the morning and growing sufficiently warm to melt the snow somewhat by 3 P. M.; there was little wind. The day was clear and bright and the roads good. The straightness of the road permitted the riders to be seen by the judges a long distance off, and while the roads were, on the whole, excellent and easy on the horses' feet, it was observed that in places the snow somewhat impeded rapid progress.

To witness the arrival, the judges assembled at the gate at 3 P. M. Among them were Major-General PRINCE WASSILEMIKOV, commanding the Guard Hussars, and Major-General GREKOV, commanding

the Guard Ataman regiment, and also a number of officers of the Guard Cavalry.

"Georgetta," a gray mare from the Yanov government breeding farms, half-blood, eight years old, arrived first and quite fresh, having made the distance in seven hours seventeen minutes and ten seconds. The next to come was "Grad," a light bay Anglo-Arabian stallion, eight years old, from the Strelitz government studs, he arriving at a remarkably brisk canter in seven hours and nineteen minutes. The third to arrive covered the distance in seven hours and fifty minutes. The slowest, a dun gelding, nine years old, made the distance in nine hours and nineteen minutes. One of the horses, a thoroughbred, gave out at the sixtieth mile, and had to be led.

Besides the interest of the owners in trying their horses on a long distance ride, this race affords a general interest in the comparison of the breed and the training of the animals. Freshest of all, as was ascertained at the finish, when a 1,200 yard dash was made at full speed, were the Anglo-Arabian stallion "Grad," and the half-blood mare "Georgetta." An English half-blood and an Arabian thoroughbred also arrived fresh. The above horses had been well trained for the work, and had been fed twenty quarts of oats daily previous to the race. Two days before the race "Grad" had made forty-six and one-half miles in six hours; he had also been ridden a little the evening just before the trial. The tired thoroughbred was but little trained, although exercised every day, was of a capricious and stubborn disposition, and could never eat more than fourteen quarts of oats per day. He received only eleven and one-half quarts daily before the race. Moreover, in consequence of the narrowness of his hoofs, much snow clung to them, and impeded his progress. Last came the "Don" horse, which had scarcely been ridden at all before the race, and which never ate even eleven quarts of oats per day. The other horses made a normal speed of about eight miles per hour, due to excess of fat and irregular riding.

The leading horses traveled so that the first eight miles were made in forty-five minutes at a trot and walk, as follows: Two and two-thirds miles at a fast trot, then 1,200 yards at a walk, then three and one-third miles at a trot, 600 yards at a walk, and a mile at a fast trot. In ascending the hill the rider dismounted and led. The next eleven and one-half miles were made in an hour and a quarter, observing the same order of gaits; then followed six and one-half miles at a slow trot, two and one-half miles at a field gallop, and one and one-third miles at a trot. The road here was very bad; there were deep ruts in the middle, and considerable snow on the sides.

When the ride was about half completed a little hay was fed—"Georgetta" resting about ten minutes for this purpose. "Grad" five, and the others two. The next six miles were traveled at a field gallop, and all the horses were given a drink of water. The horses now grew visibly tired, "Georgetta" having to be urged very often: "Grad" went easily at a trot, although often breaking into a gallop. At the sixtieth mile one of the horses stopped, and, in spite of vigorous urgings, refused to go on. "Georgetta" soon fell behind and "Grad" went on alone at a very slow trot and a hand gallop. The last 1,200 yards were made at full speed. "Georgetta" in the lead.

Strictly speaking, such results might have been expected. Of the three horses mentioned, two were well trained, the third badly trained and badly fed, all of them being of good blood—two English and one Arab. The most energy was shown by the Arab, "Grad," which required no urging, while the others had to be urged, and even whipped. The "Don" gelding was also interesting. He went on comparatively slowly—slower than any other with loose rein—moving his feet most phlegmatically. Instead of going at full speed at the finish, he scarcely answered the call of his rider. In general, his want of blood was shown by the apathy of his movements; his want of training, by his slowness and great fatigue.

This competition is the first experiment here of a long distance race for speed. Every cavalryman, and even non-cavalryman, knew that a horse could make 100 versts in a day, but experience was necessary to know the number of hours required and the gaits to be adopted, with a view to preserving the strength of the horses. Although the experiment was dangerous for the horses taking part, considerable love of sport and emulation were shown in this trial. The minimum time required was seven and one-fourth hours, and it may be considered almost impossible to cover the distance in less time without wearing out the horse, a thing unworthy of a cavalryman.

It is unfortunate that this race was not more carefully organized. It ought to have been arranged earlier, in order that those taking part might have had time to prepare their horses for it, and judges ought to have been posted, if possible, at every cross-road. During this race two competitors lost their way, one of them making six and one-half miles more, and the other less than the one hundred versts, so that both lost all claims upon prizes. Finally, the horses and riders ought to have been weighed before and after the race, and a weight allowance ought perhaps to have been adopted. Under these conditions such a race would have awakened a much greater interest.

PROFESSIONAL NOTES.

The manner of carrying the arms and equipments in the German cavalry has been much discussed and not infrequently criticised. The illustration shows the packed saddle with the carbine strapped across from cantle to pommel in a way to wedge the leg of the rider under it, as heretofore required.



The following instructions from the Emperor changing the regulations, have recently been published:

PROFESSIONAL NOTES.

65

[Copy.]

TRANSLATION.

WAR MINISTRY, BERLIN, January 17, 1895.

I HEREBY ORDER —

1. The cavalry carbine will be carried suspended from the saddle, perpendicular to the ground, behind the right thigh of the trooper, and the sword suspended from the saddle behind the left thigh.

2. The lower ring on the sword scabbard and the corresponding strap on the belt will be dispensed with, but no longer regulation.

3. For the better arrangement of the trooper's clothing on the horse, canvas pockets to be adjusted to the lower side of the saddle-bags will be adopted.

4. The alterations and new equipments will be according to the pattern submitted to me, and to the available means. The War Ministry will take the necessary steps to carry this into effect.

New Palace, January 10, 1895.

WILLIAM.

BRONSART VON SCHELLENDORFF.

To the War Ministry.

The last annual report of the commandant of the U. S. Cavalry and Light Artillery School has just made its appearance. It is prepared by General JAMES W. FORSYTH, who recently relinquished command of the school upon his promotion. This school is of such vital interest to the cavalry arm that it is deemed advisable to present extracts from this report. The experience at Fort Riley is in no wise exceptional as regards the difficulties encountered in establishing a service school in the United States. The histories of the Military Academy at West Point, the Naval Academy at Annapolis, the Artillery School at Fortress Monroe, the Infantry and Cavalry School at Fort Leavenworth, and the Naval War College, are all replete with disheartening difficulties arising principally from indifference and want of appreciation on the part of those in authority, who have the power to vitalize the efforts of the commandants of these various institutions. The growth of these establishments has been slow, gradual, and in opposition to innumerable obstacles. Everything connected with their advancement has been forced along lines involving compromise and expediency at every step. There is nothing akin to the wonderful establishment of the Chicago University or the Leland Stanford University of California. Men of wealth and owners of fine libraries do not remember these struggling institutions in their bequests of money or books. The generous will of the late General CULLUM provided the first gift of importance to West Point at a comparatively recent date. The lack of funds in schools of application is more seriously felt than in ordinary academies, for experimental and practical outdoor work require expenditures for material far in excess of the needs of schools conducted principally on the line of theory.

The conditions surrounding the army in the United States have been gradually but completely changing for many years past. While courage and aptitude for the profession of arms will, in the future as in the past, exercise a marked influence upon the fate of any people, modern science demands that those who connect themselves with the

military or naval service of any great nation shall acquire a familiarity with a multitude of inventions and improvements beyond the wildest dreams of the squirrel rifle age in America. It is impossible in these modern days for any one individual to perfect himself in many branches of even a single profession. It is then to the commandant and staff of the various schools to whom the government must look for schemes of instruction fitted to the needs of the country. Experience from day to day is a better guide to perfection than any other method in the cases of post-graduate schools, because the students are, as a rule, men of education and ability, and interested in everything connected with the elevation and advancement of their own arms, as well as the service in general. It is a matter for regret, therefore, that all recommendations cannot be passed upon promptly, and habitually with approval, and a supply of funds usually necessary to give vitality to most proposed improvements.

EXTRACTS.

"The schemes of instruction and detailed orders for the government of all cavalry instruction and of combined exercises were printed in extenso in last year's report. The work done this year was so similar in all respects to that of last season, it is not considered necessary or desirable to republish those schemes or orders, but as the character of the benefit derivable from field exercises is quite clearly indicated by the comments upon combined maneuvers, published to the school this year, they are here reprinted in appendix 'C.'

"The plan it was intended to pursue with reference to these comments was to print and distribute them to the command. Once a week all officers were to be assembled, and after the reading of orders, reports and comments upon each exercise, discussion of the same was to be had.

"I cannot close this report, however, without inviting attention to what I believe to be a most important auxiliary to success in deriving a maximum benefit from field exercises, namely, their thorough and proper discussion after execution.

REMARKS AND RECOMMENDATIONS.

"Except as a record of experience for the information of successors, the making of recommendations in printed reports seems of little utility. Pursuant to the provisions of the order establishing the school, I last year thus set forth its wants, but so far as I am informed, no results were consequent thereupon, nor have I yet learned whether the recommendations made and the system of instruction outlined therein met with the approval of my superiors or the reverse.

"Recommendations frequently and repeatedly made have seemed to exercise no influence, and serious impediments to the success of the school have continued to exist and to repeat themselves. The most serious of all is the continuous lack of sufficient officers for efficient instruction, and the apparently unnecessary detached service of officers and organizations. On several occasions the number of officers available for duty with troops was so small that officers' patrols were necessarily sent out under non-commissioned officers.

"Twice within twelve months the same squadron was sent on detached service in the midst of the school season, thereby greatly decreasing any benefit which might possibly have been derived from a complete and systematic course of instruction.

"This circumstance would not be mentioned here were it not for the fact that in both instances there was, at a neighboring post, a squadron of cavalry which was apparently available for this detached duty, and not engaged in any special course of instruction.

"Since the school existed, troops composing it have never joined at the season of the year which has been recommended by the commandant and

approved by the War Department, but have been ordered there at all seasons, irrespective of the effect upon their instruction. The first squadron to join after the school was established, after having been sent on detached service twice within one year, was relieved long before its legitimate tour of duty had expired.

"In other words, the interests of the school appear to be assigned a position subordinate to most other considerations incident to the service.

"Such conditions are not calculated to encourage those charged with the welfare of a young institution struggling for recognition commensurate with its importance to the service, and it is useless to expect any satisfactory amount of success as long as this policy is maintained in the treatment of its affairs.

"It will ordinarily be impossible to find four troops of one regiment so situated as to make it both desirable and convenient to order them to the school, and it will doubtless never be convenient for any regiment to furnish twelve officers for duty with four of its troops.

"The difficulty of getting troops changed with regularity and at the proper season, and of keeping a sufficient number of officers on duty with troops, will therefore probably continue as long as the present system of constituting the cavalry personnel is maintained.

"It would be comparatively easy to annually find several troops (no more than one to be taken from any regiment) that could be conveniently ordered to the school, and any regiment can generally, without embarrassment, furnish three or six officers for duty with one or two of its troops.

"The above mentioned difficulties would, therefore, be encountered much less frequently, if ever at all, were my recommendation of last year adopted, namely, that but one troop be taken from each regiment until twelve, instead of eight troops are stationed at the school, when two of the regiments should furnish two each. These troops could also then be raised to a war strength, another very desirable consideration which has been previously represented, without a serious reduction in the strength of other troops, and field officers could be detailed from the entire list, thus securing those most suitable.

"I will also here renew a recommendation that I have several times made, in one form or another, that officers assigned to the cavalry branch of the service be permitted to perform their first year of service at this school. It seems especially appropriate that additional second lieutenants be given their first service there, as it can not be known to what regiments they will finally be assigned, and Fort Riley is as central a point from which to order them to permanent stations as any that could be found. They could be attached for duty to regiments having troops in the school.

"If all officers assigned to the cavalry could not be ordered there for one year's duty, at least a sufficient number should be sent to enable the commandant to supply each troop with three officers for duty at all times. They will derive far greater benefit than from service at an ordinary post not possessing such facilities for instruction as exist in a large command. The starting of a young officer with proper ideas of his duty is of great importance.

"As the matter of expense has seemed to be a first consideration in the changing of troops on duty at the school, I would respectfully submit a further modification of previous recommendations with a view to decreasing said expense. Instead of changing troops every three years let each tour of duty be the regulation four years. It would then be necessary to change but two troops each year as long as only eight are in the school and three per year when it consists of twelve. In order to give as many officers the benefit of the course as possible, however, it is thought the subaltern officers should be changed every two years if this recommendation be adopted. Two years is sufficient for an officer to obtain whatever benefit is derivable from the course of instruction.

"A large clock with sweep second hand for timing horses at the regulation gaits, and a large mirror for making plain to unskillful riders faulty positions unconsciously assumed, would be useful adjuncts to riding hall instruction.

"The rendering of reports upon field exercises and maneuvers requires

time for their proper and careful preparation, and is a most important feature of the instruction. There should, therefore, never be had, in my opinion, more than three field exercises or combined maneuvers per week. It is believed that from twelve to fifteen of each of these, and six regimental and three brigade drills are all-sufficient for efficient instruction. The period from September 15th to December 1st would afford from fifty to sixty working days, ample for the requirements of the above instruction, and allowing some for the possibility of loss through bad weather or other emergencies. Ceremonies could continue with good weather, or such days as were suitable to December 20th, could be utilized for matters which had been crowded out during the season by accidents and exigencies of the service. As a rule, however, I believe it for the best interests of the service that all school work should be completed by December 1st.

Extracts from comments published to the command upon combined maneuvers at the school during November, 1894:

"The Blue Battery unlimbered on that slope of a hill which was next the outlined enemy, and stood on top of the crest firing, entirely exposed to the assumed fire of the enemy. It should have unlimbered on the reverse slope, and running guns forward, stopped as far behind the crest as possible, and still be able to fire over the top. Horses, limbers and caissons should always be afforded all protection practicable, without sending them so far away as to interfere with prompt service of piece."

"The primary duty of advance guards is to push the enemy back, and by a continuous forward movement, to avoid delaying advance of the main body. The reserve and battery were slow in following up the retreating enemy. The battery, after causing the enemy to retreat, remained in position still firing at him, long after it should have been limbered up and in pursuit."

"The leader of the extreme advance point continued to advance with only four men on a flag representing a troop, instead of rejoining his troop after having advanced to within dangerous proximity of the enemy."

"The officer in charge of the flags several times stood still receiving charges, instead of either making a counter charge or retreating in good season. The flags were also allowed to bunch up when they should have been kept as far apart as the requirements of the tactical units represented would necessitate if actually present."

"It should be understood that a commander fails in taking advantage of all his opportunities, who fails to avail himself of all the cover obtainable without a violation of his orders, and that no exposure should be incurred which is not necessitated by orders or plans."

"Whenever it does become necessary to expose commands to fire, it should be done at a rapid gait, and if practicable, in open order."

"Signal men, in sending messages to the rear, took positions so exposed that messages sent could be read by the enemy as well as by their own force. Flags were also carried unfurled, making the bearers conspicuous marks, and unnecessarily disclosing the position of their own side."

"A tendency was observed on the part of flankers and points to remain practically stationary, and in exposed positions, while being fired upon by dismounted patrols and flankers of the opposite party. A great deal of mounted firing was also uselessly indulged in. Such fire, at any but very close range, is mainly useful to warn friends of the near approach of the enemy."

"For purposes of instruction it would have been better had the flags been maneuvered less rapidly. The gait was so rapid and the simulated action so fast and furious as to afford no opportunity for well considered and orderly dispositions, or for systematic and harmonious operations controlled by orders from the commander of the rear guard. The maneuver was therefore practically void of results in the way of instruction, but might be considered an indication, to a slight extent, of what the rear guard of a badly defeated and routed army might ordinarily have to expect when pursued by fresh cavalry of a bold and victorious enemy."

"The results of maneuvering with an outlined enemy have never been what was hoped for, and it seems as if our attempts in that line are destined to result, as they have wherever thus far tried, in disappointment."

"Even had the gait been less fast it is doubtful if much better results would have been realized. Charging with flags was demonstrated to be of doubtful utility, and it is believed that about the only way to secure systematic and orderly operations with an outlined enemy is to have both friends and enemy controlled by one commander. In this manner, after sending a flag to a certain position to represent a hostile force, dispositions could be made with deliberation, and executed with precision. This particular feature completed, another could likewise be planned and executed. This, however, would amount to but a little more than training in battle formations and in methods of approach and attack, an instruction which seems a trifle elementary for our purpose."

"It is thought too much dismounted action was indulged in, and one Brown troop was observed holding their led horses on the skirmish line. This tactical formation is of slight utility under any circumstances, suitable principally to emergencies and exceptional circumstances. Whilst comparatively flat crests might offer some protection to men in such formations, their horses would be entirely exposed."

"The led horses of the support to the battery were at one time placed about 100 yards immediately in the rear of the battery, an exceedingly faulty position, when the battery is under fire. As a rule, a protected position on the most exposed flank should be chosen if practicable."

These exhibits are from comments made by General FORSYTH; others are by Colonel CARPENTER, director of the Cavalry School. The day is not far distant when the army will be deprived of the valued opinions of officers who have had the benefit of the experience obtained in the War of 1861 to 1865, and the annual publication of their criticisms, made upon maneuvers executed at the schools or camps of instruction, cannot have other than a beneficial effect upon the younger generation, which must at no distant period compose the great bulk of the army, officers and men.

The following letter was recently received at the headquarters of the Seventh Cavalry, and at a meeting of the officers subsequently held, it was unanimously agreed to accept the painting of "Custer's Last Fight" on behalf of the regiment. The painting originally cost \$8,000, and was exhibited in all the large cities in the West during a period of several years. There could be no more fitting home for this painting than with the headquarters of the regiment, so many of whose officers and men found a soldier's grave near the Little Big Horn on the 25th of June, 1876:

"St. LOUIS, February 13, 1895.

"Colonel E. V. Sumner, Colonel Commanding the Seventh U. S. Cavalry Regiment:

"Sir:—A few years ago we came into possession of the famous painting, "Custer's Last Fight," painted by CASILEY ADAMS. This painting represents, as you are probably aware, the last moments of the famous leader of your gallant regiment in the battle in which he lost his life, and it has long been the intention of our President, Mr. ABOLIBUS BOSCH, to present this painting to the Seventh U. S. Cavalry.

"In his opinion it is eminently proper that General CUSTER's regiment should be the possessor of the painting which commemorates the death of its famous leader, one of our foremost cavalymen, and also one of the most im-

portant frontier battles, representing an episode in our frontier history which is not exceeded in importance by any like event.

"We now have the honor to offer to you for the Seventh U. S. Cavalry Regiment this painting, reserving, however, the copyright of the same, which was given to an engraving company in Milwaukee, which intends to reproduce the painting.

"We trust that you will accept our offer, with our best wishes and compliments, on behalf of your regiment. If you do, then please inform us to which place you desire to have the painting forwarded, and we will send it as soon as we have it ready for shipment.

"Assuring you of our high regard, we are, sir,

Very respectfully,

"ANHEUSER-BUSCH BREWING ASS'N.

(Signed) C. E. SOEST,

Corresponding Secretary.

When the new cavalry bit was adopted, known as the 1892 model, the Chief of Ordnance published a circular requesting reports upon any defects found in the bit. It has now been in use for nearly two years, and it is presumed that its qualities are now well established in the minds of officers. There is little doubt but that the new bit is an improvement in many ways over any heretofore issued, and that such defects as exist are of a minor nature, and may be corrected without changing the model. It is believed that the upper branch was originally planned and should be a trifle longer. The error evidently occurred in measuring from the center of the mouth-piece rivet to the center of the upper ring, instead of to the point where the curb chain hook should be attached, as contemplated by Major DWYER. This undue shortness of the upper branch causes the bit to have a tendency to "fall through," and also enables the horse to turn the bit upside down. This last named occurrence happens at drill nearly every day in an average troop.

Perhaps some readers of the JOURNAL may be able to describe their experiences with the bit, and thus determine if these minor defects have been generally observed, and require correction. The broad curb strap was adopted some years ago to lessen the liability to broken jaw, and other injuries arising from a severe use of the Shoemaker bit. It is possible that experience with the new bit may render a change in this respect desirable.

One result of the recent strike in Brooklyn has been to educate public opinion in this country on the use of cavalry in quelling riots. The value of mounted troops for clearing streets has long been recognized in Europe. Experience has shown that streets may often be cleared by mounted men without shedding blood, whereas infantrymen are frequently compelled to use the bayonet, and sometimes to fire upon mobs before any impression can be made upon them.

In this connection it is pleasing to note that Captain CHARLES F. ROE, whose good service with Troop "A," New York National Guard, was highly praised on all sides, has been promoted to the

grade of major, and authority granted to him to raise another troop. This will give him a squadron, consisting of two troops of seventy-five men each, composed of as fine material as exists in the United States or elsewhere.

The following order was issued by Brigadier-General JAMES McLEER, which is believed to voice the sentiments of the entire law-abiding community:

"The brigade commander feels that he cannot speak too highly of the conduct of the troops under such trying circumstances. Where all of both brigades did so well, he hesitates to mention particularly any organization, and yet he feels he but voices the sentiments of all law-abiding citizens when he offers special thanks to Troop "A," of the First Brigade, and its gallant commander, Captain CHARLES F. ROE, for distinguished services during its tour of duty in Brooklyn."

NO MONEY FOR MORE MOUNTED TROOPS.

The dampening but not discouraging intelligence has been telegraphed from Albany that Adjutant General McALPIN refused the application of a number of Buffalo horsemen for enrollment in the National Guard as Troop "B" of mounted cavalry. The Adjutant-General is reported to have said there is no money in the treasury, either to uniform or to meet other expenses of mustering in the new troop. Should a new troop be needed Brooklyn's claim will be considered first.

Brooklyn, by the way, is most eager to form a troop, and *The Rider and Driver* would urge upon General McALPIN to devise some means by which the necessary money may be obtained. From what we have seen of the value of mounted troops in riots, the suppression of which seems to be the principal duty of the militia, the idea occurs to us that a troop of lancers would be most effective. A charge by such a body of men would clear a street pretty quick." — *The Rider and Driver*.

ESSEX TROOP'S NEW ARMORY

Essex Troop of New Jersey has purchased the Roseville Riding Academy. An addition will be built to the academy, making a large armory with social rooms, dressing rooms, and a large hall on the third floor for dismounted drills. Thirty thousand dollars has been subscribed for the purpose. The proprietors, Messrs. GEO. HILL and BENJAMIN McKEE, have made arrangements with the troopers by which they may have the arena certain evenings of the week, in order to continue their public business. — *The Rider and Driver*.

The death of General PHILIP ST. GEORGE COOKE, at Detroit, on March 20th, deserves more than a brief notice in a journal devoted to the interests of the cavalry arm in the United States.

General COOKE, at the time of his death, was eighty-five years

old. He was graduated at West Point, July 1, 1827, and entered the service in the Sixth Infantry. He served on the frontier from Fort Snelling to the Arkansas River, and participated in the Black Hawk War prior to his promotion to first lieutenant of the First Dragoons, when that regiment was organized in 1833. His service in the cavalry began, as it were, at the birth of that arm in this country: the more than sixty years which have elapsed since that date have developed many excellent officers, but not one who has been held in higher esteem as a *beau ideal* of a cavalry officer and gentleman. His professional career has extended much beyond the average length of life, and includes an infinite variety of service throughout the Western country.

He participated in Indian and exploring expeditions without number. In the wonderful march of General HARNEY'S command, from Fort Leavenworth to California, in 1846, he was detached to move down the Rio Grande and to find a practicable route to the West; he succeeded, and his trail was subsequently known as the old Cooke Road, and was used as a mail route until the building of the Southern Pacific Railroad along the same line put an end to its usefulness.

He served in California after its occupation, but was promoted to major Second Dragoons, and joined the army in Mexico: upon the close of hostilities there, he was ordered to Carlisle Barracks, Penn., as superintendent of recruiting service.

The large Sioux expedition of 1855 found him back on the Plains in command of the cavalry portion of the column. He was employed in Kansas during the trying disturbances of 1856 and 1857, and when the Utah expedition was organized, he was assigned to command the cavalry.

He was promoted to colonel Second Dragoons in 1858, and soon after prepared his cavalry drill book, which was adopted in 1861.

Upon the outbreak of the Civil War, General COOKE, a Virginian by birth, remained loyal, notwithstanding his son, General JOHN COOKE, and his son-in-law, the celebrated cavalry leader, General J. E. B. STUART, both joined the Confederacy. During the Peninsula Campaign he found his command opposed at Gaines' Mills by troops commanded by his son-in-law.

He was brevetted major-general for services during the war, and was retired after forty-six years of active service. His career furnishes an example of loyalty, professional rectitude, and conscientious devotion to duty in its highest sense, which may well be followed by young officers.

BOOK NOTICES AND EXCHANGES.

HORSES, SADDLES AND BRIDLES. By Captain William H. Carter, Sixth Cavalry, U. S. Army. Ketcheson & Reeves, Leavenworth, Kansas, 1895.

In theory the cavalry officer should be a man versed in everything concerning the horse, and the fact that he is not presents one of the anomalies of our system of military training. Until recently our most favored officers, not being selected on account of any special aptitude, and often being city-bred youths, without a knowledge of horsemanship beyond that taught at West Point, were left to themselves to pick up all the little details of service outside of drill and riding. They were not told what they should know or where they they might learn, and as few men will ever acknowledge that they do not know everything about a horse, the result was not good. A certain human weakness, or dread perhaps of the criticism of wiser men, often prevented the young sub from taking the troop farrier into his confidence and spending a few hours at the picket line each day, trying to study the age, ailments, moods, paces and gear of the animal which, more than his weapons or his art, will influence his career. Under such circumstances many remain ignorant, others seek the truth, and a few have the benefit of early practical experience, but none have had a systematic course mapped out for them.

Some reasoning such as this must have impelled the early organizers of the United States Infantry and Cavalry School to coin the word Hippology and to choose as text books the English works of Fitzwygram on "Horses and Stables," and Dwyer on "Seats and Saddles, Bits and Biting." The first of these is suited to a different climate from ours, gives the management of the stable of an English hunting squire, and tells you the tricks of the English groom. The last is discursive in its style, is filled with strange jokes, and follows a literary model that has disappeared from horse books. Both are suited to the English thoroughbred, and neither was intended to be a text book.

To replace these books, and to give information on subjects which are now acknowledged to be a necessary part of the professional equipment of a cavalry officer, is the object of Captain Carter's

book. For instance, the chapter on "The Cavalry Horse," giving the conformation and the examination for soundness, should remove all doubts as to what is desired in an animal destined for service in the ranks. A study of the chapter on "Diseases and Injuries," should make one feel at least on an equal plane with every old soldier in the troop, in matters which call for his decision every day. The comparison of our equipments with those of other nations is interesting, and shows that we are, in some respects at least, better off than they are. The chapter on "Forage" ought to be of use to many a board of survey, which is all too often at the mercy of a contractor.

These things, and many others, ought to recommend the book to the service. After what we have had, even a poor book ought to be joyfully accepted by our service, but "Horses, Saddles and Bridles" is so well suited to our use, fills so many gaps in our cavalry literature, is so fully illustrated, so well written and arranged, that its success is assured.

EBEN SWIFT,

Captain Fifth Cavalry.

NAPOLEON BONAPARTE'S FIRST CAMPAIGN. By Lieutenant H. H. Sargent, Second Cavalry, U. S. Army. Published by A. C. McClurg & Co., Chicago.

"Napoleon Bonaparte's First Campaign" is the title of a recent addition to the Napoleonic literature, that deserves a good reception. The author, who is a most enthusiastic admirer of the Great Captain, describes the events pertaining to his subject in an interesting and instructive manner; and while his work will doubtless be entertaining to the general reader, it is valuable chiefly as a study of scientific war as conducted by the greatest leader of modern times in, possibly, the most instructive campaign on record.

The author states clearly the main features of the campaign—those necessary for his purposes—and refrains, wisely it is thought, from narrating anything else. His deductions are thus placed in the clearest light, and are not obscured by a mass of details, which, however interesting, would serve only to divert the reader's mind from the main point which it is intended to illustrate or to prove. Conciseness and accuracy of narrative are followed by fairness in reasoning, and soundness in deduction; and the conclusions deduced are still further supported by quotations from such eminent authorities as Jomini, Hamley and others, including Napoleon himself. The scientific character of the work may be inferred from the fact that more than one-half of it is devoted to discussion and analysis.

W. A. S.

THE MILITAER-WOCHENBLATT.

No. 1: The New Field Service Regulations. On the Training and Instruction of Cavalry. No. 2: The New Field Service Regulations (concluded). On the Training and Instruction of Cavalry. No. 3: Training of the Russian Field Artillery in Firing. On the Training and Instruction of Cavalry. No. 4: The Training of the Russian

Field Artillery in Firing. On the Training and Instruction of Cavalry. The New Strategic Railways in France. No. 5: The Mobility of Artillery. The Latest Changes in the Organization of the Italian Army. No. 6: The German Cavalry, 1870-71. The Mobility of Artillery. The Shrapnel Fire of Artillery, a Study. No. 7: The Militia from the Reverse Side. Unity in the Infantry Attack. No. 8: The German Cavalry, 1870-71. A New Gun (United States). No. 10: Changes in the Organization of the Corps of the Russian Army. No. 11: Do We Need Armored Cruisers? Experimental Mobilization of Two French Reserve Cavalry Regiments in October, 1894. No. 13: The Firing Regulations of the Five Most Prominent Armies of Europe. No. 14: The Firing Regulations of the Five Most Prominent Armies of Europe. No. 15: Reflections on the Mobility of Field Artillery. The Battle of Asau.

JOURNAL OF THE UNITED STATES ARTILLERY. January, 1895.

I. Geometrical Construction of General Stratus. A. G. Greenhill. II. Development and Construction of Modern Gun Carriage for Heavy Artillery, by First Lieutenant C. C. Gallup, Third Artillery. III. The Buffington-Crozier Experimental Disappearing Carriage for Eight inch Breech Loading Steel Rifle, by First Lieutenant M. F. Harmon, First Artillery. IV. Shall the United States Have Light Artillery? by Second Lieutenant George M. Wright, First Light Artillery, Ohio National Guard. V. Coast Artillery Fire Instruction, by First Lieutenant C. D. Parkhurst, Fourth Artillery.

JOURNAL OF THE MILITARY SERVICE INSTITUTION. March, 1895.

I. Discipline in the U. S. Army, prize essay, Captain Ellis. II. Preliminary Examination, West Point, Lieutenant Wilcox. III. From the Great Lakes to the Ocean, Captain Kingman. IV. Physical Training in the Military Service, Captain Pilcher. V. The Royal Artillery College at Woolwich. VI. The Infantry Drill Regulations. Historical Sketches of the Inspector General's Department and the Second Regiment of Infantry.

PROCEEDINGS OF THE ROYAL ARTILLERY INSTITUTION. February, 1895.

I. A Method of Calculating the Probability of Coast Defense Fire, by Major R. M. B. F. Kelly, R. A. II. A Plea for Heavy Guns in Fortress Defense, by Captain G. Zyncke, R. A. III. Notes on German Maneuvers, by Major J. F. Maitland, R. A. IV. Diary of Lieutenant W. Swahey, R. H. A., in the Peninsula, (translation, *Russian Artillery Journal*). The Military Training of Field Artillery, translated by Major E. A. Lambert, R. A.

THE UNITED SERVICE. March, 1895.

I. The Supply of the Armies of Frederick the Great and Napoleon, translated by Captain H. G. Sharpe, C. S., U. S. A. II.

The Story of Alcatraz. Lieutenant Alvin H. Sydenham. III: The Decline of Silver as Compared with Gold, by Lieutenant W. A. Campbell, U. S. A. IV: Origin and Developments of Steam Navigation, Rear Admiral George H. Preble, U. S. A.

THE PENNSYLVANIA MAGAZINE OF HISTORY AND BIOGRAPHY. January, 1895.

Washington after the Revolution, 1784 to 1799, by William S. Baker. Colonel Mayors of Philadelphia, by Josiah G. Leach. Defenses of Philadelphia in 1777, by W. C. Ford.

THE MAINE BEGLE. January, 1895.

With Sheridan in Lee's Last Campaign, by Col. Fred C. Newhall. Fifth New York Cavalry at Cedar Mountain and in the Second Bull Run, by F. S. Dickinson. Fifth New York Cavalry.

REVUE MILITAIRE SUISSE. 15 Fevrier, 1895.

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THE RIDER AND DRIVER. New York.

REVUE DU CERCLE MILITAIRE.



GEN. PHILIP ST. GEORGE COCKE

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LIFE AND SERVICES OF GENERAL PHILIP ST. GEORGE COOKE, U. S. ARMY.

BY MAJOR GENERAL WESLEY MERRITT, U. S. ARMY.

THE death of General COOKE on March 20th of the present year closed a career of service remarkable alike for its length and for its variety. His original commission was dated nearly sixty-eight years ago, and the period covered by his service as an officer exceeded that of the average life. He was commissioned in the first regiment of mounted men in the regular army, which was organized as the First Dragoons in 1833.

When it is remembered that for a quarter of a century or more after General COOKE entered the army the school geographies eliminated much speculation by classing the Western Plains as "The Great American Desert," some idea of his frontier service may be formed.

General COOKE entered West Point in 1823, and the simple records of the government show that he was promoted, upon graduation, to be brevet second lieutenant of infantry and second lieutenant Sixth Infantry on the same date, July 1, 1827. Served in garrison at Jefferson Barracks, Mo., 1827-28; Fort Snelling, Minn.,

1828; Jefferson Barracks, Mo., 1829; on frontier duty, expedition against Comanches, and engaged in skirmishes near the Upper Kansas River, August 3 and 11, 1829; Fort Leavenworth, Kan., 1830-32; in Black Hawk War, 1832; participated in battle of Bad Axe River, August 2, 1832; Adjutant Sixth Infantry, September 7, 1832, to March 4, 1833; Jefferson Barracks, Mo., 1833.

Promoted First Lieutenant First Dragoons, March 4, 1833. Frontier duty Fort Gibson, I. T., and expedition to Fow-e-ash villages, 1834; recruiting service, 1835-36.

Promoted Captain First Dragoons, May 31, 1835. Frontier duty Indian Territory, 1836-37-38; Carlisle Barracks, Pa., 1839; Fort Wayne, I. T., 1839-40; Fort Leavenworth, Kan., 1840-41-42; escorting Santa Fe traders, 1843; captured a Texan military expedition, June 30, 1843; expedition to Pawnee villages, 1844; expedition from Fort Leavenworth through South Pass Rocky Mountains, 1845; Fort Crawford, Wis., 1846; expedition from Fort Leavenworth, Kan., to San Diego, Cal., 1846; in command Battalion Missouri Volunteers in California, 1846-47.

Promoted Major Second Dragoons, February 16, 1847. In command of Second Dragoons in City of Mexico, 1848; Superintendent Cavalry Recruiting Service, Carlisle Barracks, Pa., October 15, 1848, to October 1, 1852; on frontier duty, Texas, 1853.

Promoted Lieutenant-Colonel Second Dragoons, July 15, 1853. New Mexico, 1853-54; skirmish with Apaches at Agua Caliente, N. M., April 8, 1854; Fort Leavenworth, Kan., 1854-55; Sioux expedition, 1855, being in command of cavalry at action of Blue Water, September 3, 1855; Fort Riley, Kan., 1855-56; on duty during Kansas disturbances, 1856-57; commanding cavalry Utah expedition, 1857-58.

Promoted Colonel Second Dragoons, June 4, 1858. Leave of absence in Europe, 1859-60; command Department of Utah, August 20, 1860, to August 8, 1861.

Promoted Brigadier-General U. S. A., November 12, 1861. Command of brigade regular cavalry, Washington, D. C., November 28, 1861, to March 10, 1862; command of Cavalry Division, Army of Potomac, Peninsula Campaign, March 24 to July 5, 1862, being engaged in siege of Yorktown, April 5th; battle of Williamsburg, May 5th; battle of Gaines' Mill, June 27th, and battle of Glendale, June 30, 1862; court-martial duty, July, 1862, to August, 1863; command of Baton Rouge District, Department of the Gulf, October, 1863, to May, 1864; Superintendent General Recruiting Service, May 24, 1864, to March 19, 1866; member of Retiring Board, De-

ember, 1865, to August 30, 1866; in command of Department of the Platte, April 1, 1866, to January 9, 1867; member of Retiring Board, 1867 to May, 1869; in command of Department of Cumberland, May, 1869, to May, 1870; in command of Department of Lakes, May, 1870, to October 29, 1873; retired October 29, 1873, after more than forty-six years of active service. Received the brevet of Major-General for gallant and meritorious services during the Rebellion.

This brief epitome conveys a meagre idea of the hardships and perils which formed an all too predominating part of army life during the period covered by General COOKE'S active service.

When he joined his regiment at Jefferson Barracks in 1827, he commenced his career in a brigade of three regiments and had the benefit of this unusual experience for ten months, when he was detached to Fort Snelling, Minn., in charge of detachment of recruits in open boats.

A year later he marched with the first escort to the caravans of the Santa Fe traders. During this march, on August 3, 1829, about 500 Comanches suddenly charged the camp. Lieutenant COOKE was officer of the guard, and met the charge with his guard of thirty-six men and broke its force, while the command was preparing to fight. On August 11th, the camp was threatened and a party of hunters attacked; Lieutenant COOKE was sent to their support. While wading the Arkansas river in front of his men, the enemy appeared on the bank and fired; he stooped down and caused his men to beat them off by firing over his head.

He returned to Fort Leavenworth the following year and remained until 1832, when he joined that part of his regiment engaged in the Black Hawk War. At the battle of Bad Axe, whilst the regular brigade was in the dense bottom land of the Mississippi he discovered where the enemy was in greatest force on an island; he informed the commander and was ordered to lead the reserve of three companies into action, which he did. He was appointed Adjutant of his regiment at the close of the war by General ATKINSON.

He was appointed a First Lieutenant of the new dragoon regiment while at Jefferson Barracks, and marched during the winter of 1833 to Fort Gibson, Indian Territory, a distance of 500 miles. During the following year he participated in what was known as the "Southwestern Expedition."

The following year, 1835, he went on recruiting service, but applied to rejoin his troop and marched with it in 1836 to Nacogdoches, Texas. He returned to Fort Gibson the following year and

settled down to steady frontier work on the plains, which carried him as far north as Council Bluffs and to the Rocky Mountains on the west, and which continued until 1846, when he marched with General KEARNEY's command to conquer New Mexico.

General KEARNEY's column continued its wonderful march through to California over the route now followed by the Atchison, Topeka & Santa Fe and Southern Pacific railroads. Tourists passing over this route in Pullman palace cars in a few days, can but illy conceive of the dangers, the thirst and the semi-starvation which this command had to face for months of weary marching. Foot-sore, and compelled by hunger to resort to horse meat, they nevertheless arrived on the Pacific Coast after a march of over 2,000 miles. Before, however, they were allowed to reach San Diego and the succor of the American ships, they were met by the Mexicans, and the action of San Pasqual was fought. General KEARNEY was wounded, and Captains MOORE and JOHNSTON, and Lieutenant HAMMOND, all of the First Dragoons, were amongst the killed. The command was in a sad plight, and were greatly relieved when Commodore STOCKTON sent out eighty marines and a hundred sailors to their assistance.

Captain COOKE remained in California until 1847, when having been promoted to Major Second Dragoons, he resigned his volunteer commission and rode back to Fort Leavenworth en route to Vera Cruz, but was recalled to California as a witness on FREMONT's trial. He subsequently joined his new regiment in the City of Mexico, and when the American army retired to Vera Cruz from Jalapa, he commanded the rear guard.

He commanded the Second Dragoons in Texas during 1852-3, and led a winter expedition against the Lipans and other Indians and drove them across the Rio Grande into Mexico.

While in command of Fort Union, in New Mexico, in 1854, he began operations against the Jicarilla Apaches, and during February killed "WHITE WOLF" (the captor of Mrs. WHITE and party) and twenty other Apaches.

The last day of March he received information of the defeat, with much slaughter, of a considerable force of the First Dragoons, near Fort Burgwin. He marched, in one hour, with all the force at hand, and within nine days had crossed the main ridge of the Rocky Mountains, raised a company of spies and guides at Taos to assist the dragoons, pursued the Indians through deep snow, over broken mountains, for about one hundred and fifty miles. He overtook them at Aguas Calientes April 8th, and defeated them, killing

about twenty. The tribe was so humbled by their pursuit and defeat that they begged for peace.

During the Sioux War of 1855 he commanded the Second Dragoons and two companies of mounted artillery and infantry. While detached with his command from the main body, he defeated the Indians September 3d, inflicting a loss upon them of seventy-nine killed, at Blue Water.

During the disturbances in Kansas in 1856, the regular army was interposed as a buffer between the contending parties. General SMITH's report says: "The troops in the field have been under the immediate command of Lieutenant-Colonel PHILIP ST. GEORGE COOKE, Second Dragoons. The sound judgment he has displayed and his promptness, energy and good management have had a large share in producing the happy state of affairs at present existing: for there were moments when the want of either of these qualities might have led to the most fatal and extended disasters."

The Secretary of War refers to this service in his annual report for 1856 as follows: "Energy, tempered with forbearance and firmness, directed with more than ordinary judgment, has enabled them to check civil strife and to restore order and tranquility, without shedding one drop of blood. * * * I concur in the high commendation which the Commanding General of the Department of the West bestows on Lieutenant-Colonel COOKE, commanding in the field, and to the officers and men who have thus satisfactorily performed the disagreeable duty which was imposed upon them."

During September, 1857, he marched, in command of his regiment, on the "Utah Expedition," and arrived at Fort Bridger on November 19th. He was detached all winter and spring with his regiment, guarding and herding the horses, mules and cattle, which numbered nearly 7,000 head. These were taken to the distant mountain valleys, while the main body of nearly 3,000 men was entrenched at Fort Bridger.

The Mormons having temporarily abandoned the country, General COOKE marched back to Fort Bridger and thence with the column through Salt Lake City and to Camp Floyd, which was established about forty miles from the town.

General COOKE availed himself of a long leave in 1858 and visited Europe. During this leave he prepared a system of "Cavalry Tactics" which was subsequently adopted. He rejoined in the spring of 1860, and soon after assumed command of the Department of Utah, where he remained until the signs of approaching civil

strife caused an order to be sent for the abandonment of Utah, when he proceeded to Washington, where he arrived on October 19th.

It was the good fortune of the writer of this too inadequate review of the life and services of this accomplished officer to know General COOKE from the last month in the year 1860 until his death. Soon after joining my regiment—the Second Dragoons—in 1860, at Camp Floyd, I was appointed Adjutant of the regiment, and Assistant Adjutant-General of the Department, and my relations with General COOKE, then Colonel of the Second Dragoons, commanding the Department of Utah, were as intimate as was possible between a mature man and a youngster just from West Point.

My appointment to the important offices mentioned was due to the fact that in consequence of the threatened War of Secession many officers were leaving the service, rather than to any peculiar fitness which I could have possessed, but I have always had reason to congratulate myself that my associations were so intimate with this prince of cavalry soldiers, and I attribute much of the reasonable success I had with important cavalry commands to the instruction and example of General COOKE.

In those days it was an honor felt by all to belong to the Second Dragoons. The *esprit* of the regiment was infused by the officers into every trooper from the first sergeant to the boy trumpeter, and to this day when one meets an old soldier of those days he swells with pride as he impresses on the hearer that he belonged to the "Old Second Dragoons."

Much of this pride in the regiment was due to the subject of this sketch. General COOKE was *par excellence* a cavalry officer, drawing his inspirations from the history of the wars of the Great FREDERICK and the First NAPOLEON. He insisted on the mounted charge for cavalry, was opposed to fighting on foot save in cases of necessity. His motto being, "Sharp sabers, and sharp spurs," and his orders and example forcing a free, fast and furious charge on the enemy wherever found.

In the early days of the Rebellion General COOKE, being a Virginian, labored under the suspicion which attached to officers of Southern birth, of want of loyalty to the government. This was enhanced by the fact that he together with several officers of the garrison at Camp Floyd, were maliciously reported by some fanatical persons as having views inimical to the government. This report was secretly made to Washington, and must have resulted disastrously to the officers involved, but from the fact that the matter becoming known, measures were taken to contradict the report. It

is a curious fact that every officer reported remained steadfast to the government, and rose to more or less important command during the war, and that of the three or four staff officers who made the vicious charges, not one was heard of in a position of importance during the war.

The officers reported for disloyalty included beside the subject of this sketch such men as BUFORD, GIBBON, and the lamented SANDERS, who died at Knoxville, gallantly leading a charge against the Confederate forces.

BUFORD was a Kentuckian; SANDERS from Mississippi; and GIBBON, though a Pennsylvanian by birth, was appointed from North Carolina. That General COOKE's counsel and example was not without its influence on these distinguished men I have no doubt. Of one thing I am certain, and that is, that this great, noble, chivalrous man never for one moment wavered or faltered in his allegiance to the government, notwithstanding his only son, and son-in-law, the Cavalry Chief of the Confederates, General START, joined in the War of the Rebellion.

More than once at this time I talked with General COOKE on the subject of his loyalty to his government, the conversation being introduced by himself, and on one occasion he expressed the hope that if he ever faltered in devotion to the cause of the Union, his best friend should stab him to the heart. His patriotism was inborn, and part of his chivalrous nature.

In those days the means of communication were slow compared to the present. The pony express connecting with the telegraph in the States brought us the news of the disaster at Bull Run. I recall how the impatient spirits in the far-off cantonment in Utah chafed at the delay in expected orders. It was feared by all that the war might terminate, and we not be there to see service. The mis-carried orders reached us in July, 1861, and in a few days the hurried preparations for the abandonment of Camp Floyd and the march to the States were accomplished.

This period of my acquaintance with General COOKE is especially interesting to me, for it was on this march from Utah to Fort Leavenworth that I learned much of marching troops, which has served me since in the cavalry service. The command marching in from Utah consisted of four troops of the Second Dragoons increased from posts through which we marched to six troops, a battery of horse artillery (GIBBON'S) and several companies of infantry and heavy artillery equipped as infantry. The distance was made at the average rate of about twenty-five miles a day, and while the

cavalry horses and the artillery depended on grazing for their subsistence, they were all brought into Fort Leavenworth in better condition for service than when we commenced the march. General COOKE's experience in campaigning on the frontier fitted him, in conjunction with his studies of the cavalry of Europe, as the most accomplished conductor of a march that the service has ever produced. His interest in the command while marching never relaxed for a moment. He observed every trooper, man and animal in the command. His care, with reference to grazing and watering, was constant. It was a fixed rule in his command that when possible all the horses should be watered at the same time, in order to accomplish which he would order the command "Front into line," halting in the stream, or into double column of troops in line, and require that the leading troops should ride to the farther side of the stream, leaving room for the horses in rear, before the head of a single horse was lowered to drink. His care in these matters is mentioned as an object lesson to cavalry officers. No officer or trooper was permitted to mount till "To horse!" was sounded, and woe to the cavalryman who continued mounted when the command was out of the saddle. The modern cavalryman may sneer at this attention to details, but I feel assured that the officer who keeps his command in good condition by careful attention to what may be called trifles, is of more service to his country in time of war than are some men who win battles.

For the good of the service, I hope that some capable person, who can do the subject justice, will write the life of General PHILIP ST. GEORGE COOKE, once Colonel of the Second Dragoons.

Soon after arriving with his command in Washington, in November, 1861, Colonel COOKE was appointed a brigadier-general in the regular army by President LINCOLN.

He was at once placed in command of the five regular regiments of cavalry concentrated in Washington, and formed them, together with the Sixth Pennsylvania Cavalry, into a brigade (the Regular or Reserve Brigade), which organization was maintained till the end of the war.

During the autumn of 1861 and the following spring, until the Army of the Potomac moved from its winter quarters, hastened by the evacuation of the Confederate camps around Bull Run, General COOKE, with all the officers of his command, was busied, without interruption, in brigade maneuvers and drill.

Those who formed a part of this magnificent body of men will never forget the hours spent day after day east of the Capitol at

Washington in brigade drills. Here was sowed the seeds of the future efficiency, not only of this cavalry, but the leaven which perfected the entire cavalry organizations of the superb army which for four years bore the brunt of the great Civil War. It is not too much to say that to General COOKE, more than to any ten other men, belonged the credit of setting the pace and establishing the standard of the cavalry that later became the admiration of the country, if not of the whole world.

After the change of the theater of operations of the Army of the Potomac by its transfer to the Peninsula, the cavalry under General COOKE remained inactive so far as legitimate war experience was concerned, until the evacuation of Yorktown by the Confederates.

It was during this period, as well as before the transfer to the Peninsula, that General McCLELLAN exhibited the lack of capacity, which afterwards became so notorious, to command successfully an army. He was especially deficient in the instincts which characterized the great army commanders of history, with reference to the proper uses of cavalry. To him this arm of the service represented a corps of mounted orderlies and messengers whose horses served no higher purpose than to bear their riders on rapid trips for messenger duty, or enabled an orderly to keep pace with a fast riding subaltern, detached for duty, and too often for pleasure. The cavalry under him was decimated instead of being concentrated, and each corps, division, and even brigade commander, was supplied with a force of this expensive arm, which necessarily reduced the available force of cavalry proper, and scattered to the four winds the force which General COOKE and his officers had spent so much time and the government so much treasure in perfecting for the legitimate duties of cavalry.

It is not strange, under these circumstances, that cavalry officers were disgusted with the conditions that obtained in the army. And it was at this time that the circumstances had their origin that resulted in the transfer from the cavalry of this most accomplished cavalry officer to other fields of duty, and the loss to the cavalry service of General COOKE.

After the evacuation of Yorktown General COOKE, with his attenuated cavalry command, was ordered in the pursuit of the enemy, who was brought to bay at Williamsburg. The march and pursuit were admirably managed, and the enemy, whose advance had passed beyond Williamsburg, was forced to return in protection of its rear guard and to offer battle, because of the vigorous pursuit of COOKE and his squadrons.

It is no part of the scope of this paper to enter into the details of the affair at Williamsburg on the part of the army. It is enough to say that the cavalry under General COOKE did all that cavalry could do under the most able management, and that the battle of Williamsburg, so far as the Army of the Potomac was concerned, was not successful.

From this time on affairs with the cavalry, through no fault of its own, went from bad to worse. Detachments from its strength were constantly increased, and it was hampered by instructions which crippled it for all useful action. A case to illustrate this occurred after the Army of the Potomac appeared in front of Richmond and took position astride the Chickahominy. The cavalry under General COOKE was on the right flank of the army, watching the roads leading along the Pamunkey to the rear of the army. It had no freedom of action, and was not allowed to select its position for the better attention to its work.

Soon the Confederate cavalry, under its capable chief, General STUART, fell on the emasculated ranks of the thin right wing of what was left of COOKE'S cavalry, and made the raid to the rear of our army, passing to a safe place of retreat within the Confederate lines and around the further flank of our infantry. General COOKE immediately made arrangements to pursue and punish the intrepid foe, but was thwarted in his design by positive orders from the Commanding General of the left wing of the army, under whose orders he had been placed, to regulate his pursuit by the march of an infantry column detached to intercept STUART, and on no account to precede this infantry march.

The officer of to-day, even though he has had no experience in war, with the record of cavalry marches before him, can imagine the effect of such an order on a dashing, chivalrous, enthusiastic cavalry officer, chafing under the restraints that had already been placed upon him by a soldier who had learned from the books that a forced march for cavalry for one day, was twenty-five miles.

The writer of this recalls that on the receipt of this order General COOKE insisted that he would disobey it, and was only deterred from doing so by the earnest advice of those around him, who thought they knew how suicidal such a course would be under the conditions which then obtained in that army. I have since regretted that I opposed the infraction of orders. But I was very young then.

Of course there could be only one result to this course. STUART made his raid, unimportant though it was in consequences, and the entire blame was unworthily thrown on the cavalry and on General

COOKE by the uninformed, owing to untruthful statements of those who knew better, but were willing to accept a scapegoat.

It was not long after this raid by STUART that the Confederates, encouraged by the inertness of the Army of the Potomac under McCLELLAN, attacked the right wing of the army under FITZ JOHN PORTER, fighting the battle known as Gaines' Mill.

During the early part of this battle the Union army held its ground and gained from time to time some material success. But it was only temporary. In the afternoon the writer of this, by General COOKE'S direction reported at the headquarters of the Commanding General on the field, FITZ JOHN PORTER, and during his attendance there heard read a dispatch from General McCLELLAN congratulating PORTER on his success. It closed with directions to drive the rebels off the field, and to take from them their artillery. At the time this dispatch was being read, the enemy were forcing our troops to the rear. Hasty preparations were made for the retreat of the headquarters, and everything was in the most wretched confusion. No orders could be obtained, and I returned to my chief reporting the condition of affairs. It was apparent from movements in our front that the Confederates would make a supreme effort to force the left flank of FITZ JOHN PORTER'S command, and cutting it off from the bridge over the Chickahominy, sever it from McCLELLAN'S army and capture or disperse it.

It was growing late. Both armies were exhausted by the exertions of the day. But the prize at hand was well worth the effort, and the Confederates with renewed strength were fighting to make their victory complete. The Union cavalry commander seized the situation at a glance. The cavalry had been posted behind a plateau on the left bank of the Chickahominy, with ground to its front free of obstacles and suitable for cavalry action. To the right front of the cavalry the batteries of the reserve artillery were stationed. Here I adopt the description of the battle from the pen of a brilliant cavalry officer of a new generation, who tells of it in his history of the Fifth Regiment of Cavalry, Captain SWIFT. He says:

"At the battle of Gaines' Mill, on June 27, 1862, the regiment performed its most distinguished service. On that day, it will be remembered, the Confederate army, reinforced by the corps of STONEWALL JACKSON from Northern Virginia, made four desperate attacks upon the Federal wing under FITZ JOHN PORTER, who was occupying an open plateau, with temporary intrenchments, east of Powhite Creek, his left protected by the marshes of the Chickahominy bottom. The sluggish creek flowed through deep banks, concealed by heavy timber; the high ground of the plateau was free of obstacles and suitable for cavalry over a strip varying from

400 to 1,000 yards in width; and in the breaks of the plateau, in rear of the extreme left of our line were massed the weak cavalry brigades of PHILIP ST. GEORGE COOKE. In front of the cavalry the batteries of the reserve artillery were stationed.

"It was after 7 o'clock in the evening; the sun had sunk below the horizon, the heavy smoke of battle was hanging thickly over the field, and each attack of the enemy had been made and won. Only the cavalry and a part of the artillery remained on this part of the field. A brigade of Texans, broken by their long advance, under the lead of the hardest fighter in all the Southern armies, came running on with wild yells, and they were a hundred yards from the guns. It was then that the cavalry commander ordered Captain CHARLES J. WHITING, with his regiment, to the charge. No one had blundered; it was the supreme moment for cavalry, the opportunity that comes so seldom on the modern field of war, the test of discipline, hardihood and nerve. Right well was the task performed. The two hundred and twenty troopers of the Fifth Cavalry struck LONGSTREET's veterans square in the face. WHITING, his horse killed under him, fell stunned at the feet of the Fourth Texas Infantry. CHAMBLISS was torn almost to pieces with six wounds. SWEET was killed. Only one of the other officers was unwounded. In all, the loss in killed, wounded and missing, was fifty-eight, and twenty-four horses were known to have been killed. Unsupported, and almost without officers, the troopers were stopped by the woods of the creek bottom, returned, re-formed, and were soon after opposed to the enemy in covering the retreat of the Federal army. Two days later the same troops were engaged at Savage Station. The guns which were in condition to retire were saved. The facts of that charge speak for themselves. No action was ever more worthy a poet's genius; no cavalry charge was ever ridden better or against more hopeless odds of numbers. In other lands every survivor of Balaklava has been pensioned and decorated. The German nation will always delight over the record of its cavalry at Vionville and Mars-la-Tour, and the great Chancellor was never so proud as when he embraced the sons who rode in the ranks on that day. The memory of the sacrifice of French cavalry at Sedan is still a balm for many wounds. But while CARDIGAN, BREDOW and GALLIFET, each in his own land, received every honor, it is strange to relate that WHITING was dismissed for alleged disloyalty a few months after Gaines' Mill, reinstated after the war, and mustered out of service at the consolidation in 1870. The action of the cavalry received the censure of the Commander-in-Chief, and has since been given as the reason for the removal of General COOKE from the command."

The events of that day at Gaines' Mill are pictured on the mind of the writer of this imperfect sketch as on a never fading photograph. The details of the battle are as vivid as if they had occurred yesterday. As the Confederates came rushing across the open in front of the batteries, bent on their capture, one battery nearest to our position was seen to limber up with a view to retreating. I rode

hurriedly, by direction of General COOKE, to its Captain, ROBINSON, and ordered him to unlimber and to commence firing at short range, canister. He complied willingly, and said, as if in extenuation of his intended withdrawal, that he had no support. I told him the cavalry were there, and would support his and the other batteries. The rapid fire at short range of the artillery, and the daring charge of the cavalry in the face of an exhausted foe, prevented, without doubt, the enemy seizing the Chickahominy bridge and the capture or dispersion of FITZ JOHN PORTER's command. All this was due to the subject of this sketch. No farther advance was made by the Confederates, and the tired and beaten forces of PORTER withdrew to the further side of the Chickahominy and joined the Army of the Potomac in front of Richmond. The cavalry withdrew last as a rear guard, after having furnished torch and litter bearers to the surgeons of our army, who did what was possible to care for our wounded left on the field.

It was a great surprise to General COOKE and his friends to find in the Records of the Rebellion, publishing the events of the war, a statement that he was relieved from command in the Army of the Potomac for his part in the battle of Gaines' Mill. It is my belief that this statement was an afterthought, as I know that General COOKE was relieved at his own written request, after the Army of the Potomac had arrived at Harrison's Landing in August.

The fact that I know that General COOKE felt keenly this aspersion on his character as a soldier, has induced me to give more extended notice to this episode in his military career than is perhaps quite appropriate in a paper such as is the present one.

Truly, as Captain SWIFT intimates, in any of the countries of Europe General COOKE's conduct at Gaines' Mill would have been a theme for poets, and a source of honor from the government.

After Gaines' Mill the cavalry of the Army of the Potomac had no history of which it had reason to be proud, until the reorganization of the army with HOOKER in command. Its emasculated ranks were diverted into additional orderly, guide and scouting duties until there was nothing united of the unfortunate mounted force in sufficient strength to constitute a reasonable command for a field officer. This fact, coupled with the incompetence of his superiors in the handling and treatment of the cavalry, led General COOKE to request that he be relieved from duty with the Army of the Potomac.

He was assigned to court-martial duty in Washington, and remained until August, 1863, and a few weeks thereafter he was assigned to command the Baton Rouge District, Department of the

Gulf, and remained upon this duty until assigned as General Superintendent of Recruiting Service for the Army, May 24, 1864. He continued upon this duty until 1866, when on April 1st he was assigned to command the Department of the Platte.

From April to July, 1867, General COOKE was a member of an examining board for promotion of volunteer officers to the regular army, and a member of a retiring board from September, 1867, to May, 1869, on the 15th of which month he was assigned to the command of the Department of the Cumberland, where he remained until transferred in May, 1870, to command the Department of the Lakes.

General COOKE continued in this command until October 29, 1873, when he was retired, after forty-six years of active service, such as has not fallen, nor under existing conditions, can ever again fall to the lot of any other officer.

History was made so rapidly during the eventful years from 1860 to 1865, that the period immediately following has received but scant attention from historians as yet. No duty ever performed by army officers required clear judgment, high-minded patriotism and patient forbearance to a greater extent than was necessary in dealing with the multitude of unprecedented questions arising under the new conditions which prevailed in the South, and unstinted praise is due Generals THOMAS, CANBY, COOKE and many other gallant men who held commands there during the reconstruction period.

Throughout his varied career General PHILIP ST. GEORGE COOKE gave us an example of loyalty, professional pride and devotion to duty in its highest sense. He was the incarnation of a cavalry soldier. His greatest ambition was to excel in this, his favorite arm. On the frontier he gloried in making long and rapid marches without injury to his horses. During the war he was among those who thought that the legitimate sphere of cavalry action was mounted and in the crisis of battle. He was a splendid horseman and always looked every inch the soldier while mounted on his spirited, showy horse. He was a chivalrous soldier, a consistent Christian, a model gentleman.

It cannot but be that in future years when the history of the Union cavalry is written, that the name of General PHILIP ST. GEORGE COOKE will stand highest in the role of distinguished cavalry generals. Though others followed him who, owing to the fact that the arm was better understood by army commanders, gained more glory, none were more deserving.

MILITARY READING, ITS USE AND ABUSE

BY FIRST LIEUTENANT MATTHEW F. STEELE, FOURTH CAVALRY

THE army is ever astride of a hobby. Within the remembrance of most of us it has ridden military signaling to an unwept and inglorious death. Then it mounted target practice, a beast of long life and great endurance. At last, however, this good steed's back is swayed, and he shows other signs of decrepitude, which make us fear that he may break down under the weight of the Krag Jorgensen, with its terrible length of range and heavy cost of cartridge.

Besides, the army is no circus rider as to its hobbies. It rides them one at a time, and a new one has been saddled and brought forth—the cult of literature. The whole service seems to have gone to letters, and our chief ambition, just now, appears to be to convince ourselves and the world at large that the pen is mightier than the sword—an undertaking not quite loyal to our craft.

CARLYLE says: "In every phenomenon the beginning remains always the most notable moment," and yet of this phenomenon it is hard to say precisely when and where was its beginning. Many of us are old enough to remember when it was not. Less than a score of years ago the students and readers of the army—especially students of military subjects proper—were sporadic and exceptional.

In a review of Mr. Ropes' recent work, "The Story of the Civil War," *The Nation* (No. 1534), referring to the condition of the army at the outbreak of the war, says: "It is notorious that very few army officers had built upon the beginning made in the Military Academy, or had the opportunity, if they had the will, to continue industrious study. It was an individual question as to what progress each had made, what qualities he had developed, and what he was competent for. When these things are candidly weighed, it does not appear so clear that there was a class of professional soldiers."

The same may even be said of our officers within the last decade. Not so to-day. Now we are all readers and students, students at any rate, whether we will or no, for such is the edict of the Lyceum. If we cannot name exactly the initial hour of our literary fever, we can, nevertheless, trace its development and progress by the principal events that have marked or influenced them.

The first real interest in professional culture among officers, as a class, came with the founding of the Military Service Institution in 1878. This was the work of four officers, and the service owes them a very large debt of gratitude.* These officers stated in their call that the "design of the association contemplates professional improvement and interchange of views upon military matters, especially those calculated to promote the interests of the army of the United States." (Manual of the Mil. Serv. Ins., 1888.) Right well has the Institution fulfilled its mission.

One often hears it remarked that the *Journal of the Military Service Institution* is mainly an artillery organ; yet, strange, it seems hard for an artilleryman to win the gold medal for the "prize essay."

The next impulse was given by the founding of the School of Application for Infantry and Cavalry at Fort Leavenworth; but the impulse was feeble, and its early results were scarcely an earnest of its later accomplishment. The school struggled along for several years, gaining little in vigor or influence. Few young men sought the detail to it. Those who took the course did so under compulsion, and manifested their contempt for the school by nicknaming it "The Kindergarten." But the last few years have wrought a great change. The school has begun to fulfill the purpose for which it was created by the War Department—a war college "for ambitious young officers who desire to take an advanced course in their profession."

After the college at Fort Leavenworth, came the organization of the Cavalry Association. Strange it had not preceded it—the place of the cavalry should always be in front. This marched along for several years, gaining strength the while, and with its cavalry clatter, finally aroused the infantry. They then formed an association and started a professional gun. The artillery in the meantime brought forth its *Artillery Journal* pure and simple. The rumbling of the three arms wakes up the headquarters at Washington, which takes command of the whole force, sends forth its Lyceum orders, and sets up the Bureau of Military Information.

* These officers were "a colonel of infantry, a colonel of cavalry (retired), a colonel of the Adjutant-General's Department, and a major of the Judge-Advocate-General's Department." Though their names are not given, I believe they were Generals STANLEY, FRY, RODENBROUGH and LIEBER.

It could not be expected that Congress would sit quietly by and let all this pass without saying a word or taking a hand. It was beginning to look as if the body military was on the point of forgetting its subserviency to civil authority. The free institutions of the Republic were in peril. Congress must do something. So it travelled and brought forth the act requiring examinations for promotions—a noble and hopeful offspring, one that is destined, if properly nurtured, not nursed to effeminacy, nor overworked to an untimely death, to lead the army to a high state of practical culture.

Many thinking officers even believe it alone could be made to keep alive the spirit of study in the service without the support of daily recitations at the Lyceum. There is no doubt that the liability of losing one's promotion, nay commission, is a right sharp spur to an officer's ambition for professional improvement; and that the officer who will not respond to this spur would benefit the service more by creating a vacancy than by rising to a higher grade.

From these centers, a wave of professional culture has swung out in widening circles, until to-day it reaches every little garrison and well nigh every individual in the military service. Its bounds are not limited to the commissioned officers; it reaches into the barracks of enlisted men. Literary associations, with their books and papers, exist in hundreds of troops and companies, and every fortnight or so sees another regimental or garrison paper started, with an enlisted man for its editor.

Undoubtedly what has made our progress in professional culture possible in the past few years, has been the concentration into larger garrisons, and the comparative infrequency of Indian troubles. Long, hard marches, and camps a hundred leagues from garrison or postoffice, are not conducive to the study of books. Whether the latter conditions will make better soldiers than the SHERIDANS, STUARTS, HILLS and THOMASES, trained under the former, must be left for the next war to decide.

But is there not danger of too much reading and study in the army? Undoubtedly professional education is now our hobby; and unquestionably the world has ridden to its present state of advancement upon hobbies, for the backbone of a hobby is enthusiasm, and nothing has succeeded without enthusiasm. Yet by observation among his circle of acquaintances—examining himself the first of all—any one of us can see the evils that BACON has pointed out: "To spend too much time in studies is sloth; to use them too much for ornament is affectation; to make judgment wholly by their rules is the humor of the scholar. They perfect

nature and are perfected by experience. * * * Crafty men condemn studies, simple men admire them, and wise men use them."

The sloth that too much study induces is, apparently, of both mind and body. When too many books and authorities are to be recollected and pondered over, conclusions are slow to form. This may be of no consequence to the philosopher in his closet, but to the soldier in the field it is fatal. Cavalrymen, above all, have no time to ponder and weigh. It is better to move to the charge, even though the consequences of repulses have not been carefully calculated, than to stand pondering until the enemy's squadrons are upon you. General SCHOFIELD recently remarked of some one, that "he had too much sense to be a good cavalryman."

The annals of the war between the States, as has often been remarked, do not argue the side of the military student. The great students on either side, those who knew NAPOLEON'S maxims by heart, and could "rewrite Jomini," if the last copy had been lost, and quoted Marshal SAXE in familiar chat, were not always the most successful in battle and campaign. Of all the heroes of that war, whether under the stars and stripes, or under the stars and bars, General SHERIDAN was the one whose record as a fighter and as a leader of men in battle or in the search of battle, most appeals to the real cavalry soldier's admiration and emulation; and it is doubtful if he had ever read one of NAPOLEON'S maxims, or seen a copy of "Jomini," or heard of Marshal SAXE.

The military biographies of Europe point the same lesson. The greatest reader in our service to-day, an officer who lives in books, worships books, dreams in books, no doubt, and would have the walls of heaven lined with books, labored, in a recent magazine article, to prove that the world's great soldiers were lovers of books. But the evidence and argument he adduced failed to sustain the case. FREDERICK THE GREAT affected literature, but not military literature. He was the "Poet King." Colonel CLOSSON, in his article, admits that "it is not easy to find much of the literary about the two English generals, WELLINGTON and MARLBOROUGH." The latter could not even spell. [GOLDWIN SMITH.] The inference is he did not read.

"NAPOLEON had a regular camp library and cabinet editions of works in art, and so forth," says Colonel CLOSSON, but that he read all these works history deposes not. I do not believe he did; he had no time to read such quantities of books. About all that we are told NAPOLEON ever studied were "Plutarch's Lives" and the "Campaigns of Turenne and Frederick." His latest biographer,

Prof. SLOANE, says: "He had not even the consolation of having an education." We may be sure that what time NAPOLEON gave to study was for a definite object. Geography, not the strategical and tactical theories of military literature, was his chief study—the geography of the world, and how to put Paris at its center. The map of Europe was engraved upon his heart.

So, also, of the modern general, who is held up as the shining example of the study-bred soldier of success. But VON MOLTKE was no mere closet student of books. His studies always had one focus at a time: first it was how to whip Austria, and then it was how to whip France. Whatever affected his subject he studied. He had a particular problem to work out, just as Captain EADS had in building the St. Louis bridge, and he prepared himself for it.

Indeed, the great readers of the world have not been its great actors, its great thinkers. They may, as CARLYLE puts it, "tell the universe what o'clock it really is," but they do not make the wheel of the clock turn. We are not told that EDISON is a great reader, that FULTON was, or MORSE, or WHITNEY, or ERICSSON, or any of the men who have given complete revolutions to the clock of progress. These men see and think, and above all, work.

Not in science, nor in art, nor in business, nor in arms, not even in letters, are the leaders distinguished by much reading. "The Autocrat of the Breakfast Table" says: "I always believed in life rather than in books," and it is said that he never read a book through from cover to cover. [HENRY CABOT LODGE] Later in life HOLMES completes this thought by saying in "Over the Teacups," "If you could stick to your reading day and night for fifty years what a learned idiot you would become long before the half-century was over." DICKENS' lack of reading was notorious. His biographer undertakes to prove that he had read "Robinson Crusoe" and a few other of the books every school-boy reads.

If too much study is sloth, what must be said of too much of the kind of reading we give so many of the valuable hours of our life to? Idle, easy-chair reading. No habit is easier fallen into than this kind of reading, and none is less pardonable. It destroys an officer's activity as no other habit does. It is the worst form of laziness, and no sin is so destructive of a soldier's efficiency—especially a cavalry soldier's—as laziness. Some of the best soldiers have been drunkards. MARLBOROUGH was a scoundrel; SKOBELEF was a moral leper; but they were all active, as every other soldier has been that has succeeded.

EMERSON says: "The student is to read history actively, and not

passively." Aye, he is to read anything actively that he expects to derive any benefit from. Passive, easy chair reading is but an apology a man makes to his conscience for doing nothing. When a man stands or sits upon his muscles, his mind is more lively than when he lolls in a heap upon his flesh and bones. The brain works better when the spinal column is erect. The only reasoning animal is the only animal whose backbone is upright, and man did not begin to reason until, in the course of his evolution, he rose from all fours and stood on two legs.

The world has not produced a man that has made more out of a small gift of brain than STONEWALL JACKSON did. He was naturally dull, slow of perception, slow of invention; but his record as a cadet, as a college professor, as a fighter, tells what use he made of his poor natural gifts. All he knew he learned by hard study; and he studied always standing upon his feet, with his book on a shelf in front of him.

Some men read simply for the purpose of telling what they have read. This is as despicable as filling one's shelves with handsome bindings, regardless of their contents, or with blocks of wood painted and gilded to look like sets of standard works.

Other men read to keep from having to think. The mind cannot rest, except when it sleeps, and it cannot sleep all the time. It will keep on thinking, remembering, building castles or dungeons, if one sits idle and awake. Other men play solitaire, whittle sticks, or draw figures on blotting-pads with a pencil, to occupy their minds.

Still other men there are, and many in the army, who read too much to have any time left to act or to think. As soon as they have done one book, before it is digested or considered, they are in another. They do not know the exhilaration of an original thought. If they go through the form of thinking, they must do it in quotation marks. They can only tell you what somebody else has written, as if you could not read it for yourself, if you were pleased to.

A thought conceived in a man's own brain, whether it be strong or weak, whether it be wise or foolish, whether it be right or wrong, if it be but his own, is worth more to him than ten thoughts borrowed from some one else. And yet, as the "autocrat" says, "we get into a way of thinking as if what we call an intellectual man, was, as a matter of course, made up of nine-tenths or thereabouts of book-learning and one-tenth himself." In no calling is the truth of this remark better exemplified than in ours of to-day. We call an officer "up in his profession," according to the number of professional books he has read. We think he knows all about

training horses, if he can talk BAUCHER and RAREY and ANDERSON all about the veterinary and sanitary science, if he has FITZWYGRAM in his book shelves; the whole art of horsemanship, if he has read DWYER'S *Seats and Saddles*, than which no book was ever fuller of strung-out and spread-over theory, or emptier of facts and horse sense, when put to the test of actual practice. We think an officer that can quote SHAW and draw his diagrams, knows the whole subject of minor tactics; if he has studied VON SCHMIDT and TRENCH, he is a finished cavalryman, and, if he can talk "Jomini" and "Hamley," and has kept up with Prince KRAFT'S *Letters and Conversations*, which are keeping up with the "brook," he is prepared to command a corps. And all this whether he can ride his own horse over a ditch or a fence, or no, whether he can command his troop or platoon at squadron drill, or no.

Reading, to be of profit, should have one of two objects. It should be either to get information for a definite purpose, or to get recreation; and reading that has not one or the other of these objects in view is time wasted. Every man, even a soldier, is entitled to a certain amount of recreation daily. ALFRED THE GREAT took eight hours, but each man's conscience and leisure must be the judge of what he needs. When a man takes more than they allow him, he turns recreation into dissipation. This is so whether his dissipation takes the form of books or strong drink. By recreation, however, is meant neither rest nor idleness; for, whether with books or with base balls, it ought to be active, and a soldier's rest ought to be sound sleep.

"There are few truer triumphs or more delightful sensations than to obtain thorough command of one's self," says Sir JOHN LUBBOCK. The officer who can lay down a delightful book, in the middle of a delightful chapter, and go about these duties, of which there are hundreds daily, not announced by call of trumpet, and not under the immediate eye of his superiors, but attention to which marks the distinction between the slothful and the active officer, has obtained this command of himself.

There are officers who appear to think that the chief end of man is to read and study. Instead of treating studies merely as a means to the accomplishment of a purpose, they make everything else bend and yield to them. They do not study with the determination of fitting themselves for some particular duty, either of the present or the future; not even for knowledge or the power there is in it. They study for the simple sake of studying, just as the miser hoards for the sake of hoarding.

The mind is so ordered that it cannot fix itself upon an ambition, a hope, a possibility, or even a certainty, which lies indefinitely in the future. It is doubtful if there is to-day, in all our millions, a single child or youth who has set his ambition to obtain the Presidency in his manhood, and governs his daily life to that end. It is even doubtful if there is a lieutenant in all our service that has seriously said to himself, "I will command the army some day" and directs his studies and his conduct with a view to fitting himself for the position.

It is for nearer and lesser goals we strive. Each attainment is a step upon which to rise to a higher ambition. Even the trifles of to-day appear larger to our mental vision than great things off in the perspective of the future. The issue of a game at billiards or whist will occupy, for the half hour, our whole effort and aspiration, to the utter exclusion of the colonelcies, general's stars, and all the other honors and glories the future may have in waiting for us. The thought of the moment, with its little pleasure or trouble shuts out the contemplation of the entire hereafter.

No doubt it would be a key to success and a title to greatness, the ability to look right over intervening months and years, and fix the eye upon the highest point in the scale of ambition. And yet, this myopia of aspiration has its advantages. How many good soldiers would pass into their old age and retirement with the sorrow of an ill-spent, or the grievance of an ill-appreciated life? How many graves would be filled with the dust of disappointment if we all, in our youth, sighted our ambition at a general's epaulettes? No, it is the small honors in sight, and lesser laurels in reach, one strives after, and not the great ones beyond the horizon.

We should make use of this principle to aid us in our studies. We should always have some special object to study for. We know that an officer will learn more in a week when his examination is at hand, than he will learn in the whole winter's course of the Lyceum, with his promotion only a vague promise of the future. He will study his text-books harder to find out how to skillfully command a corps of leaden blocks in a game of Kriegsspiel to-morrow, than to command a corps of bodies and souls in that indefinite future, "the next war." He will sit up later working out how to rightly build a road or a bridge next week than he will to learn how to destroy a railway or a ship canal thirty or forty years hence.

Too much reading, even of the right kind and in the right way, begets too much theory, and at the same time makes one depend more upon his book-learning than upon his own resources. An offi-

cer with a head full of theories is liable to have no room left in it for practice. Of more use to the service are the practical, unlettered soldiers, like that old Irish captain who said of himself, "Mi head is not crammed wid theories out of books, nather am oi much of a lyceum paulparrit; but whin oi git mi saber strapped on me, en mi legs astroide o' mi horse, mi head is pregnant wid ideas."

In too much study of other men's methods, also, there is danger of blind following, and danger of applying their methods when our conditions are different. One of the real pleasures of reading is the suggestion or awakening of new trains of thought, different from those of the writer, perhaps upon a subject entirely apart from his. WASHINGTON IRVING said that, often, when he did not feel in the humor to write, when his head and hand would not respond to his will for work, he would lay down his pen and take up some favorite author. After reading a few pages, some thought would be suggested, and he would hasten to write it in his manuscript, together with the train of others sure to follow.

The close ally of military reading is military writing. Each is dependent upon the other for its support and life.

Some officers have a queer way of regarding a man's efforts at the pen—a way full of impatience, apparently of contempt, possibly of envy. They seize the floor and harangue for an hour at a time, if any of their audience lingers that long, about "the fever for rushing into print." They declare over and over again that they wish the CAVALRY JOURNAL and all the other service magazines were in the place where it never freezes. They are forever going to stop their subscriptions—as if anybody cared. "Every snip of a lieutenant—second lieutenant—appears to think he has some wisdom to spread in print, for men to read who were in the service when he was in swabbling-clouts," is one of their favorite texts.

These ranters will lay hold on you—the whole dozen of you—in the Adjutant's office in the morning, in the club in the evening, and pour out upon you their vials, nay barrels, of wrath against these would-be army writers. They are the same men who yawn of a morning, and tell you how late they sat up the night before reading, and repeat to you columns and pages, all of which you have read for yourself, but you are too polite to tell them so. Hours and hours of valuable time everyone of us has to yield to such bores at some time or other. Like rheumatism, they are one of the ills of the military service, which one can escape only by an early death.

How different with the man who puts his little say in print. He

modestly invites you to read it. If you do not care to bother with him, you skip him, or toss the whole magazine into the fire, that you may run no risk of meeting him again. You are not compelled to give him your attention, or else be rude to him, as is the case with the ranter aforesaid. But once a year is your time, not to say your attention, given by compulsion to the officer who commits his thoughts to writing—that, of course, is when he reads you his Lyceum essay.

Much benefit is to be derived from writing. Bacon said, "Reading maketh a full man, conference a ready man, and writing an exact man." It also gives one a definite and immediate object to read for. It recalls to his memory the marked passages in his favorite books. It makes him search records and authorities. He not only learns more about the subject he is writing upon than he would learn in a lifetime of languid reading, but he also learns much about collateral and other subjects in his research. New subjects of investigation and new lines of thought occur to him, which may serve for discussion in his next Lyceum essay.

Men can talk by the hour without thinking; so can parrots, and also monkeys, if Mr. GARNER can be believed. But neither monkey nor parrot has yet written. One cannot write without thinking; he may copy, but that can hardly be called writing, which can, nowadays, be done so much better on a machine. On the other hand, it is doubtful if there are many men able to lead a train of thought to a conclusion without the aid of the pencil; it is too great a tax upon the memory to keep before the mind all that has gone before. "Mental arithmetic" is only a question of memory. JOHN ADAMS said he could not think without a pencil; so did CHARLES LAMB. A good thought is a capricious and subtle thing. It is yours for an instant, but let it escape and it may never come back to you again. Better fasten it down with a pencil while you have it, than risk catching it with the memory at another time.

And now, finally, what should we, as American soldiers and students of the trade of arms, read? By authority of Congressional act, the *Regulations* provide that the Quartermaster's Department shall "furnish transportation" for "the professional books of all officers of the army * * * which they may certify as belonging to them individually and pertaining to their official duties." No doubt this generous and thoughtful provision has had much to do with the growth of the literary spirit in the service. Officers could ill afford the expense of carrying their books with them as often as they might be ordered from one station to another. But a book, to

be of real use or pleasure, must be at one's hand. Education is not so much what one actually knows as what one knows how and where to look for. The best lawyer does not have all the law and the decisions by heart, but he knows what books to find them in; and the engineer does not burden his memory with tables and logarithms, but gets them out of his manuals when he needs them. So with us and our books. We want them where we can lay our hands upon them.

If any book is worth the time it takes to read it, it must have something in it worth going back after at some other time. The "*Port of the Breakfast-Table*" says "the foolishhest book is a kind of leaky boat on a sea of wisdom; some of the wisdom will get in somehow." When I read a book, I want to own it and have it with me, for I know I shall want to go back to it, soon or late, to look up some passage that has left the outline or shadow of its substance in my memory. I do not believe I have ever read a book of which this is not true; and I suppose it is so with every person. Borrowed books are but a momentary satisfaction; they are like a diet of weak broth, which fills, but does not stay with you.

But how far are we limited in our ownership of books by the words, "Pertaining to their official duties?" This is largely a question of individual conscience, and conscience is a question of education. Narrowness of conscience, which is bigotry, is usually the result of ignorance. Our official duties are wellnigh as numerous and as various as the occupations of mankind. In a lecture to the students of Woolwich, RUSKIN said: "While for others, all knowledge is often little more than a means of amusement, there is no form of science which a soldier may not at some time or other find bearing on business of life and death. A young mathematician may be excused for languor in studying curves, to be described only with a pencil; but not in tracing those which are to be described with a rocket. Your knowledge of a wholesome herb may involve the feeding of an army, and acquaintance with an obscure point of geography the success of a campaign."

If this were true to English military students, how much more so to American. Surely the officers of no other army are liable to be called upon for such various duties as those of ours. If we are not all "Jacks of all trades," the roster must always be ready to furnish some Jacks for every trade, and there is no telling what duty an army officer may be put at next. Our drill-books and manuals of tactics and strategy are not by any means the only books we need. We must know how to build, to survey, to bargain and trade, to

teach any subject from grammar up to the science of war; to cultivate a garden or manage an eating house; to telegraph a message or run an engine; to draw up a contract or defend a criminal; to groom a horse or teach a class in hippology; to build a foot bridge or destroy a steel one with gun cotton; and to do tens of thousands of other things which no man in any other one profession would ever have to do; and above all, to be always an "officer and a gentleman." This phrase is the passport to our shelves for any book we would have there, which cannot get in under specific class.

There may have been a time, back in the dark age of ignorance, when a gentleman was simply a *gentle* man. Not so now, all moral argument to the contrary. The compound word has an inseparable air of culture about it. It is the army officer's title to the fellowship of the educated classes, the college professors, writers, clergymen, lawyers, surgeons, and the like. But what lawyer or clergyman confines his reading and studies to his law or theology? Sir JOHN LUBBOCK says: "Concentrating our attention too much on one or two subjects defeats our own object, and produces a feeling of distaste where we wish to create interest." Every professional man knows this, and as far as his time allows, gives his reading a wide range, and each one, as well as he can, follows Lord BROUGHAM's advice: "To read everything of something and something of everything."

THE PRINCIPLES OF MILITARY ADMINISTRATION
THEIR APPLICATION TO METHODS OF SUPPLYING
HORSES FOR THE CAVALRY SERVICE. WITH SUG-
GESTIONS FOR THE REMOUNT OF THE FIRST
CAVALRY.

BY FIRST LIEUTENANT J. G. GALBRAITH, FIRST CAVALRY.

MILITARY administration, in the restricted sense of the word as used in this discussion, may be defined as the system by which the regular army is provided with men, with horses, with all the supplies needful for the performance of military duties, with means of transportation, and with money.

We propose in this paper to discuss certain principles of military administration, their bearing on or application to the methods of supplying horses for the cavalry, with suggestions for a particular case. For the principles enunciated we will search in the writings of recognized authorities. For a description of the evils arising from departures from those principles we will endeavor to add to facts drawn from the recorded experience of others, some within our own experience; and for the remedying of those evils we will avail ourselves of the suggestions of others, adding such conclusions as we have arrived at after some study, observation and reflection. Without practical suggestions, we may say that a mere criticism of existing methods would have little value. It is easy to find fault, but difficult to provide adequate remedies. Some there are who delight in tearing down, but who cannot build on the ruins.

We propose to advocate a system of regimental administration, by which some of the details of administrative work now centralized in a staff department can be performed under the control of regimental commanders. For the efficient performance of such work of detail, and for the results obtained, these commanders would be accountable to higher authority.

The recruiting of soldiers for the cavalry, and the procuring and

training of cavalry horses, are two problems of military administration, which, in our humble opinion, can best be handled by cavalry officers, and should be controlled by the colonels of cavalry, each for his regiment. For these two articles of supply (horses and soldiers) we will maintain that the methods of procuring by advertisement for sealed proposals, award to lowest bidder, and inspection by civilian experts, are alike inapplicable. Other articles of supply there probably are, the manufacture, accumulation and general management of which can be advantageously left to the staff departments.

Clothing and equipage, arms and ammunition, the bulk of the subsistence stores (not perishable), medical supplies, and an immense variety of stores of all kinds, can be procured, stored and distributed under the administrative control of the staff chiefs of the War Department in Washington. But even in those matters the tendency to centralization of administrative control and the extension of supervision of the central office to trivial details, seems to have grown within recent years until, in the opinion of some who would seem qualified to speak with understanding, "the army is in leading-strings." Thus, in the administration of the Quartermaster's Department, to quote from one of its prominent officers: "We find that not only general, but in a large measure, detailed control is exercised from the Quartermaster-General's office. For long, long years, from the foundation of the Government almost down to about nine years ago, the authority delegated by Congress and the President to the Secretary of War was, in many respects, partly delegated in turn to commanding generals and other officers. I allude now more particularly to the question of expenditures. All at once it was held that the actual and direct authority of the Secretary of War was requisite in each and every case. No general order, regulation or decision was promulgated that a new construction of the laws was to be enforced; it was brought about by the rulings of the Department, and the time-honored practice that had secured to the order of a commander the prompt and zealous obedience of his subordinate, in matters relating to money and property, became largely a matter of uncertainty, both to the commander and his subordinate. The practice was instituted of forwarding all estimates for supplies and requests for authority for expenditures to Washington, so that each case is now acted on singly, involving not only delay, but often long and vexatious correspondence about trivial matters." [Lieutenant-Colonel J. G. C. LEE.]

To cite a case in point: At a frontier station a barrel of thin

coal tar which would cost but a few dollars, was needed for a purpose, provision to meet which was laid down in the prescribed "rules for stable management," published by authority of the Secretary of War. To prevent and stop gnawing of the woodwork of corral, fence, mangers and picket-line, requisition was made by a troop commander. This was forwarded, through regular channels, to the office of the Quartermaster-General. Back, through the Commanding General of the Department, comes an endorsement, signed by a captain of the Quartermaster's Department in charge of some branch or other of the Washington office, simply informing the Chief Quartermaster of the Department that his request for authority to purchase is not approved. No reason given, no alternative course suggested. Does not such treatment make children of us all?

"Are we to assume that that office is the best informed authority on all points; that it knows *all* down to the most minute local circumstances; that it alone can see all and rightly judge all? It directs all itself." [BUXTON]

Time has been when at our scattered and isolated posts, nearly all lieutenants became practiced in administrative matters, and were entrusted with discretion in numerous routine expenditures. They received practical training in the duties of the staff departments, and were often selected for staff duties (of supply) at department headquarters and with large commands in the field, and became accustomed to responsibilities which our young officers now dread. Nowadays, at many of our large modern posts, even the regimental quartermaster's position is a sinecure, the duties being performed by a captain and quartermaster assigned from Washington, and whose routine duties are to an extent controlled from the Washington office.

Will not the failure to entrust our line officers with administrative responsibilities in time of peace make them weak, vacillating, unequal to emergencies in time of war, when such duties must be thrust upon them? Will these new methods develop self-reliant, qualified officers of known experience and fitness for such duties?

Officers present at this reading are well aware that acting quartermasters of one company posts were formerly not afraid to incur considerable indebtedness, in the manner customary among business men, and with an absence of complicated formalities, in the full confidence that a certificate of the necessity and the approval of their immediate commander, would see them through. Is this true to-day?

We are hedged in at every turn by contract requirements; even

awards to bidders cannot be made without correspondence with Washington; an endless round of reports and paper work keeps an officer worrying at his desk when he should be out doors and about supervising repairs and improvements, or should have time to attend to the needs of his department. Is it imagined that by the invention of all these checks and balances, these vouchers and sub-vouchers, there is any real check on honesty? Men who would steal are likely to observe all formalities necessary to cover up the wrong-doing.

In this matter of procuring horses for the cavalry, what has been accomplished by the introduction of new methods, new restrictions, new laws, the adoption of the contract system, the inspection by civilians hired by the Quartermaster's Department, the dispensing with the services of cavalry officers, and the absorption of the entire management, down to minutest details, in the Quartermaster's Department, independent of the control of any commander of troops? Let us trace the progress of these changes.

When the First Regiment of cavalry was scattered over five or six of our northwestern States and Territories, one troop was usually the allotment of cavalry at each station. When horses were needed, application for funds was made to department headquarters, and the necessary amount was promptly placed to the credit of the local post quartermaster. The latter distributed handbills and posters throughout the district and among such persons anywhere as might be likely to offer horses. Anybody could bring in a horse on any day, have him examined by the troop officers present, and if found satisfactory, the deal was consummated, the seller received his check and went his way rejoicing. Usually each horse was ridden by one or more of the officers. Often a horse was kept a few days under observation before a decision was arrived at. The department commander, having in view the prevailing prices of the locality, prescribed the average price.

The prices paid were the lowest obtainable. Middlemen or contractors did not get the large profits which they do under the present system. The owner of a salable horse did not have to go to the contractor in order to get the horses presented for examination.

We got the pick of all the saddle horses of that section, and our regiment was better mounted in those days than it has ever been since. Every captain was satisfied with his horses, they being largely of his own selection. Lieutenants were taught the points of a horse, and learned how to inspect and to know a good horse when they saw one.

Who more likely to do well by the troop than its own officers? And on whom could censure, if merited, be more promptly visited, or how could responsibility be more surely placed?

Along in the early '80's it was the practice in some military departments to appoint a board of officers from the regiment requiring horses. These officers were sent into localities where suitable horses were obtainable, and they inspected and bought the horses. These purchases were made in open market at best obtainable rates, subject to the restriction that a certain average price should not be exceeded; in other words, they could pay what each horse was worth, and were given a certain amount of money to buy the authorized number of horses.

These were good business methods and gave good results, and were satisfactory to the cavalry, but it seems that these methods were objected to by the Quartermaster's Department. Practically the business of supplying horses for the cavalry was taken out of the hands of the staff department, and we find that department taking steps to have the law changed about 1886 so as to direct that all horses be purchased by contract, after competition duly invited by the Quartermaster's Department, and an inspection by that department. This was the severest blow from which our cavalry service has suffered. Thus was the business taken out of the hands of those fitted by professional knowledge and life-long experience to manage it, and given exclusively into the hands of a bureau, the members of which are permanently separated from the cavalry service, and as a result are not likely to understand or care much about its needs, and who are responsible to no cavalry commander, nor in fact to any commander of troops.

As a result of this contract system we have seen, in 1888, stockmen of small holdings at the mercy of the speculator who had secured a large horse contract. They had good horses, and were anxious to avail themselves of the government market, but could not offer their horses direct to the representatives of the cavalry who had come into their neighborhood with the contractor.

Assuming that the latter was receiving from the government about \$120.00 per horse, these officers were nevertheless powerless to get horses worth that sum. They had to take a lower grade of horses, for which the contractor paid about \$80.00 each. These horses, perhaps, technically filled the bare requirements of the contract; but under the system of purchase in open market, we could have secured a far better lot of horses, paying the owner, not the speculator, say \$120.00 for a horse worth that sum.

The government, in many instances, was thus put to a direct loss of about \$40.00 per horse. These horses were bought under orders from department headquarters, and inspected by a field officer of the regiment, assisted by the regimental quartermaster and the veterinary surgeon. Thus the regiment was at least represented by agents who were identified with its interests. But the resistance of these officers to the contractor's persistent efforts to put in inferior horses, kept them many weeks away from their station.

More recently, the plan has come into vogue of having our remount horses bought in a large Eastern city, by a depot quartermaster, acting under orders from the Quartermaster General's office. without, it would appear, any advice or meddling from regimental officers, and outside of the control of any military commander. The records of these horses show, not only the purchase, but the inspection, made by one officer of the Quartermaster's Department. Presumably this officer was "assisted" in the inspection by a civilian "expert," so called. Here we have a system which operates to deprive cavalry officers of any voice in a vital matter, upon which depends the efficiency and usefulness of their arm of the service, carried to its logical and extreme conclusion.

As has been said by a cavalry officer with a war record: "This is a reversion to the methods of the first days of the Rebellion, which filled the government corrals with thousands of worthless animals, and which resulted finally in the establishment of the Cavalry Bureau, by which means the inspection of the horses was placed in the hands of cavalry officers. The improvement in the character of the remounts which immediately followed is a noteworthy fact in the history of the Civil War. The feeling that cavalry officers are unduly particular in making inspection, and that cavalry boards are obstructive to the rapid transaction of business, has frequently found expression in the utterances of officers of the Quartermaster's Department, and it is believed that their preference for inspection by their own methods is largely based upon the apparent diminution of labor and trouble in procuring horses. There is but slight doubt that as long as this system of purchase is retained, business can be conducted more smoothly, and with less trouble to the Quartermaster's Department, through the means of a citizen inspector than by a board of cavalry officers." [HARRIS.]

This law (of 1886-7) has been in operation long enough to have afforded us a fair test of its practical workings. It is believed cavalry officers are practically unanimous in denouncing it. That law

has fostered a system of supply which does not supply. Here we have a troop of cavalry (enlisted strength, fifty-nine) with but thirty eight serviceable horses. The number of really good saddle horses can be counted on one's fingers. A scout of twenty days showed the majority not fitted for serious work; a dozen were left by the wayside. Others made their rider's life a burden. The pride of a cavalryman is taken out of him when compelled to ride these plugs. The recruit loses heart for soldiering when he finds what sort of a charger has been assigned him. The faults, the defects of these horses are varied but numerous, and need not be described here. They are found generally among horses procured by such methods, and other writers have done full justice to the subject.

It may be said that "it is the duty of the inspectors to prevent this by refusing to accept horses of inferior quality." Let us examine the specifications, *e. g.*, "Horses to be suitable in every respect for the cavalry service." This is a glittering generality, not in any proper sense a specification. Only a perfect horse would be "suitable in every respect," and we cannot get perfect horses. The expression might be held to comprise well trained horses; but farmers and stockmen do not raise either recruits or horses with a military training, as a rule. This requirement cannot be enforced, and should have no place in the specifications. By demanding too much it deters from bidding men who are not familiar with government methods. The experienced government contractor knows that such a requirement is impracticable, and he pays no attention to it. He knows that the inspector must relax, that it is absurd to demand perfection in a horse. It would seem, by the way, that the proposed change in the specification so as to read, "Without blemish or defect," is open to a like objection. Any specification that cannot be rigidly insisted upon, opens wide the door for laxity of inspection.

Moreover, an inspector who makes himself disagreeable, or who, for instance, rejects nine out of every ten horses presented, is liable to find himself suddenly relieved. The contractor will complain that he cannot furnish such extraordinary horses. The Quartermaster's Department will tire of the delays and complainings.

Before proceeding to the third stage of this discussion, which has in view the suggestion of the establishment of a regimental depot for the procuring and training of horses and recruits, the writer deems it advisable to fortify the position he holds, to intrench the ground on which he stands. Lest it might seem presumptuous and ill-advised for one of the writer's rank to recommend what may seem

radical changes in administrative methods, we will endeavor to show by quotations from the writings of high authorities, and from the opinions of officers of high standing and ability, that the principles which we apply to this problem are not new, but have been drawn from recognized, standard sources of information: that the efficacy of the present system of supplying horses has been questioned by one of the chief advisers of the Secretary of War; and that changes in the direction we propose have been vigorously urged ever since the adoption of that law of 1886.

We quote now from Buxton's text-book on "Military Administration": "The more administration is made a regimental concern, the better. Once make it the business of regimental officers to attend to these things, and you will see the activity with which they will work for the good of their own regiment, and for that of the service itself. What is needed is a system under which officers may grow in knowledge and self-reliance, instead of one so witheringly chilly as to nip their zeal and narrow their views. And we may be allowed to believe that with regimental officers thus educated in regimental administration, we could always find a certain stock fitted to carry out larger administrative duties. * * * The army must be in a poor plight indeed which could not supply the necessary administrative officers for field service when a campaign was imminent. * * * We contend that it is a dangerous thing to create monopolies of certain kinds of military knowledge, by trusting the practice of such knowledge to specialists."

All officers who may rise to important commands should have practical experience in staff duties. But if the present much vaunted processes of consolidation go on, and the tendency to centralize all administration continues, and only the members of non-combatant corps become experienced in matters of supply in time of peace, how can officers of the line acquire administrative experience without leaving their regiment and going into a staff corps?

We quote again from Buxton: "The announcement that a good officer has resigned his combatant commission must be as painful to him as it is saddening to others. It is the death-knell to legitimate ambition of the best kind. As a substitute for hopes now flown forever, his mind must, almost necessarily, betake itself to magnifying the importance of the special duties to which he finds himself relegated, and thus closed departments have a tendency to self-assertion and to indifference towards one another, whereas the good of the army can only be secured by a thoroughly harmonious

working of all its parts. The more administration can be made a regimental business, the stronger will be the organization."

Lieutenant-Colonel J. G. C. LEE, of the Quartermaster's Department, in an article published in a service journal a year ago, has ably and it seems to us, conclusively shown the necessity for reforms in the administration of that department in the direction of decentralization. I have already cited some of his statements. I cannot omit his remark that "any system must be imperfect which all agree must be largely abandoned with the firing of the first hostile gun."

The Inspector-General's Department, from the nature of the duties of its officers, must come into possession of accurate information as to the condition and needs of the service. We find the following in the last annual report: "The system under which horses are supplied has received a fair trial, and has been more than once questioned, if not condemned. Various suggestions have been made, but the only practical system, it is believed, is to establish remount depots, whether regimentally, like the recruiting system, or otherwise. The horse should be well bred, and might be two or three years of age when sent to depot, where they should be as carefully instructed as our recruits are."

Major W. P. HALL, now of the Adjutant-General's Department, and on duty in Washington, has written the following: "We must have the proper material to begin with. This is not furnished, and the fault is with the head of the bureau making the purchase, which lets the contract for furnishing cavalry horses to the lowest bidder. This results in our mounts being supplied from a class of horses known in the market as "plugs." Occasionally a good saddle animal will be obtained, and as a rule each troop of cavalry has two or three, and sometimes four or five decent saddle horses. The average "plugs" now purchased for the cavalry last from three to four years, and rarely becomes fit to ride. The very few good saddle horses which drift into the service last ten or fifteen years, and are then sold with many regrets. * * * When it is considered that this matter has been represented time and again during the last quarter of a century, by officers who have made a life study of our cavalry service, it would certainly seem a matter of surprise that a sensible method has not been adopted in so important a matter as furnishing remounts for our cavalry. This trouble is not, as we have before stated, in the assistant-quartermasters or the cavalry officers making the purchase, but is in the head of our bureau system of supplies. These heads are, as a rule, appointed from officers who have been the longest absent from any

contact or touch with the line, and as a result know and care least about its requirements, and they are responsible to no one taking any interest in cavalry horses. We believe a former Quartermaster-General is responsible for the present system of buying cavalry horses by contract to the lowest bidder."

In the English service the purchase of remount horses is performed regimentally; and the British cavalry is splendidly mounted.

In the French army the remount regulations are framed with a view of obtaining a thorough exploration of the horse-breeding districts by the board of officers which buy in each district, and the importance of buying at *first hand* from breeders or owners is particularly dwelt upon, with the necessity of avoiding all transactions with dealers or middle men.

Major HARRIS, retired (formerly captain First Cavalry), in 1888 pointed out what he termed "some of the defects of the present deplorable system," and offered the following suggestions: "First, the abolishment of the contract system of purchase, with its inspections by citizens; and second, the establishment of an invariable system of purchase in open market by boards of cavalry officers. The amount appropriated by Congress for cavalry remounts should be apportioned by the General of the Army among the several regiments according to the needs of the service. The disbursements of the several sums should be made by the regimental quartermasters, under the direction of the colonels of regiments, who should designate the officers for the Board of Inspectors, which should be a permanent body in each regiment, composed of the veterinary surgeon and a suitable number of officers. The horses should, as far as practicable, be bought at the headquarters or principal station of the regiment, or as close as possible thereto. * * * The rivalry between the regiments would cause the commanding officer to exercise close supervision to see that the amount allotted to his regiment was expended to the best advantage, to the end that his regiment should not suffer in comparison with others as to the character of its mounts."

To the foregoing suggestions of Major HARRIS I beg to offer the following remarks and amendments:

First. The system would not be found applicable, in some respects, to a condition of war.

Second. From the annual appropriation a reserve should be set aside and held until toward the end of the fiscal year, to provide for emergencies.

Third. The regimental headquarters is often moved about, and

is not always in an accessible station to which breeders could bring their animals for sale.

Fourth. There are manifest advantages in having a fixed, not movable, place of purchase, in a locality where suitable horses are raised in sufficient numbers. Such permanence of place of purchase will develop and encourage reliability of source of supply.

Fifth. It is now practicable to have for the regimental depot for recruits and horses a permanent location in a district where the men and animals are readily obtainable, and where they can pass through a period of probation and training before being sent forward to the regiment, whether the latter be in campaign or at rest.

The regimental system of recruiting has been successfully established for the First Cavalry, and is managed under the direction of the colonel. It has been pointed out that this method of recruiting, as at present conducted, is open to the serious objection that it would not do, in time of war or active campaign, to forward to the regiment in the field these raw recruits, without previous training or equipment. To remedy this, there should be established in the center of the regimental recruiting district, in other words at Des Moines, Iowa, not merely a recruiting office, but a regimental depot where the men can receive clothing, equipment and training.

There should be constructed a station for a cavalry squadron, to be known as the "Depot Squadron of the First Cavalry," with model stables, riding hall and gymnasium, and all of the buildings and improvements now considered essential for a post of not less than two troops of cavalry.

The combination of the recruiting station with a remount depot is easy and natural, and the advantages are obvious. The writer knows that suitable material is there obtainable from which to train our chargers and troopers. Our blacksmiths, farriers, saddlers and horse-breakers can be taught there, if not obtained ready-made.

In time of emergency, when it may be desired to bring our squadrons up to war strength, we should have a reserve to draw upon. Men who have received a cavalry training should be immediately available. The absence of such a reserve has been one of our weak points. Under our regimental system these reserve men will be found in our regimental recruiting district, where there will be residing many men engaged in civil pursuits, who will have served three years in the First Cavalry.

Suppose that, in one of those sacrifices pretty certain to be demanded of cavalry in our next great war, a squadron is wiped out of existence in an hour; or that our regiment meets with the sudden

loss by death, capture and casualties of several hundred men. Our regimental depot will be equal to the task of filling the depleted ranks; and it will be done promptly and in a satisfactory manner. It will not be necessary to hastily recruit among the slums of a great city and forward such raw, undesirable material direct to the regiment as has been done after some of the disastrous affairs that have occurred in our past history. In the outburst of patriotism which such an occasion evokes, these reserve men would even bring with them to the depot their own mounts, if need be.

Our regimental depot will interpose at once a buffer and a safety-valve between the squadrons at the front (or on the frontier) and the influx of green material (men and horses) from our district of supply.

For the scattered companies at our frontier stations, it is annoying and unsatisfactory to have one or two recruits come straggling along in the course of each month of the year, absolutely ignorant of anything military, and without any idea of military training. In time of active campaign it would not do at all. It is well-nigh impracticable to give good military instruction to a squad that does not comprise a set of fours.

Nor should new horses be shipped over a thousand miles, as they are now, before they have been subjected to the test of a few months' use and observation at depot of purchase. It would be better if they could be bought at the age of about three years, and given a military training at depot, instead of buying them after they have been given an unmilitary training.

There should be, both for horses and recruits, a weeding out or sifting process before they are sent to the front. The most conscientious and painstaking recruiting officer will occasionally make a serious mistake, or be deceived, and horses that pass the most rigid inspection at time of purchase may turn out to be unsatisfactory for cavalry purposes.

Defects and unsuitability, and inability to stand military training, or a failure to develop any capacity for improvement in the direction of military usefulness would be discovered during the period of probation and discipline at the depot. The course of training would be uniform for the regiment instead of different for each company, and it could be given under more favorable conditions.

The strength of this depot squadron (the number of soldiers and horses kept at this station) would be variable. The aggregate numerical strength of the regiment being fixed by the War Depart-

ment, and the existing law requiring that the number of horses shall not exceed the number of enlisted men, this depot squadron furnishes the safety valve for a flexible regimental administration.

The *cadre*, or framework, the officers and non-commissioned officers, would have to be selected with reference to special fitness for the work of the depot. The details of the depot and of its management can be worked out by those most concerned, after it shall be authorized. The necessary legislation will not, it is believed, be difficult to obtain.

CONVERSATIONS ON CAVALRY; BY PRINCE KRAFT ZU HOHENLOHE-INGELFINGEN.

TRANSLATED FROM THE GERMAN.
BY LIEUTENANT CARL REICHMANN, NINTH INFANTRY, U. S. ARMY.

TWELFTH CONVERSATION. (APRIL 4, 1886)—OF THE TRAINING OF THE RECRUITS.

H. After what you have told me of your principles of remount training I can well imagine how you want the training of recruits handled. I think it is your wish to have every recruit make a certain progress in riding before you combine them in squads.

S. If that were possible, I should consider it the best way, for the riding instructors, even troop commanders themselves, sin much by slighting the fundamental principles of riding, particularly the acquirement of a good seat during the period of recruit training, and by not making the young riders firm in the seat from the beginning. The rider with a loose seat seeks support in the bridle during rapid motion, and thus injures the horse's mouth. He not only fails to retain control of the horse, but diminishes the amount of food taken by it, since, with the pain in its mouth, it cannot chew hard fodder. You may observe that during the maneuvers.

H. In war, when horses cannot be spared, it must end in their death.

S. Then so many sabers are absent from before the enemy. FREDERICK THE GREAT said: "*Soignez les details, ils sont le premier pas pour la victoire.*"

H. The truth of these words of the King was no doubt confirmed by his experience in the Seven Years' War. His cavalry, unsurpassed to this day, and trained in detail by peace exercises, performed magnificent deeds in the first campaign. These deeds, however, diminished in number as the war continued, though the tried leaders remained. The reason was that men and horses so thoroughly trained in detail, perished.

S. And the war left no time for similar detailed training of the

recruits. One of the King's first cares after the termination of the war was to resume the training of the cavalry in detail. He gave inspectors to the cavalry, and said: "*J'ai introduit des inspecteurs dans la cavalerie pour egaliser les regiments, pour voir les troupes plus saurent et tenir la main a l'execution de mes ordres. Il est vrai qu'il y a de bons generaux et de bons chefs de regiments, mais il n'est pas plus facile de choisir quatre inspecteurs rigides que tant de chefs qui, pouvant aujour d'ailleurs de la valeur et de bonnes qualites, n'ont pas celle de maintenir l'ordre.*" You see the Great King sought a guarantee for the success of the cavalry, not only in good leading in battle, but also in detailed instruction.

H. If I understand you right, you would like to see EDELSHEIM's method of beginning the recruit training introduced in our service, each recruit being separately taken on the longe and confirmed in his seat at all gaits with hands crossed behind the back, before putting a rein in his hands.

S. It certainly would be the best way if, as I said once before, we had a sufficient number of instructors, and more particularly, men who know how to handle longe and whip.

H. We have to train each year twenty-eight to thirty-four recruits per squadron, if you will permit me to base my calculation on the figures we agreed on the last time, namely, three four-year volunteers and twenty-five three-year men, or one four-year volunteer and thirty-three three-year men.

S. Allow, in addition, one one-year volunteer, also some loss from the number of privates through promotion of four-year volunteers to non-commissioned officers, through disability, etc. This loss must be made good by additional recruits to keep up the full complement. The squadron thus may easily have thirty-six or forty recruits.

H. To take five recruits per day in riding, one after the other, is about as much as one instructor can do.

S. Let him take nine men, three squads of three men each, who alternate on the horse during the same hour, at the beginning of the recruit training the instructor would thus give instruction during three or four hours per day, which is entirely practicable. We used to need four or five recruit instructors. Suppose we had them in the squadron, each instructor would still need two assistants for longe and whip, and each squadron would need eight or ten men who understand riding; that number cannot be spared every day for three or four hours, because the breaking of remounts and training of the squadron have to go on at the same time.

H. EDELSHEIM, I understand, has three recruits instructed at the same time. One rides, the other two handle longe and whip under the instructor's orders.

S. The only weak point in this system of instruction is, that such expedients have to be resorted to. Longe and whip are difficult to manage properly; such men alone as understand riding can do it. In the hands of recruits they may do much evil to man and horse.

H. How would you go to work to impart to the recruit a correct seat and to confirm it, before entrusting him with the reins?

S. In view of the great number of recruits which join the squadron at the same time, we are unable to make the rate of progress of the training dependent on the capacity of the individual, as we do with remounts; all the less as the recruits must all, by spring, be "done" to such an extent that they may be placed in ranks as combatants.

H. Here we are bound as to time. Nothing remains therefore but to carry on the instruction in riding at the beginning "*en bloc*." Attention should at this time chiefly be paid to the seat. The riding instructions contain detailed regulations on pages 34 to 37 how to do it.

S. These excellent instructions are, in most cases, not properly observed. It is expressly stated, that at first attention should be given to the seat alone, that distances need not be observed, that horses will, from habit, go one behind the other and need not be led. I ask you, in how many squadrons is this strictly observed? Is everywhere as much stress laid on mounted gymnastics as required by the instructions? Are those gymnastics used everywhere to confirm the seat at a halt, walk and trot, before the management of the reins is taught?

H. There is altogether too little attention paid to gymnastics in the cavalry. Even dismounted, they are, in most cases, taught merely because they are prescribed, and not as a means of training in order to give the recruit control over his limbs, and impart to him a decent military step.

S. Mounted, they are of equal value for the correct, firm seat, and afterward for the use of thigh and rein without affecting the seat. The time thus exclusively devoted to the exercises on pages 34 to 37 of the riding instructions is, as a rule, shortened too much. You may observe that the recruits are mostly, if not on the first day, then during the first few days, instructed in the management

of the reins, observing distance, or even in volts, when they are as yet wholly incapable of doing any of these things.

H. How would you like to have the recruits, as yet uninstructed in guiding, do the gymnastics mounted at a trot?

S. I put an old rider in the lead, let the recruits trot along behind in the moderate gait and manner prescribed on page 34, the reins knotted together, allow an occasional hold on the mane as against falling off, and make it short. I tell you it goes, and it goes very soon, too.

H. The recruits should then ride the oldest horses, which obey every command, by themselves.

S. That would not be the most correct principle. The recruits should have the best horses in the squadron. Under "best horses" I understand a combination of lively gait and perfect and confirmed training. In this particular many squadrons make mistakes. You may find that the twelve best trained horses under the best riders of the preceding recruit contingent are combined into a kind of model class in hall riding, for the sole purpose of being able to exhibit with one squad neat little tricks at the final inspection in the spring. For warlike efficiency of the whole squadron it is of no value whatsoever. It simply deprives the recruits of the twelve best horses during their first training. Just as the best riders should be put on the youngest remounts, in order that the first beginning of the training of the horse may lay a correct foundation, so the recruits should be put on the best horses. I repeat: "As the rider trains the horse, so the horse will train the rider." On an old stiff plug the beginner cannot experience the correct rider feeling. Though naturally gifted for riding, he will get a wrong conception of the correct rider feeling if mounted on a stiff and torpid horse, and the gift is killed in the germ. The proper selection of a mount for the recruit is of the most potent influence on the entire training of the squadron, and especially on the smartness of the young rider.

H. Do you not fear that these lively horses with fresh gaits will soon recognize the incipient horsemen by their deficiencies, become frisky, throw the riders and make them diffident, a thing against which the riding instructions caution so carefully?

S. I mean to give to the recruits horses with lively gaits, not frisky and ill-behaved horses. It may be that the animals notice during the first few days how little control the riders have over them. There is nothing to prevent the troop commander from having such horses exercised by an old soldier for half an hour preceding the riding lesson. Badly broken horses should not be given

to the recruits. If they are hard-mouthed and go on the forehand as we so frequently see, it renders the training of the young men uncommonly difficult, more particularly so because the hard mouth causes the reins to be held tight and the young rider is misled from the beginning to hold on by the reins. On such animals he cannot learn how to let himself go; on the contrary, he will stiffen himself and use force with the reins, which is one of the greatest faults in riding. The correct seat is the first consideration; it is the touchstone of all riding.

H. The first part of the riding instructions says the same thing; in fact, begins with it.

S. Certainly; yet its observance is not sufficiently general. A most excellent treatise on riding in the artillery by HUBE has recently appeared ("The Uniform Training of Field Artillery in Riding and Driving." Berlin, 1885. Voss). The author very correctly states that a correct seat is the first requirement.

H. He points out that in all lessons the instruction begins with a description of the aids by rein followed by those of thigh, and that that fact misleads most riding instructors to consider the aids by rein as the first requisite. If the pupil is constantly talked to about reins in the first place, he will use them chiefly and fret the horse.

S. That is because most riding instructors rattle off their instructions during the lesson without thinking, stick to the letter instead of grasping the meaning. The riding instructions describe all the aids, but do not give the order in which they should be taught.

H. Where the riding instructions speak of the order, they invariably begin with the seat. Thus in the section on the first riding of the recruit.

S. That section, as I have stated before, is rarely accorded the requisite attention. The seat is the first requisite. Riding means mastering the horse on which you sit. Whoever wishes to play the master should not be insecure in his own position. For this reason a correct seat should be imparted to the rider before he is taught anything else. When the rider once sits firmly in his saddle, when he feels at home on horseback, it will not be difficult for him to carry out everything else that is to be imparted to him by subsequent instruction. Without confirmed and steady seat, a calm and intelligent handling of the reins, intelligible to the horse, is as inconceivable as is the control of the horse later on at drill, or the efficient use of arms. Nor can a rider, who did not acquire a correct seat as a recruit, ever break horses properly, since a proper action

of the rider upon the horse, a mutual understanding, is out of the question.

H. That is perfectly plain. If the rider slides about on horseback, and in order to keep his seat, gives the animal every few moments an unintentional chuck in the mouth with the one or the other rein, the poor beast cannot know which of the reins are meant as such and which are not.

S. Very true; the greatest mistake one can make is to condone the soldier if he seeks for support to his seat in the reins. A frequent, one of the most frequent errors, is to give the stirrup to the recruits too soon, and before they have acquired the firmness of seat, security and balance necessary to enable them to move hands, arms and lower thigh, for the purpose of giving aids according to their own will, and never involuntarily, for the purpose of keeping their seat. The recruit should not be given the stirrups until he has widened sufficiently in the crotch, and learned to turn the thigh, which, in most cases, is too round for riding, in the hip-joint, that it may lie as flat as possible against the horse. Here also there is, as a rule, no distinction made between individuals, and all recruits receive the stirrup on the same day. That is irrational, for it is plain that not all recruits can have the same conformation, and that some require more time to acquire the seat than others. Faults of seat which creep in at the beginning and become confirmed, are very difficult to eradicate. If the recruit does not become sufficiently widened in the crotch he cannot encompass the horse properly, and will never learn how to let himself go; he cannot sit securely without hanging on, unless he encompasses the horse, and must therefore squeeze with upper and lower thigh, and seek for support in the reins. The steadiness, the repose of seat, rests on encircling the horse with the upper thigh, and if the rider will let himself go, the horse will. If the rider stiffens himself, the horse will.

H. If the recruit is not sufficiently widened in the crotch, the bones of his seat will not be placed in the middle—he will thrust them out backward. The support of the upper body in vertical position on the three points, the crotch and the two bones of the seat, is rendered illusory and a free and disengaged seat impossible. For this reason the riding instructions enjoin that care be taken at the beginning that the rider spread his legs as far as possible in the crotch and let them hang naturally. It is also recommended that at a halt he place his hands on the withers, spread the legs at the hip joint, push his seat forward, and then sit down.

S. This elementary procedure is hardly in any squadron sufficiently practiced, for as previously stated, without sufficient width in the crotch, and gripping rendered possible thereby, the man is compelled to hang on, to stiffen himself in order to retain his position. He will then try to accomplish by squeezing what ought to be accomplished by the balance, as it is called. He seeks to gain by sheer force what ought to be merely the result of the seat. If he is given the stirrup before he has eradicated this fault, into which every rider is misled by the fear of falling, he will ever thereafter thrust himself out behind, and stiffen the legs forward, more particularly in rapid paces, and seek more and more for support in the reins; he is systematically made to hang on by the reins.

H. In that case he is sure to constantly fret the horse by false aids of rein, when no aids are called for at all, and make the best horse refractory.

S. I recently saw an instance of that as drastic as it was comical: A regimental commander had the recruits ride before him, and one of them was to jump a ditch. He sat poorly, fretted the horse with the reins so that it naturally refused the ditch. The regimental commander commanded "Halt!" "Reins Loose!" "Hips Steady!" This done, he thundered "Forward!" and at once, without reins, the horse, with its rider, flew over the ditch willingly enough.

H. You can see many such pictures of recruits uneasily sticking at an obstacle and vainly jerking the reins.

S. The reason is that this habit, when once confirmed, can hardly ever be eradicated. Such a recruit will never, in all his life, become an efficient rider. For horse breaking he is even more unfit. He not only jeopardizes his usefulness as a cavalryman, but impairs the efficiency and durability of the horse. Care should therefore be taken from the beginning, that the recruit does not fall into this bad habit: Strict supervision to prevent undue haste in the beginning of the instruction alone will do it. The recruit must ride without reins, or with very loose reins, until his seat is so confirmed that he can ride all gaits without feeling any inclination or necessity to hang on by the reins. He must sit wholly independent of the reins.

H. Does it not require too much time to get the recruits that far?

S. Not if the approved means recommended in the riding instructions is applied. It consists in mounted gymnastics. They impart to the recruit address, confidence, self-reliance and resolution on horseback. He must become so disengaged in his seat, that in moving the arms for instance, both or either of them, in bending

the body toward the ground, or in any direction, in turning the rump, etc., the legs be left wholly unaffected, and continue to hold the horse gently encircled. The same is true of the hand in which the reins are. It must remain steady and unmoved, however forcibly the other arm may be used. The necessity for any mounted man being able to go through these exercises, should be explained to the recruit at the very beginning, and repeated until he has acquired this dexterity.

H. Unless the short period allotted for training makes instruction in the handling of the reins necessary ere this, the recruits will at once be able to handle them without altering the seat, and thus giving unintentional, and therefore wrong, aids.

S. Earlier than this the management of the reins should never be taught. The advantage of this dexterity, of the command over the limbs for the use of arms, and for correct action upon the horse on the part of the rider, is self-evident. Whoever strains his body on horseback, stiffens himself constantly, will never come up to the requirements, will never be a good rider or nimble on horseback. Whoever stiffens himself has no rider feeling, and makes the horses hard-mouthed and numb. But anyone, who has not from the very beginning been made wide in the crotch, who has not been placed deep in the saddle, will and must stiffen himself the moment he rides faster than a walk, as I just proved. The more rapid the motion, the greater is the effect of the seat on the horse. It has often been incomprehensible to me why so many riders who in the rapid gaits brace their legs forward in the stirrups, and drawing in their body, thrust their seat out behind and hang on by the reins hard and fast, do not become aware of their own accord, that it is their own fault—the fault of their seat—when their horses at the long trot or long gallop pull like mad, become unmanageable, and finally run away; for I should think it is plain that when the rider, during the rapid gait, changes his position and suddenly braces himself, it must produce some effect on the horse. The more rapid the gait, the more violent the motion, the more should the rider sit steady and immovable. That holds good for any method of riding. When fretted by the rider on the run, the jockey's horse loses its jump, the soldier's horse its position. When in rapid gaits the rider suddenly takes the jockey's seat, he should not be surprised if the horse loses its natural position and seeks for firm support in the reins. Many riders are surprised at this, and in vain seek a remedy in sharper biting or auxiliary reins, when a steady, reposeful seat would do it.

H. No animal in all creation has to stand such ill-treatment as the horse.

S. And simply because the rider is not firm in the saddle. As long as he is not firm in the saddle, at home on the horse, does not feel secure on the horse, he cannot be considered fit for war, nor can demands be made on him which have for their object some correct action upon the horse on the part of the rider. Practice will make his seat firm, provided he has, in the first place, been put in the saddle correctly. Therefore, I repeat it, and cannot repeat it too often, nothing new should be taken in hand until the recruit has a correct, light and encompassing seat, and has become firm in the saddle.

H. It would seem to me as though of the time allotted to training of the recruits, not enough could be spared for this purpose, for how many things must the man not learn during this period of less than six months.

S. The time must be spared. The recruit once firm in the saddle with a correct seat, everything else he has to learn will be child's play in comparison. I would not give up one second of the time required for it.

H. But you have just stated yourself that the recruit training is regulated by certain limits of time, more so than remount breaking.

S. In the main, yes. But no limit of time should be set to instruction in the fundamental elements of the seat. In most cases too little time is devoted to the first riding, combined with gymnastics; that is, the preparatory exercises mentioned on pages 34 to 37 of the riding instructions, and for which it is expressly laid down, that the recruit shall not begin to ride in the prescribed position and form until he has mastered them. If all due patience be exercised, and nothing new taken in hand until a good result has been obtained, the time so spent is quickly made up by the rapid progress of recruits. Again I point out, that each individuality must be treated separately. This rule is constantly violated, for most squadrons give saddle and stirrup to all recruits on the same day, although it is expressly stated in the riding instructions that the matter should be regulated according to every man's individuality. The instructions say: "After the recruit (not recruits) has acquired an unconstrained, secure seat, by means of the foregoing exercises, he must learn," etc.

H. It requires much patience; not every instructor has it.

S. Any instructor who has to impart dexterity of body and

nimbleness, must have patience. If he has not that patience, he is not fit to be an instructor. Patience is required in remount training: patience in the training of recruits.

H. I have found that many riders contract the habit of stiffening themselves from fear of the vehemence and impatience of the instructor.

S. That adds to the bad habit. The confident man alone can let himself go. Whoever is afraid will stiffen himself—whether afraid of falling off or of the instructor's displeasure. I will not mention actual ill-treatment, which used to be part of the training, but is no longer so in our army. Fear of mere scolding by the instructor suffices to cause stiffening.

H. Or the fear of punishment. I have seen troop commanders order men from the hall into confinement on account of awkward riding.

S. They deserved the arrest themselves. Whoever loses patience in riding may deprive himself in one hour of the fruits of two weeks' work, not only as remount rider, but also as recruit instructor.

H. I presume that you place much value on individual riding of recruits.

S. Individual riding is one of the most important things for all manner of riding, whatever may be the stage of training of man and horse.

H. When should the individual riding of the recruit begin and the training "*en bloc*," as you call it, cease?

S. As soon as the recruit has gained some confidence and firmness on the horse.

H. Even in the period of preparation of which we were speaking just now, and which may last for months before the seat is confirmed?

S. Certainly, even then.

H. How is the soldier to guide the horse, if he has not learned how to hold and manage the reins?

S. Let him ride with very loose reins, and tell him only to pull the right rein when he wants to turn to the right, and the left when he wants to turn to the left, and leave the rest to the horse. In a few days the greater part of the men will be so far advanced that it is no longer necessary to have all the recruits move within the square one in rear of the other, which kills the spirit. They are then combined in small groups depending on the number of men

who are capable of riding at the head and leading the way, and after that each one by himself.

H. What are the others doing meanwhile?

S. They halt, correct their seat, go through exercises at a halt, practice mounting and dismounting, or move at a walk with double rank distance and go through the exercises while in motion.

H. That has the advantage that at the beginning the recruit does not become so much fatigued and "riding throughout the hour" is avoided, on which fact much stress is laid in the riding instructions, for the time of instruction is apportioned among the individuals.

S. That is another of the advantages of individual riding of recruits. The main point, however, is that the instructor can keep his eye better on each man than when the latter rides as one of a group, and that he can correct faults before they become confirmed. Then it becomes of equal importance that the man be early made conscious that riding means mastering, and that the horse must go where he guides it. For these reasons the recruit learns more in the short time allotted to him for individual riding, than if he had been on the go throughout the hour behind the rest of the squad.

H. On the other hand riding in squads cannot be entirely dispensed with, when all the recruits are to be taken in hand singly.

S. No; both should go hand in hand throughout the entire time of the recruit's instruction in riding. In the time of the preparatory exercises, as they are called in the riding instructions, riding in squads serves to render the recruit capable, by steadily increasing lessons, to keep a correctly encompassing seat, and individual riding serves to instruct him in detail and to kill errors of seat in the germ. During the period of the recruit's further training individual riding forms the training proper, and riding in squads with distances merely becomes the proof of the example and means of regulating the rate of the several gaits.

H. I should think that riding in squads within the square with distances must also be a good touch-stone if it be the proof of the example, and that it is therefore not to be entirely rejected at inspection.

S. On the contrary; the inspector should see the riding within the square, with distances to prove the example. Only the inspectors should not be limited to the riding within the square, nor should the whole year be devoted to coaching for riding on the riding square. In that way the aim of the cavalistic training would be missed entirely. Every day, and especially when they have progressed in

the application of the aids by thigh and rein, the men should be given an opportunity to disperse on the most extensive possible ground, and exercise (*"tummeln"*) their horses individually. They remain, of course, under observation. This should be kept up after the recruits have been placed in the ranks. Now and then a man should be called up, whom, for one reason or another, the instructor wishes to take in hand. Again, he should call the squad together to inspect the gaits, and convince himself of the precision of the riding. In this manner you will educate men who will be at home in the saddle, and keep your horses fresh.

H. You spoke of riding on an extensive ground, indicating that you mean the recruits to ride in the open; yet you said the last time that the covered hall was for remounts and recruits.

S. Whenever the weather in any way permits, it is more beneficial to recruits and horses, for their training as well as for their health, to ride in the open. When the cold makes the fingers stiff, and the man can no longer feel the reins, when the feet pain from frost, and this pain diverts the attention, when the ground is frozen hard and rough so that horses will go lame on it, riding in the open ceases to be of benefit to the recruits, and then you resort to the hall; but there they should ride exactly as I have just explained for the open.

H. How far do you think the recruit can be gotten in the art of riding proper before he is placed in the ranks in the spring?

S. Not a bit farther than the exercises in the first part of the riding instructions. Artistic side lessons are under no circumstances to be permitted. Lessons on the double trail are entirely to be avoided. The men cannot be sufficiently advanced for them; it would simply result in senseless *"kniebeln"* of the horses, and render them disobedient and dull to the aids. The men should be habituated to leaving the horses alone when they obey. Artistic tricks are not needed for cavalry service. Except closing in, dressing back, and turning short, they do not need anything. We should be content if the men learn how to bring the horses up to, and keep them at the bit. That in itself requires very good horses, and attentive, intelligent men. Nothing else is needed for exercising and controlling their horses. This latter is a requisite for the mounted man's efficiency, otherwise cavalry cannot make a compact charge, nor can the men control their horses for rallying and for the individual combat. The superiority of the cavalry of FREDERICK THE GREAT consisted in this, that every man had learned how to ride, *i. e.*, how to control the horse. The efficient riding of the men made the vehement closed

charge possible which overthrew the opponent. The then manner of charging has been lost, because the men are now too little exercised in practical riding and drill.

H. In this respect your views are diametrically opposed to those of General von SCHMIDT, for he demanded "the further training of the recruit in side paces," and "that they be early taken in hand."

S. If by "early" he means that they be taken in hand before the recruit has learned how to drill with the squadron, his views are, it is true, diametrically opposed not only to my views, based on long practical experience in the service, but also to the first precepts of the riding instructions, which limit the recruit's training previous to his being placed in the ranks, and confine it to the exercises of the first part. Up to that time the recruit instructor has, therefore, no authority to teach side paces. But that is not at all what the General means. He said it when he gave orders for the individual combat, and these orders falling in the months of March, 1873, June, 1872, and July, 1865 and 1873, were therefore given for the period of summer exercises, during which the recruit is in ranks. In the discussion of the selection of remount riders I told you that it was necessary to instruct the recruit selected for the purpose, in the aids and their object, on trained horses. In this I am in accord with the instructions and with SCHMIDT. It is not possible that he should demand that all recruits, even those whose progress in riding has not been satisfactory, should learn the higher lessons of riding; if it should be his intention that in learning the aids the recruits should train their horses over again, I consider him in error, for they can but misstrain them. Do not forget that I mean them to have the best trained, steadiest horses in the whole squadron.

H. I need not ask, since I know from your views formerly expressed, that you consider training in the long gallop and the long continued gallop (drill gallop) as the crown of the instruction in riding, for recruits no less than for remounts.

S. Certainly.

H. And when do you mean to begin with it?

S. It would be very nice, indeed, if I could begin before the weather drives the recruits into the covered hall. There are years—take the winter just past—when we can use large grounds in the open until January, and when recruits and remounts are not consigned to the hall until February and March. In other winters it is different.

H. In no case would recruits be allowed to ride the drill gallop in the covered hall.

S. No more than the remounts, on account of the many corners, particularly in small halls, in which the horses would simply be ridden lame. As soon, however, as spring permits them to go into the open, the drill gallop should be practiced systematically with increasing duration, that the horses may get in good wind, and the recruits learn to feel at home in it.

H. The medium gallop alone should, then, be ridden in the hall?

S. To teach the recruits how to diminish and increase the gait. Instruction how to increase and diminish the gait, in trot too, forms one of the principal means of training, in order to impart to the recruits a correct conception of aids by rein and thigh, and to give them an idea of what is meant when it is required that the horse in position should be light in hand.

H. Does not the volt also form a good means of training, in order to show the recruits the effects of the rein in turning?

S. The prescribed volt of six paces diameter is a severe test for man and horse. It should be required of thoroughly instructed men only. Incorrectly ridden, it is injurious to the horse as well as to the production of the correct rider feeling. Now and then a man will jerk his horse around in an unreasonable and brutal manner, to avoid collision with his rear or front man, and if he is not detected and corrected, he gets an idea that he did the thing right. In most cases the volt is required much too soon in squads and with six paces diameter. It should be done very carefully. When the men are taken in hand singly, larger volts, enlarging and diminishing of the circle, should form the beginning, and it is not until every man by himself can ride them correctly, that the proof of the example should be made as soon as it is possible to ride on a large square in the open.

H. We have, I believe, touched nearly upon everything a recruit is required to learn before he can be placed in ranks for drill. I admit that your demands are not very high, that you have sufficient time to render any haste in the first preparatory exercises for confirming the seat unnecessary.

S. Do not forget that I do not demand much in quantity, but all the more in quality, and that it requires a very skillful division of the time allotted to riding in order to go to work in individual riding as thoroughly as I want it. If, however, you mean to exhaust everything the recruit has to learn before he is fit for the ranks, we have omitted several important matters.

H. And they are?

S. Instruction in and development of the full gallop, riding in

uneven terrain, overcoming obstacles, rallying, and use of arms. The overcoming of obstacles is the keystone of the structure, by means of which confidence in himself and in his horse is instilled in the recruit, without which he cannot possess that intrepidity, that fearlessness, which is indispensable to the cavalryman. It is absolutely necessary that the taking of obstacles be first practiced in individual riding and not in squads. You may frequently observe that the obstacles are taken in squads only, the horses jumping after their leaders in spite of the most awkward aids as does a flock of sheep after the bell wether when the latter is thrown into the pond. It spoils the horse and gives false notions to the recruit. When the man once knows how in medium trot, medium and drill gallop, the horse should go in balance and with light and confident leaning on the bit, and when he begins to feel at home on its back at all gaits, then let him ride toward the obstacle without rein at a steady but energetic gait, and the horse will jump over without special aids. In the jump he should rather give the horse its head than interfere with it in any way with the reins. Nor should the obstacles be too great in the beginning. When the recruit has recognized that nothing special is required, he will soon gain confidence and enjoy the jump. That is evident from the fact that when permitted to exercise his horse at will, he will often take the obstacles of his own accord. Not before this period may larger obstacles be used. I don't like to see the men take obstacles in squads one in rear of the other with distances. I prefer to lead them across in a swarm with intervals as a preparation for jumping in close formation.

H. In that case the squad will have a formation about like the hunters at the start of the chase.

S. About so, but with this difference, that they strictly observe and retain the same gait, be it trot (300 paces) or gallop (500 paces), and avoid rushing and racing. In the same manner the squad should be frequently instructed in the uneven terrain. The recruit here learns to entrust himself to his horse with confidence, to guide it lightly by the rein, let it choose its own way of overcoming the terrain, and to give it no aid beyond throwing back the upper part of his body when the horse stumbles. He will then become aware how much the horse will do when not interfered with by the rider.

H. The same holds true of climbing.

S. It should likewise be included, and the rider needs to do nothing else beyond shifting his center of gravity forward or back

in climbing up or down hill without changing the middle part of his body, a thing the rider has learned through mounted gymnastics.

H. It also implies that the horses while undergoing breaking as remounts, have learned how to go over the terrain independently in this manner.

S. I again remind you that the recruits are riding the best horses in the squadron, which horses I presume to have learned how to go over the terrain. The greatest perfection of this manner of remount training can, of course, be reached only if the squadron, recruits and remounts, old men and horses, have been trained for several successive years in the manner pointed out by me. It should be aimed at from the beginning, otherwise the greatest warlike efficiency would never be reached.

H. You mentioned rallying as one of the subjects of training.

S. It is one of the most essential requirements of cavalry that it has learned to rally quickly in order to be useful before the enemy, and capable of achieving the highest results. It is an incontrovertible principle, acknowledged by cavalry leaders of all times, that in the cavalry combat a closed reserve should always be kept in hand with which to bring about a decision at the most critical moment. The last reserve must, however, be thrown into the fight, otherwise it would be just as well not to have any. If the squadrons and regiments first thrown into the fight are experienced in rallying quickly, they become, after rallying, the closed body in the leader's hand. If they are not, he is without a reserve. There are other emergencies that are liable to arise, and make quick rallying a matter of importance.

H. You need not prove to me the importance of the ability of the whole squadron to rally quickly. No one disputes it, only I thought it was a subject of practice on the part of the formed squadron, and did not belong to the period of recruit training. You mean to have the recruits practiced in rallying on the sounding of the assembly, as soon as spring weather permits riding in the open.

S. That is far too late. It should be begun on the first day on which the recruit joins the squadron; at first, of course, dismounted. No falling in for drill, no call should be allowed to pass, without practicing the men in assembling quickly and in good order, and in finding the place where each belongs. When the men are so far in individual riding that they may be allowed to exercise (*tummeln*) their horses by themselves and at will, they should never be assembled in any other way than upon the signal or call of assembly. Now at the trot, then at the drill gallop, with reining in and coming down

to a trot near the place of assembly, again for assembling in closed squad, stirrup to stirrup; another time with intervals: again for riding within the square with distances, the leaders trotting, etc., depending on what is desired to take in hand next. One should be inventive, and vary the exercise a good deal, in order to habituate the men to ride with their heads. It is only in this way that the whole squadron will be able to rally quickly without the men bumping into each other and laming the horses by awkward checking, or rushing into the ranks.

H. As to the use of arms, I believe you will have nothing special to say; at least I know that the two cavalry regiments which once formed part of my command attached proper weight to it and practiced it industriously, so that I was often delighted with their efficiency in this branch, as I mentioned once before.

S. I wish to congratulate every regiment of which that is true. I believe, however, that not a few fall short of what may be accomplished. Our western neighbors have mostly, including past times, been superior to us Germans in this respect. Yet the use of arms is the main thing in the employment of cavalry in battle. What will cavalry accomplish, however well it may ride, if it has learned neither to cut nor thrust, and does not hurt a hair of, or at best gives a few bruises to the enemy whom it has overthrown by the shock? It will simply be cannon and musket fodder. The use of arms in all kinds of situations should be most industriously practiced, not as a mere exhibition for inspection, but also in individual riding and "tummeln." It is not necessary that all the men be trained to be fencing masters. It is merely requisite that they cut with the edge and hit the spot aimed at. The saber is a splendid arm which has lost in prestige recently simply because not enough attention is paid to vigorous and sharp cutting. Nor should thrusting be neglected. Here, too, it should be observed that the thrust be vigorous and short, and that the men hit the point aimed at. Tricks are unnecessary here also, because beyond the capacity of the great mass. Individual combat should be practiced, not in indicated rounds between Nos. 1 and 2, the old unprofitable scheme, but in the manner pointed out by General von Schmidt.

H. Thus it was done in the regiments of which I spoke. The recruits chased each other over the hurdle in the "jeu de barre" and each had to learn how to defend the kerchief.

S. I can only repeat that I congratulate the regiment.

H. One more remark. When the recruits finish their training as such and are placed in ranks, somebody must give judgment

whether they have sufficiently progressed, and that is possible only through a final riding inspection, be it made by the general, the colonel, or squadron commander. The recruit instructor himself is not competent to render an objective judgment.

S. Do not talk to me of final riding inspections. I dislike to hear the word mentioned. Immediately I see squad drills according to program, coaching, stencil work, etc. The superiors are the ones to inspect, frequently, very frequently, as much, and when and what they choose. But they should come unexpectedly. They should inspect according to the degree of training of the recruit. If possible, they should be present only during the lessons. Afterward they may let the men ride within the square and then send individuals here and there, over obstacles, across country, to convince themselves that the men control the horses. But they should not look upon the riding hall inspection as the crown of riding.

H. You have said yourself, that the recruits arrive on a certain day and must be fit for the ranks by a certain day in the spring. Somebody must verify whether they are far enough advanced.

S. Such final riding inspections have the additional disadvantage, that they are necessarily held in a superficial manner. According to the regulations established by our highest authority, the regimental commander is responsible for the training in detail. He is to make the final riding inspections, if they are to be made. In order to apply, in his judgment, of the several squadrons the most uniform possible measure, he inspects them as near together in point of time as possible, *i. e.*, the five squadrons on five consecutive days. He thus sees 135 horses five times in five days. If he wants to observe each individual, his attention becomes relaxed, and finally he sees nothing at all. Nothing then remains but to shorten the time allowed for each squad, and give judgment *en bloc*, by allowing thirty or forty minutes to each squad, and letting them work in the square according to program. On the other hand, if he is present with one or two squads each day, and continues to be throughout the winter, he may gain a correct idea of each rider without overdoing it or overfatiguing himself; he can "individualize" and see each horse and rider often enough to form a correct judgment, and interfere by timely advice.

H. That is well and good during the training. Spring is approaching now. The squadron is to be formed, say on May 1st. Who, in your opinion, is to state on April 30th that the recruits are sufficiently advanced? Whoever it may be, he must convince himself and make a final inspection.

S. What of the squadron that is to be formed on May 1st? May not war just as well break out between October 1st and May 1st? Would you like to see the squadron dissolved during seven months and fit for war during five months only? The squadron should constantly remain formed; without the recruits it is simply weaker by forty men than with the recruits. The latter are placed in ranks on a certain date, let us say on May 1st. It would not be rational to place them all in ranks on a fixed day. Many a recruit will be able to drill with the older men by April 20th, others not before May 10th, the laggards still later. I like to have it done this way: the troop commander knows his recruits and sees them every day. He says to-day: "PETER can drill with the squadron from now on; PAUL to-morrow; so may JACK and MIKE," etc.

H. Two or three recruits will finally be left, and if accident will it so, one from each squad if there were three or four squads originally. Is it not a waste of energy to keep up the apparatus of instructors, or the reduced squads combined into one, and do the pupils change instructors? This course would have grave disadvantages and would interfere with the continuity of instruction.

S. Does the recruit cease to be a recruit simply because he rides with the older men in the squadron? Does he not remain a recruit throughout the year? Hence, on account and for the purpose of his instruction, he should have the same instructor throughout the year. The squadron would do well not to drill two or three hours every day. The old riders may take a turn on the square and exercise their horses singly, go through the exercises with arms, etc. The squadron commander should during the first or last half hour of drill take the squadron together for carrying out drill movements wherein those recruits participate who are sufficiently advanced, while the recruit instructor utilizes this time to devote himself specially to the laggards.

H. I think not only the recruits but also the older riders each separately are combined in the squadron in the spring.

S. Unfortunately that practice obtains in most regiments, and that is the very thing to which I object in the management of our service.

H. In what way would you like to see it changed?

S. Of that we will speak the next time in the discussion of the further training of man and horse.

THE U. S. MAGAZINE CARBINE, MODEL 1895

BY FIRST LIEUTENANT JOHN T. HAINES, 6TH CAVALRY, U. S. ARMY.

THE new carbine, soon to be manufactured at the Springfield Armory, will differ somewhat from the model originally recommended by the board of ordnance officers in September, 1892. The principal changes are as follows:

First. Its weight has been decreased ten ounces or more, principally from the stock. The stock has been shortened, and is similar in length to that of the old Springfield carbine, instead of being carried up to within a few inches of the muzzle, as in the original model. Two large holes have been bored in the butt, and some wood removed by gouging out the stock under the barrel and between the hand-grooves. This decrease will bring its weight down to within an ounce of that of the Springfield.

Second. The projecting ramrod (similar to that of the rifle) has been done away with, and a jointed one put in the butt. This consists of two parts exactly alike, long enough when screwed together to clean the bore from both ends, but requiring an extra piece attached to these to remove a defective shell or one the extractor has failed to withdraw. The shape of the present cartridge (and chamber) is such that the extractor seldom fails, and defective shells will not be common. In 3,000 rounds fired by me, the extractor has never failed to withdraw the empty shell.

Third. The swivel bar, instead of being on the left of the small of the stock, where it was decidedly in the way, has been moved forward so that it occupies about the same position it did in the Springfield.

Fourth. The safety-lock has been improved, and arranged so as to lock the bolt when the piece is not cocked as well as when it is, thus allowing the carbine to be carried in the boot without danger of the bolt being loosened.

Fifth. The cut-off has been reversed, so that when it is "down," single-loader fire can be used, and when "up," the magazine.

Sixth. The hand-guard has been extended to the rear, so as to cover the forward end of the receiver, and the rivets countersunk so as not to come in contact with the hand.

Seventh. The edges of the barrel at the muzzle have been rounded, as in the old carbine.

Eighth. The projection of the lower band (below the stock), as in the original model, has been done away with, and a band somewhat similar to the old carbine band adopted. There were two bands in the original model, but the upper is no longer necessary with the short stock.

Ninth. The hinge-bar head has been altered, so that it can be easily turned, and the hinge-bar withdrawn, instead of requiring considerable force and risk of breaking, as in the rifle.

Some of the other changes are: the doing away with the securing-stud on the sleeve, removing metal from the guide-rib, and introducing another gas escape in the bolt.

The short stock is adopted tentatively, as it is thought that perhaps the smaller barrel, unsupported by the wood near the muzzle, cannot stand cavalry service without being bent.

It was thought best to give the present pattern of sight a trial, and if found unserviceable on account of the projecting slide, it will be changed.

On account of these changes the new carbines will not be issued quite as soon as expected, but the cavalry, it is thought, will get a much better arm than it would have, had the original model been issued.

PROFESSIONAL NOTES.

TROOP "A," NATIONAL GUARD OF NEW YORK IN THE RECENT BROOKLYN RIOTS.

At the request of the editor of the CAVALRY ASSOCIATION JOURNAL, and believing that the services of Troop "A," N. G. N. Y., in the recent Brooklyn riots will be of interest to the cavalry service at large, I forward, by permission of the Adjutant-General of the State of New York, a copy of the report rendered to the Assistant Adjutant-General of the Second Brigade, N. G. N. Y.:

HEADQUARTERS TROOP "A," PARK AVE. AND 94TH ST.,
NEW YORK, January 30, 1895.

To the Assistant Adjutant-General, Second Brigade, Brooklyn, N. Y.:

SIR:—I have the honor to submit my report: General Orders, Headquarters First Brigade, dated January 20, 1895, received at my house at 7:40 P. M., directing Troop "A" to assemble at the Armory at once and await orders. I immediately proceeded to a telegraph office, and sent 112 telegrams, directing the members to report at Armory immediately, ready for field service, then directed the Commissary-Corporal to get rations for two days, hire a wagon to convey cooking utensils, make arrangements to have breakfast in the Armory very early on the morning of January 21st. Then went to the riding schools, getting fifty horses from DICKELS, forty from the Central Park, thirteen from the Fifth Avenue Academy, which, with private horses, made up the required number; then proceeded to the Armory, and as soon as enough men arrived they were sent for the horses, which were brought to the Fifth Avenue School at Ninety-fourth Street for shelter. The men were constantly coming in, so by midnight there were about eighty present.

January 21st. Breakfast was prepared at Armory, and ready at 3:30 A. M. The command to saddle up was given about 5 A. M., so that when orders were received at 6 A. M. to move, the troop marched with eighty-nine men and horses via Madison to Fifth Avenue to Twenty-third Street, to Twenty-third Street Ferry to Broadway, Brooklyn, and then on to Fulton Street and Tompkins

Avenue, arriving about 8:30 A. M. In a short time fourteen more men and horses joined. Relieved the company of the Thirteenth, which was stationed there; posted mounted sentinels on Fulton Street, and also on Herkimer Street, guarding two large car houses some distance apart in Fulton Street, and also an electric construction company's house and material on Herkimer Street. Quite a large crowd was gathered in the vicinity, so I directed several mounted men to ride up on the different sidewalks and disperse them, which was soon done, and no crowd ever collected again in our neighborhood. At 12:30 P. M. I went to Sumner Avenue on being told that there was trouble; found a small mob had been dispersed by police; marched six miles. The whole troop was put on guard during the first day, platoons of twenty-five men and horses at a time. During the day everybody was kept moving on the streets, so that there was no trouble. At 5 P. M. the first platoon was put on for the night. The kitchen was located in Herkimer Street on arrival, and dinner was ready at 12. We brought provisions and wood from New York. The horses were placed in old car stables on Herkimer Street, except the guard, which were kept saddled standing in Fulton Street entrance, ready for instant service. Stable call at 4 P. M.; supper was served at 5 P. M. Two Swiss gentlemen, JANOT & SHEIDLER, offered two floors of watch factory for men to sleep in, which were artificially heated and made an excellent barrack.

January 22d. Reveille at 6 A. M.; watered and fed horses; breakfasted at 6:30; at 7 guard was changed, the second platoon under Lieutenant HALPIN, marching on for twenty-four hours. Everything had been quiet during the previous night. About 12 M. received orders from brigade headquarters, that there was trouble at Ralph Avenue; sent Lieutenant BADGLEY with all of the second or guard platoon which was not on post, at once to that locality; ordered the third and fourth platoons to saddle up; was informed by a policeman on a Fulton Street car that a crowd had gotten in between Lieutenant BADGLEY and ourselves, and were trying to cut the cable with shears on poles. I at once sent Lieutenant REED with the third platoon to move up Fulton Street, to get in touch with Lieutenant BADGLEY, and to keep the street clear back to Tompkins Avenue. I moved the fourth platoon into the Fulton Street entrance of car stables, and kept them there at stand to horse ready for any emergency. The first platoon was kept ready in the stable proper. The second platoon at Ralph Avenue was relieved by the fourth about 3 P. M., Lieutenant BADGLEY reporting that on his arrival at Ralph Avenue about 1:15 P. M., he found a very large crowd blocking the streets; warned it to disperse, which it did not do, so he ordered his platoon to draw saber, formed line across the street from house to house, and charged the crowd, dispersing it and driving it in all directions. There was no further trouble that day or subsequently at that point. The third and fourth platoons were kept out till dark and then drawn in. During the evening one of the sentinels, S. ROWE BRADLEY, Jr., ordered a drunken man to move on; he

made some insolent reply. BRADLEY jumped off his horse, had him by the collar in an instant, and started with his prisoner to the guard house, when a crowd of about fifty roughs ran out of a saloon to rescue him, when the three mounted sentinels in the street, at a sign from the corporal of the guard, started after them with drawn sabers, and most effectually drove them out of the neighborhood. The prisoner was brought to the guard house and turned over to the police, who had been telephoned to come after him. A telegraph wire was put into the troop's office, thereby connecting me with brigade headquarters. During the evening received orders to send out detachments the next day to guard construction parties and wagons and line repairing parties and wagons. Marched during the day about twenty-five miles.

January 23d. The detachments ordered out, had breakfast, fed and watered horses at 5 A. M., and moved out at 6 A. M., guarding wagons of track clearers. The one under Sergeant JACOB'S returned at 8 A. M.; traveled seven miles. Another detachment under Lieutenant BADGLEY went out at 8 A. M., going to Hanson Place to Flatbush Avenue, to Third Avenue, to Fifty-eighth Street, guarding working party clearing tracks, superintendent representing that a long distance of track was seriously obstructed, and that the neighborhood was a bad one. This detachment returned at 11 A. M.; cleared all obstruction. Quite a rough mob gathered at Fifty-first Street and Third Avenue, and were inclined to interfere with the workmen. The officer in command, Lieutenant BADGLEY, ordered them to move, which they were inclined to resent, so he put his horse into the crowd followed by his troopers; five or six toughs fell down a steep bank getting out of the way, and the remainder ran off through a vacant lot and gave no further trouble. The party traveled about fifteen miles. Cars ran on the Fulton Street line after 10 A. M. regularly, and more people were using them, and quite a number of ladies who seemed to have gotten over their fear. Horses and men are in excellent condition. Informed brigade headquarters that there was no objection to continuing same work next day.

January 24th. All quiet during the night. Sent out two detachments at 6 A. M. with linemen and track clearers. Cars running on Fulton Street since 7:30 A. M. At 8:50 A. M. one detachment under Sergeant WILLIAMS returned with repairers, found line cut in two or three places; repairs were made. Distance traveled, eight miles, going to Alabama Avenue and elsewhere; no crowds. Second detachment under Lieutenant BRIDGMAN returned at 9:07 A. M., having traveled large part of Brooklyn to Navy Street, to Court House, to junction of Manhattan and Nassau Avenues; found a few switches frozen; no obstructions anywhere; no crowds; no demonstrations of any kind; traveled ten or twelve miles. Sergeant WILLIAMS and detachment went out with linemen at 1:30 P. M.; returned at 4:45 P. M.; went to Tompkins Avenue and Flushing Avenue; found quite a crowd which they kept moving; no trouble at Broadway and Sumpter Avenue; found wire cut in two places;

repairs were made; found two cuts on Fulton Street at Hopkins Avenue and Stone Avenue; a small crowd gathered at Stone Avenue; it was kept moving; no trouble; detachment traveled about twelve miles. Another detachment of twelve men under Lieutenant BRIDGMAN went about 1 P. M. with track clearers to open up Tompkins Avenue and Flushing Avenue; returned at 4:08 P. M. Lieutenant BRIDGMAN reported that he marched with obstruction clearing wagons and men to Flatbush Avenue, and so on towards Green Point Avenue; found no obstructions on the track, but switches were frozen, water having been poured on. At the corner of Green Point Avenue and Kent Street a crowd of about two thousand formed in the rear of repair wagon and escort, and made threats and threw stones. Lieutenant BRIDGMAN formed his detachment in line, faced towards the crowd, drew saber and moved towards the crowd at a walk, crowd falling back slowly. The Lieutenant then rode alone to the crowd, and said: "I give you fair warning to stop throwing stones and to disperse, and if you do not I will charge you, and somebody will get hurt." The crowd dispersed, going into houses, down streets, etc., giving no further trouble. The work was continued, and when the detachment returned, found the same crowd, but no disturbance was made. The detachment traveled in all about twenty miles. About 4 P. M. a man placed a barrel of ashes on track on Fulton Street; he was seen by Trooper THORNE, who had him arrested. Police sent patrol wagon on application by telephone. Trooper THORNE appeared against him later, and a strong case was made against him of placing obstacles on the track, thereby endangering human life. At 5 P. M. a detachment of Lieutenant HALPIN and eight men went out with track clearers, going to Nostrand Avenue and Flatbush Avenue; found a small crowd but plenty of police who kept crowd moving; then went towards penitentiary and some distance into the country; no trouble. Traveled about ten miles. At 8 P. M. small detachment went out with linemen up Fulton Street; repaired wire; small crowd; no trouble; traveled about seven miles. Detachments were also sent out short distances to escort repairers.

January 25th. Reported to brigade headquarters at 8:30 A. M. Two detachments were sent out last night about 9:30 o'clock with repair wagons; repaired the wire in several places; each party traveled about seven miles, making the total distance traveled by the various detachments on the 24th inst. from eighty to one hundred miles. This morning two large detachments were sent out at 6, having breakfasted, fed and watered horses at 5. One under Lieutenant HALPIN returned at 8:30 A. M., having gone with line repairers to Bedford Avenue and North Fourteenth Street on Bushwick Avenue; found wire cut; took an hour to repair it; returned by same walk; no trouble, no crowd; traveled about seven miles. Policeman reported to lieutenant that wire was cut previous night by six men in wagon from Long Island City; two of the party were arrested and found with piece of cut wire. Cars running on that line all of the 24th inst. Another large detachment under Sergeant

COUDERT was sent out about 8:30 A. M. with repair wagons to go to Williamsburg; no trouble; traveled ten miles. At 9:30 A. M. the second party under Sergeant NICHOLS sent out with line repairers, returned; report they went to Columbia Street and cleared half a mile of wire of dead cuts and all manner of debris; also went to Myrtle Avenue and Sumner Avenue and put in section of wire; no crowds. At 10 A. M. party went out; returned at 12 M.; went to Knickerbocker Avenue, Grand Avenue and several other places; removed all obstructions; crowds standing around through curiosity more than anything else; no trouble; traveled about fifteen miles. Small detachment under Sergeant KERR also repaired wire at Ralph Avenue; traveled about three miles. Received word about 11 A. M. that Nostrand Avenue Line was to be opened and that crowd was collecting to make trouble. Sent out one platoon under Lieutenant REED, down Fulton Street; another under Sergeant NICHOLS, down Herkimer Street; went myself, dispersing small crowd; kept platoons moving in vicinity for an hour; recalled one and sent one under Lieutenant REED to end of Nostrand Avenue towards penitentiary; no trouble; traveled in all about fifteen miles. At 2 P. M. received the following from brigade headquarters:

"Information just received states that a mob of 1,500 has assembled in Queens county and have captured some thirty motormen and imprisoned them in the engine house at Maspeth at the junction of Flushing Avenue and Grand Street, about four and a half miles from where you are. The Sheriff of Queens county has telephoned to these headquarters for aid. You are hereby directed to proceed with one platoon to above point by the following route: Through Throop Avenue to Flushing Avenue and then to right, thence out Flushing Avenue to Johnson Avenue; at this point await arrival of the Sheriff of Queens county. If he hands you a written order signed by himself as Sheriff, and addressed to General McLEER, requiring your troop to enter Queens county, you will proceed to the engine house just beyond the junction of Flushing Avenue and Grand Street, to aid the civil authorities in suppressing violence. After having released the imprisoned motormen, and having given them safe conduct, you will return to your headquarters, and please report the result of your experience in carrying out these orders.

J. B. FROTHINGHAM,
A. I. G., Second Brigade."

At 2 P. M. telegraphed headquarters that I would go, taking two platoons, leaving two platoons with two officers at headquarters. Left troop headquarters at 2:30 P. M. with two platoons under Lieutenant BADGLEY and Lieutenant REED, and returned at 5:30 P. M., making the following report to brigade headquarters: "In pursuance to orders proceeded to the boundary line of Queens county, reaching there at 3:15 P. M.; had to wait some minutes; finally Under Sheriff came; had no communication; he went into a house, wrote what was required, when I proceeded. Met the Sheriff, who gave me the formal application, which I will forward. Proceeded to the engine house; arrested six men, who were held by some deputies. The crowd consisted of about 150, principally boys and women. Then took the prisoners to car house, when the Sheriff endeavored to secure evidence against them, but failed, so he discharged them. It seems there was a fire out there about 12 M., and the engine company was out, so strikers occupied the house, and when car containing

new motormen came along strikers ran out a hose carriage across the track, boarded car and forced the men to go into the engine house, where they were held for a time, and then allowed to go by ones and twos. By the time the Deputy Sheriff arrived none of the motormen were left, but finding six men in the house, held them until we arrived. I do not think there were more than three or four hundred people there at any time, and many of those were attracted by the fire. The crowd of men dispersed before we arrived. When I went with Sheriff to car house, a detachment of eight men under Corporal GREER was left to guard engine house. Shortly after my departure a crowd of about 150 men collected, and were very ugly, so the Corporal ordered detachment to draw sabers and charge, striking a few, and effectually putting them to rout, falling over each other and getting out of the way, running them off through the fields to some woods. Distance traveled, about twelve miles. About 2 p. m., just before my departure to Maspeth, sent a detachment of Sergeant E. N. NICHOLS and six men to guard linemen; they went to Green Point, to Bedford Avenue, and found two blocks of wire down. There was a jam of cars and a large mob of fully 2,000 men, who were very ugly, threw stones, hooted, etc.; they boarded cars and took off the motormen, except the one on the first car, which the detachment prevented. The Sergeant dismounted, went into several of the cars, and compelled the mob to get out, striking a few. The detachment was obliged to ride into the crowd and force them along, using their sabers quite freely in trying to control the ugly crowd, there being only seven troopers against 1,500 or more. One large man, very ugly, was struck by trooper NORTH with his saber on the shoulder, which glanced and took him in the neck, knocking him down. At that moment one of the troopers accidentally dropped his pistol, which this man who was struck rushed for. Trooper NORTH seeing him, charged down on him and cut him with his saber on the cheek. The detachment controlled this mob for fully two hours, while repairs were being made. Sergeant NICHOLS is of the opinion that if the crowd had not been afraid of the troopers, they would have given them a very nasty time. The detachment went to another point and then returned; traveled in all about twelve miles. Two other detachments went out; repaired wire; traveled about six miles. Total distance traveled by detachments to-day, eighty-six miles."

January 26th. During the evening of the 25th inst., a few union linemen tried to beat a non-union man. It was reported at guard room, and Corporal MARCELLUS, with two or three troopers, chased them into a saloon, through the back doors, over fences, through back yards, and finally captured them. Corporal CLELAND rode into the saloon on horseback to assist, if necessary. At 8 a. m., January 26th, detachment that went out with track clearers found a wagon load of stones at Graham Avenue and Meeker Street; found at Nostrand Avenue and Floyd Street all manner of debris, which they removed; traveled about ten miles. At 12:15 p. m. a crowd reported gathering at New York Avenue and Bergen Avenue; sent a detach-

ment under Corporal BARRY to disperse them; found a detachment of Seventy-first had driven crowd from vicinity of workmen. Detachment saw them some distance off; went there and drove them out of the neighborhood; about 200 in crowd; traveled about six miles. Construction party applied at 7:15 p. m. for an escort, saying they would not go out without troopers; sent a detail under Corporal FICKEN; returned about 9:50 p. m.; repaired wire in several places; live wire hanging in street struck wagon wheel and gave one of the men in wagon very severe shock, he yelling like mad; traveled about twelve miles. Detachments traveled during the day about thirty miles.

January 27th. A large detachment under Sergeant JACOB'S went out about 7 a. m.; returned at 9 a. m.; went to Broadway and Union Avenue; repaired wires; then out Broadway to Fulton Street; made repairs on the way down to Fulton Street to electrical headquarters; then down Nostrand Avenue to penitentiary; no crowds anywhere; cars were running; traveled fifteen miles. At 9:45 a. m. second party, under Lieutenant BADGLEY, that went out at 7, returned; went to Ralph Avenue; on Fulton Street repaired two cuts; no crowds; traveled about six miles, although out about three hours, as the breaks were bad. At 12:40 p. m. detachment went out to Queens county line under Sergeant WILLIAMS; found a few obstructions on track which were removed; but on Meeker Avenue there was not much obstruction; party did not attempt to remove it; a large crowd was gathered in front of Meeker Avenue stables; the detachment dispersed them. Bottles and missiles were thrown from the windows, but on the troopers drawing their pistols and ordering windows closed, they were shut up quickly. The crowd followed detachment to the county line, and when they returned closed in behind, throwing stones, and were very ugly; one set of fours turned and drove them back with their sabers; detachment traveled about fifteen miles. At 6:10 p. m. detachment of ten men under Sergeant HOLLY sent out at 4 p. m. with wire men returned; went to Nassau Avenue; repaired bad break in wires; then to Green Point Avenue near Penny Bridge; removed a car; repaired wire at same point; a crowd of about three hundred was very ugly, throwing stones and so forth, making it necessary to charge with drawn sabers twice, but as they returned the sergeant ordered pistols drawn, but did not cock them; then they charged, dispersed the crowd, and ran them off through the fields; they gave no further trouble. Returned to repair shop; went to Stuyvesant Avenue and Fulton Street; repaired a cut wire; found a large crowd assembled, but not unruly; traveled twelve miles. Another detachment went to Stone Avenue and elsewhere; repaired wires; comparative quiet; no stones thrown; traveled five miles. Total distance traveled during the day, sixty-three miles.

January 28th. Detachment went out about 10 a. m., returned at 1:20 p. m.; went to foot of Nassau Street; cleared and removed stones from track; then to Newtown Bridge at foot of Grand Street; made repairs to track; then back through Union Avenue; no crowds

anywhere; traveled about twelve miles. At 1:50 P. M. second detachment went out under Sergeant WILLIAMS; returned, went to Atlantic Avenue Ferry; to Fulton Street Ferry; to Wall Street Ferry; then through Williamsburg to vacant lots; cleared the switcha and wires in all directions, Flushing Avenue to Graham Avenue; crowds along the river front, but orderly; no trouble anywhere; traveled about fifteen miles; troop has covered both East and West Brooklyn to day; everybody orderly; no trouble; traveled about twenty-seven miles. Received orders at 3 P. M. to return to New York and report to First Brigade, upon being relieved by police; packed up and left Tompkins Avenue and Fulton Street at 4:27 P. M. and arrived at Armory, Ninety-fourth Street and Park Avenue, at 6:05 P. M., about nine miles, making the total distance during the day thirty-six miles.

In closing the report, I have the honor to call attention to the gallant and meritorious conduct and the most excellent judgment displayed by First Lieutenant OLIVER R. BRIDGMAN in handling his detachment dispersing a large mob at Green Point Avenue and Kent Street on the 24th of January; also to the gallant and meritorious conduct of First Lieutenant HOWARD G. BADGLEY, and the most excellent judgment displayed by him in the handling of his detachment in dispersing a large mob on Fulton Street near Ralph Avenue on the 22d of January, and again on Third Avenue and Fifty-first Street, dispersing a mob on the 23d of January; also to Sergeant E. N. NICHOLS, who, while with a detachment of five men, displayed personal valor by dismounting from his horse, entering cars filled with strikers and driving them out, and also using most excellent judgment in handling his men, holding a mob of about fifteen hundred for over an hour and a half while the repairers were putting the trolley wire in order; this on the 25th of January.

As a great part of the work was detachments in charge of lieutenants, sergeants and corporals, I mention the names of the following in addition to those already mentioned, viz: Second Lieutenant FRANCIS HALPIN, Second Lieutenant LATHAM G. REED, First Sergeant JOHN I. HOLLY, Guidon Sergeant EXOS G. THROOP, Sergeants HENRY W. WILLIAMS, ARTHUR M. JACOBUS, FREDERICK R. COUDERT, jr., Corporals EDWARD I. PATTERSON, JOHN S. CLELAND, HENRY S. KERR, HERBERT BARRY, LOUIS M. GREER, H. EDWARDS FICKEN, Lance Corporals CHARLES F. STONE, jr., M. DE M. MARSELLUS, W. H. TITUS, J. HERBERT CLAIBORN, each of whom performed his duty in the most satisfactory manner, and when in charge of detachments exercised the most excellent judgment, and had a full sense of their responsibility.

The Quartermaster Sergeant, L. V. O'DONOHUE, looked after the stables, forage, and general welfare of the horses in a most praiseworthy manner. The Commissary Corporal, GILFORD HURRY, furnished three hot meals a day; had breakfast for the detachment going out very early, and was ever prompt and efficient, enhancing greatly the comfort of the whole troop. The musicians, artificers and privates performed all their duty in the most willing, cheerful

manner; were ever on the alert and ready to obey orders, thereby reflecting great credit on the troop. The entire troop accepted every discomfort without complaint, behaved in the most gallant manner, and are worthy of the names of true soldiers.

If there are any better soldiers I have never seen them. Out of a membership of 112, every man except one reported for duty some time during the week. The absent man was sick in bed.

The steadfast attention to duty day and night of Sergeant NORRIS and Private BOOTH, First Brigade Signal Corps, and Private HOGAN, "E" Company, Ninth Regiment, acting as telegraph operators at my headquarters, is deserving of the highest praise.

Respectfully,

CHARLES F. ROE,
Captain Troop "A"

EXTRACT FROM ORDERS

GENERAL ORDER No. 3.

HEADQUARTERS FIRST BRIGADE, N. G. N. Y.,
NEW YORK, February 4, 1895.

The officers and men of Troop "A" were called upon for exceptional efforts, and they deserve special commendation for their efficient and soldierly conduct. By command of

Brigadier-General FITZGERALD.

GENERAL ORDER No. 5.

HEADQUARTERS SECOND BRIGADE, N. G. N. Y.,
BROOKLYN, February 14, 1895.

The Brigadier Commander feels that he cannot speak too highly of the conduct of the troops under such trying circumstances, where all of both brigades did so well. He hesitates to mention particularly any organization, and yet he feels that he but voices the sentiments of all law-abiding citizens when he offers special thanks to Troop "A" of the First Brigade, and its gallant commander, Captain CHAS. F. ROE, for distinguished services during its tour of duty in Brooklyn. By command of

Brigadier-General McLEER

REMARKS.

It was fully demonstrated that all guard duty, day and night, in service of this kind, should be performed by the trooper mounted, as he is able to cover an extended post, guard a large quantity of property, keep crowds from gathering, and, when occasion requires, can go quickly to the assistance of other posts, leaving his own post temporarily. By this means of doing guard duty, there is always mounted and ready a whole relief. This was found to be of great value several times in the vicinity of the troop headquarters.

As a large portion of the City of Brooklyn had to be covered every day by repair men and wagons, guarded by detachments of cavalry, the efficiency of these detachments was thoroughly demon-

strated. The size of the detachment depended on the condition of the neighborhood to which they were ordered, and varied from eight men to a platoon of twenty-five. Where large and ugly crowds were found throwing stones and missiles of all kinds, endeavoring to prevent repair men from working, the detachment was formed in line from house to house across the street, on sidewalk as well as in street; sabers were drawn; two or three troopers left immediately with repair party, and then the crowd was told to disperse. On failure to do so, the charge was ordered, and the mob was most thoroughly dispersed and driven out of the neighborhood, many falling over each other in their anxiety to get out of the way. The saber was used freely, many being hit over the head, some fainting away. Charges of this nature took place almost daily, and in every case the streets were effectively cleared and the work allowed to go on. After a few days it was only necessary for a detachment of the troop with yellow lining to their overcoat capes to put in an appearance, when the throwing of stones would cease and the crowd disperse of themselves. As an instance of the fear that seemed to be in the minds of the people, two non-union men came to me about 11 o'clock one night and one of them asked for protection and safe conduct to their homes. Two troopers being near, I told them to walk home with these men, when the spokesman said, "Come on, JACK; we are safe now."

In conclusion, it was the opinion of everybody that the mounted men were of more use in handling the mobs than several times their number of dismounted men. Having had experience in the Buffalo riots of 1892, and again in Brooklyn, I am fully convinced where troopers are well drilled, disciplined and fearless horsemen, that the cavalry arm of the service is of the greatest value, not only in dispersing mobs, but in guarding property. In one case at Buffalo, two platoons as a skirmish line protected nearly a mile of track, round houses, warehouses, etc., two other platoons being held in side streets opposite right and left of line as a reserve.

Trooper THORNE, mentioned in the report as arresting a man for throwing ashes on track, received a cheque for one hundred dollars from the railroad company, which he turned over to the troop fund.

CHARLES F. ROE,
Major N. G. N. Y.

OUR NEW CAVALRY BIT.

The remarks upon the cavalry bit, model 1892, in the March number of the JOURNAL are opportune, and we should let it be understood that the cavalry has not received what it asked for, a bit which fulfills all the essential requirements of a perfect bit.

The bit has been made on what are considered ideal lines, to give the horse no pain when used to control him, and to reduce the pressure to a minimum; to act, not as an instrument of torture, requiring pulling, jerking and sawing to bring the horse under

the control of the rider. This is what we have been aiming for these many years. The Board, in recommending this model, evidently believed the problem was solved, and there ought to be no reason why our arm should not be thoroughly satisfied.

Let us see, from our standpoint, whether or no these expectations have been realized. The following are my own criticisms, and I venture the assertion they will be upheld by many officers who have used the bit, and observed the working of it:

The bit is too light; looks stubby and short by reason of the unsightly S of the lower branch. One a trifle heavier, the branches flat and broader, the lower branch tapering, giving it the saber bend, would be a far more effective, more serviceable, and by all odds, a more handsome one. The curb strap is practically worthless. It is a matter of mystery why it was considered simply a question of the bit, as if that alone were sufficient. Nothing has been said about the curb strap and its proper attachments. Evidently it was considered unnecessary, supposing, I imagine, that either the old one would suffice, or a good one be supplied. By whom? *Quærens ibi.*

It is precisely as if a ship, built on the most perfect lines, according to the latest developments, complete as art and skill could fashion it, were sent to sea with men and armament, with an imperfect rudder, useless to control her motions, rendering her anything but obedient to her helm, helpless for maneuvering, steaming along in her own sweet way, obeying whenever it suited her pleasure, putting her living freight and herself in jeopardy. This may seem an extreme case, to compare a horse and a ship, yet it is an apt illustration, for both are guided by the hand, and unless the creature acts promptly to the means provided for its control, your creature of beauty and symmetry is a delusion and snare. The new bit is an improvement on the old one, but that was what we had a right to expect, and something more. We should have had one, perfect in every way, with all its attachments. We have been disappointed, I am sorry to record.

Using the old curb strap, it is impossible to make it fit in the chin groove, let alone keeping it there when we use the reins, as it will invariably pull up under the jaw, and the hard mouthed horse will follow his own inclination and give you a fine run, whether you wish it or not. As it stands now, the difference between the old and new bit is that the latter is less severe, the horse's mouth not as liable to injury, but as to holding him or keeping him in control any better, there is no difference, if any, it is in favor of the old bit, which I consider a monstrosity. The new bit falls through, if the curb is in its proper place, and the horse does not take a long time to acquire the habit of tossing the bit over his nose. To get it back the rider must loosen the tension and let it fall back. In the meantime the horse is increasing his gait, leaving and breaking up the ranks, only to repeat the performance at every opportunity. The rider's attention is thus required to prevent this trick, when he should be doing something else. Horses are creatures of habit, and

the moment they learn they can play with the bit, they enjoy the pastime on all occasions.

I have been experimenting with curb straps, but I have failed to find one as satisfactory as the flat, broad, close linked curb chain. I soon discovered that no curb strap of any shape or size, fitted into the upper ring—the only place to put it—was in the slightest degree satisfactory. I then put a right and left hook in the upper rings, made a curb strap of two thicknesses of thin leather, stitched together, with a steel ring in each end (one ring had an extra link) to attach to the hooks. This was a great improvement, yet it would not stay in the groove. It would rise up, but not as much as the one in use. I next tried a round strap, attached in a similar manner, thinking perhaps it would hold better, and not slip up. It was no improvement. I then bought a steel curb chain and hooks, and have used it ever since with entire satisfaction. The steel catches and holds its place. This is given as the result of my trials, and I am convinced nothing else will give the same good results.

The proportions of Dwyer's bit were made for use with a curb chain. If he had used a curb strap, attached to the upper rings without hooks, his bit would not have been proportioned as it was. Each bit should be issued with two hooks, right and left, and a curb chain. It will be more expensive, but we will have the right curb, and both man and horse will be satisfied; otherwise we will get along as best we may. We will hear it stated the cavalry has a model bit, when we know to the contrary. This should not be so, because there is no reason why we should not have the best bit, and not be kept waiting two or three years experimenting, and then get a half instead of the whole loaf. The error mentioned in the length of the upper branch, corrected, would improve the look of the bit, yet would not increase its usefulness with the present curb strap.

J. A. AUGUR,

Captain, Fifth Cavalry, U. S. Army.

THE REVOLVER AS A CAVALRY WEAPON.

Several Eastern newspapers have recently published some extended views on the revolver and its use as a cavalry weapon, by Major WILLIAM P. HALL, Adjutant-General's Department, and General DABNEY H. MAURY has published similar views in the *Richmond Times*.

Both articles are republished without other editorial comment than the simple statement that the younger generation of cavalry officers search history in vain for deeds more successful, or models more worthy of adoption than those portrayed in the records of the Federal cavalry, 1863 to 1865. The men commanded by SHERIDAN, BUFOED, MERRITT, CUSTER, WILSON, STONEMAN, GRIERSON, and other well known cavalry leaders, were armed with carbine, saber and revolver. The regular army has not infrequently been criticised for extreme conservatism in such matters, but as the officers and men

now composing the bulk of the cavalry did not have the benefit of war service, they should be pardoned if they err in clinging to the three arms carried by the cavalry of the Army of the Potomac, which won the admiration of the world upon a hundred fields.

Major HALL says:

"For the purpose of comparing the saber and revolver I take the effective range of the former to be four and one-half feet, and that of the latter ten yards, and will assume that a saber thrust through the body or a hard blow over the head are of equal efficacy to a pistol shot wound. I take it that ten seconds would be required to successfully carve one man and get within saber reach of another. I know that in three and one-half seconds an expert pistol shot can fire with accuracy five shots from a revolver at a distance of over ten yards with horse at a run. There is no reason why a cavalryman should not carry two or even four revolvers, if he knows how to use them; and if he does not know how to handle them, I believe him better off without any. With this number of pistols it would be difficult to imagine a case where his fire would become exhausted before he had an opportunity to reload.

"To recapitulate. We have for the maximum range of the saber four and a half feet; the revolver is equally good for thirty feet, with possibilities far beyond that distance. The rapidity of execution with the saber, ten seconds, while that of the revolver is less than one second. Surely the tenacity with which we cling to ancient arms might well make a wise soldier laugh, were not its effects so pernicious as to sometimes make a good soldier weep.

"Some cavalrymen claim that if the saber is done away with we are reduced to the grade of mounted infantry; others say that the time for doing good work with cavalry is ended; certainly neither of these classes can have a conception of what a terrible weapon the revolver becomes when in skillful hands. I know of but one instance where its use by a mounted organization has ever been perfected, but the results in this are more than sufficient to establish its supremacy as a cavalry weapon, were we entirely devoid of individual cases in which a high degree of skill had been attained.

"The organization to which I refer was a remnant of QUANTRELL'S command, under a leader named BILL ANDERSON, (claiming to belong to the Confederate army), who infested the northern part of Missouri, during the last year of the War of the Rebellion. These men were armed with three or four revolvers each, and at the time to which I refer numbered about fifty. They attacked, upon an open prairie, a command of our mounted troopers, whose numbers I have heard variously estimated at from 200 to 250. ANDERSON'S command lost but five or six men, and only eight or ten of the Federal troops escaped with their lives; the others were laid out over the prairie for a distance of four miles and were killed with revolvers. I have been informed, and I believe credibly, by men who belonged to ANDERSON'S command, that mounted pistol practice was their principal occupation.

"Fifteen years ago no progress whatever had been made in teaching our cavalry to use the revolver, and their deplorable deficiency in the use of this weapon is but too vividly illustrated in the engagements with mounted Indians. I propose to make particular reference to but one battle. At the close of our late Civil War the reputation of General CUSTER as a cavalry commander was considered by many as second to none of those gallant cavalry officers trained in this most excellent school, he commanded the Seventh Cavalry for some time previous to 1876. Many of his captains had been trained in the same school of experience, and he had time and opportunity to give the Seventh Cavalry the training and discipline suggested by his extended service, and it is certainly fair to suppose that this regiment in 1876 was a very good sample of the United States Cavalry.

"Nearly 300 of these troops under General CUSTER'S command were attacked in an open country, where they were expecting an enemy, and according to the best accounts I have been able to obtain, were annihilated in the short space of half an hour. The Indians claim to have lost but thirty-five

killed, and say they crowded in upon the cavalry so as to make the fighting almost hand to hand. The cavalry seems to have been marching by fours or twos, and when attacked on one flank it is presumed they formed, or attempted to form line towards the enemy; the country is so level that the Indians would not have attacked on both flanks at once, for the reason that their fire would have been almost as fatal to one another as it was to the cavalry. Now it would seem to go without saying that in two mounted organizations engaged as these were, the numbers of men on each side actually fighting at one time were approximately equal, with perhaps some advantage in favor of the Indians.

"The mounted Indians have been trained all their lives at this kind of work, and it is needless to say at that period how much the average cavalryman received. The great difficulty incident to training men to manage their horses and handle their arms when mounted only makes the accomplishment the more valuable when attained. We know the road to success in this line is far from being a royal one, and the work and drudgery connected therewith is very great, because it involves what is known as snap-shooting with the revolver. I am thoroughly convinced, however, that 1,000 men trained to use this weapon, mounted, would surpass in efficiency 10,000 cavalry such as we then had, and I furthermore fully believe they would in close quarters be far more than a match for double their number of infantry. Opportunities would occur in which such cavalry could surprise infantry or get amongst them under cover of night, and in such an event, with the power of firing with accuracy five shots in four seconds, and the confidence and courage which a knowledge of this skill would give men, we believe they would easily destroy more than double their number before they could be checked.

"The time seems to have passed when men become very eminent in more than one line, but this very condition of things brings with the surety that an expert in any useful direction is certain to find a demand for his work; and if we propose to make a reputable score as cavalry in the future, I believe we must bend our energies to training our men to ride and shoot when mounted; with this feat once accomplished, there will be a lively demand for our services so long as there are horses to ride and powder to burn.

"Skill in handling the revolver for cavalry purposes necessitates a combination of acquirements in connection with its use, and the growing interest in revolver shooting, which seems to be manifest in civil as well as military circles, leads us to go somewhat into the details of the business, and to repeat many things which have been said before, and which are evident to most pistol shots.

"The difficulties to be overcome in shooting a pistol correctly are directing it properly at the object the instant the trigger is pulled and preventing the pull of the trigger, the blow of the hammer and recoil of the pistol from deranging this direction till after the bullet has left the muzzle. Any one with ordinary nerves if allowed to take deliberate aim — that is, occupy two or three seconds in pointing the pistol after it is raised — can soon become a fair shot by paying close attention to a few points.

"One great trouble to beginners is pulling too much on the right or left side of the trigger, causing the bullet to deviate to the right or left. Another is, flinching the instant the trigger is pulled. Others find they hold the pistol so loosely that the recoil throws the muzzle up before the bullet gets out, causing an upward deviation, while some allow the biceps and triceps to remain so relaxed that the recoil swerves the pistol to the right or left, before the bullet clears the muzzle. An ordinary observer, by giving close attention to these points, noting and correcting the deviations peculiar to himself, will soon become a shot sufficiently skillful to compete, with more or less success, in the pistol matches frequently occurring in different parts of this country.

"This, however, is but the A B C of what is required of cavalrymen in handling the revolver. It is what the first position of the feet and left hand, and the holding of the rapier is in acquiring the accomplishments of a master of fence. The next step to be attained in this line is called 'snap shooting,' which is taking the least possible length of time to direct and fire the pistol correctly.

"With the single-action Colt's revolver, a dismounted expert should, with one hand, fire five shots in four and one-half seconds with considerable accuracy. This requires the trigger to be pulled with a quick jerk. Let the pupil who has learned snap shooting on foot, mount a horse and put him at full speed, and he will find that the problem assumes a phase, the solution of which becomes a fine art. There is but a fractional part of a second in which the object can be caught, and this must be done, the trigger jerked and the pistol held against all the deranging elements, or his opportunity is lost never to return.

"In this kind of work a fair shot should fire five shots in five seconds. The difficulty in cocking the revolver is added to considerably when the horse is in rapid motion. Our Colt's revolver is as much inferior to some of the double-action ones as the old muzzle to the modern breech loader. It is particularly defective for rapid fire, and it is next to impossible to have a single day's practice with a troop without a number of these revolvers becoming disabled; in fact the defects and shortcomings of our revolver and its ammunition are so numerous, when compared to other revolvers in the market, that it is a marvel how it has been kept in the service so long. The calibre 45 Smith & Wesson is, if anything, a more indifferent weapon than the Colt's.

"The typical cavalry revolver should be calibre 45 or 50, have a four-inch barrel, and be what is known as a double-action pistol; the charge of powder should be small, to prevent too much recoil, and the ball should be large, so as to disable a man as soon as he is hit.

"The best authorities I have been able to consult differ very widely as to the best method for teaching men to become good snap shots mounted.

"We believe the best practice is based on the theory that snap shooting, either on foot or mounted, is only a quick aim, a quick jerk of the trigger, and an almost instantaneous poise of the revolver, so as to allow the bullet to clear the muzzle before the revolver has been acted upon any more than possible by the disturbing elements.

"We begin by teaching thoroughly in the gallery the principles of pointing, aiming and shooting the revolver with a charge of five grains of powder and a round ball, and after five shots have been fired, have the recruit cock and snap his pistol, unloaded, as rapidly as possible for about thirty seconds, cautioning him to hold on the bull's-eye as nearly as possible each time the trigger is pulled, and grasp the pistol tightly. This is excellent training for the muscles of the hand and arm, and teaches the recruit to aim and pull quickly. This, and in fact, all the work connected with snap shooting, is simplified more than fifty per cent, where the cavalry is armed with a good double-action pistol, firing about one-half the powder formerly used in our regulation cartridge.

"We believe the goal to be attained in this revolver practice of cavalry is quick, accurate shooting when the horse is at his highest speed. The idea is to reach the point sought as soon as possible, and leave nothing in your tracks in a shape to rise again.

"General SHERIDAN, in speaking of a French cavalry charge during the Franco-German War, says: 'The French cavalry charged over the German skirmish line, and after they had passed, the skirmishers opened fire on them.'

"A few words upon the method of handling the revolver will bring this paper to a close, with a feeling that we have done but meager justice to a matter of so great importance to the cavalry arm. The position of 'ready' (hold the pistol up at a full cock) is very objectionable, on account of its being awkward, and dangerous to friends. It has a tendency to excite horses, and frequently, when the rider loses his balance, the loaded pistol is brought quickly down, and is sometimes discharged in so doing, at a time when he is least capable of directing its fire. The revolver cannot be fired as rapidly, nor, we believe, as accurately, from the position of 'ready' as when it is raised. A position for 'draw pistol,' which we have found most excellent, is holding the revolver by the stock in the right hand, which rests on top of the thigh, the muzzle of the revolver being about two inches in front of and below the knee. At the command 'Aim!' the object to be hit is looked at; when the

command 'Fire!' is given, the pistol is pointed towards it, and cocked as it is raised, and under no circumstances should it be cocked till in the act of raising it to fire. In pointing at an object, it is more natural to raise the hand than lower it. In firing to the left, the pistol should never be cocked until the muzzle is on the left side of the horse's neck.

"This mechanical work in handling the revolver—that is, training the muscles of the hand to act in concert with the will power—should be persevered in, as it costs little more than the using up of a few inexpensive parts to the revolver.

"In conclusion, I will but add that our regular army is small, the smallest, in proportion to population, on the face of the civilized globe. Our country is the richest, and our captains, subalterns and enlisted men are the best paid. These officers are recruited from the young men of the country, selected on account of and trained with a view of developing their mental and physical excellence, and it would seem to go without saying, that they ought thoroughly to learn how to use the weapons of their service, as it ill becomes one to try and impart knowledge he does not possess.

"In the infantry we believe all, from the captain to the last private, should be a sharpshooter; in the cavalry, all should reach the corresponding excellence with the carbine, and, in addition, the necessary skill with the revolver, to fire, mounted, five shots in a less number of seconds, horse at a run, and to hit the kneeling silhouette four times in five at a distance of ten yards.

"The sword does more damage to the infantry officer who carries it than to anyone else, as that, with the scabbard, gets between his legs and interferes seriously with marching. The sword and saber should be taken from all officers and soldiers and the revolver substituted therefor."

General MAURY's letter says:

"Major HALL, now of the Adjutant-General's office, in Washington, has published an interesting letter in the Philadelphia Press and the Richmond Times about changes in cavalry arms, advising the discarding of the saber, and advocating the greater power of the revolver as the cavalry weapon.

"He makes his case well and shows that he has given close attention to the subject. It is one which has long been discussed by our cavalry officers.

"Forty years ago the Mounted Rifles, now the Third U. S. Cavalry, practically laid aside the saber, and depended upon the revolver when mounted, and the rifle when dismounted, to fight.

"The introduction of long-range arms was the signal for the conversion of cavalry into mounted riflemen, and for increased attention to pistol and rifle practice.

"Sabers were boxed up and stored away when we went upon a hostile expedition, or were fastened under the left saddle flap.

"In 1854, active pistol practice began in the regiment, and the writer was ordered from Fort McIntosh to Corpus Christi to show the new pistol practice to the commanding general of the Department.

"Taking twenty men and a sergeant (McNALLY) from 'A' Company, and twenty men and Sergeant JOHN GREEN, from 'B' Company, we marched by way of Fort Merrill down to Corpus.

"We halted for one day at Fort Merrill, and upon the request of the commanding officer, Captain GORDON GRANGER, had our drill by the newly devised practice.

"The targets were barrel heads nailed to tent poles (lumber was very scarce in Texas), which were set up in two parallel lines about twelve yards apart. The targets in each line were forty or fifty yards apart.

"The troop was drawn up in a single rank about forty paces from the first targets, and rode successfully at speed along the line of targets, firing to the right or the left, or to the right and left alternately.

"Each trooper, in his turn, drew and cocked his pistol, holding it verti-

cally past his right ear, his right forearm pressed close against his body, and rode at speed down the line of targets firing to the right or left, or to the right and left alternately, as might be ordered.

"He was instructed to fix and hold his eye upon the target until right abreast of it; to drop his pistol to a level from the hip and not attempt to take aim, then to fire quickly, and cock pistol, as before, for the next target.

"In firing to the left he turned his body as squarely as he could when abreast of the target. The men were very fond of this practice, and soon became expert enough to put more than half of their shots into the target. There were twenty men in Troop 'B' who could put five balls out of six into the breast of a man at five paces, at full speed.

"On this occasion two men following each other struck the targets at every shot. The leading man struck the last target in the center, driving the nail and dropping the target, and leaving only the tent pole for his successor, who struck it fairly, and as it quivered under the blow the troops gave him a hearty cheer.

"The garrison of Fort Merrill went to pistol practice next day, and as we returned from Corpus, two weeks later, Captain GRANGER challenged us to shoot against 'F' troop.

"My men were eager to accept the challenge, but I told GRANGER 'we hadn't time, nor did we wish to risk our reputation in a contest with more tyros. This practice was quickly taken up by all of the troops of the regiment.

"We then began to develop the single rank drill for mounted riflemen, which was published and adopted for all mounted troops in 1859.

"McCLELLAN after his return from inspecting the cavalry service of European armies, declared our skirmish drill for mounted riflemen superior to any tactics used by them.

"We were repeatedly timed, and when I had the troops in full gallop and the trumpet sounded 'Dismount to fight,' we halted, dismounted, linked horses and were on the line of battle handling rifles in seven seconds. The saber may now be considered an obsolete weapon.

"It requires years of daily practice to make an expert swordsman, in fact, we have never had any in our service.

"Only very ignorant people now carry them; they make noise and show, but, like bayonets, never hurt any enemy.

"I have seen several detachments of so-called cavalry riding at ring and heads. They tried to take the heads at 'right cut,' and recover to tierce point in time to take the ring forty paces distant. They could not do it. As often as not they knocked the rings down with sabers upside down; the curve reversed.

"These same men could become expert with the revolver in a few days practice. Neither FORBES nor any other of our great cavalry commanders ever bore sabers into action.

"In the Franco-Prussian War Germany covered France with her Uhlans, mounted riflemen; while the splendid household cavalry of France, the greatest swordsmen of Europe, the famous swordsmen of the world, were destroyed before they could get within charging distance.

"To be efficient now we must become expert with the rifle and revolver. The uniform should be gray and nothing bright or shiny should be upon the trooper or his equipments.

"When troops dismount to fight, the horses should be secured in their sets of fours by a link-snap, about one foot long, buckled in the halter ring and snapped to the curb ring of the next horse of the set, the reins should be left upon the saddle of the dismounted trooper, being thrown over the pommels. When dismounting to fight, number four remains mounted and immediately leads his horses out of fire.

"Thirty years ago all expertness in horsemanship and marksmanship was with the South. Now it is all the other way; the horsemanship and marksmanship are the most important accomplishments of the soldier.

"A very clever French officer wrote about the cavalry service in Algiers. He showed that the French troops always fought on foot.

"On the introduction of long range rifles the Iomini of LOUIS NAPOLEON declared that henceforth the role of cavalry would be greatly extended; that mounted riflemen would form a great part of all armies. And so it has been; the saber has been superseded by the revolver, and tactics have been directed to securing celerity in dismounting to fight and accuracy of fire.

"Only soldiers of a past generation cling to the 'sword in hand' idea, notably the English cavalry officers like poor NOLAN, and very inexperienced young men whose idea of cavalry service is made up of a prancing horse; an uncomfortable young man ill at ease, in his showy clothes and gaudy, useless trappings."

The French cavalry regiments have received special instruction in the use of the petard de melinite, a species of grenade to be employed for the destruction of railway lines, engines, tenders, telegraph posts, iron gates, the breaking of reservoirs, bridges, and other like purposes.

HORSES AT \$2.00 EACH.

Mr. J. W. HOWARD, one of the wealthiest stock raisers of Eastern Oregon, is in the city on business. Mr. HOWARD says that there are more horses in Eastern Oregon than human inhabitants, and that they are running wild, and in many instances are unclaimed. The horse market is utterly demoralized, according to Mr. HOWARD. Several years ago there was more money in horses than in cattle, but during the last five years a great change has taken place in these conditions. Now there is scarcely any demand whatever for horses, and the breeder in Eastern Oregon has turned his attention to other pursuits. The future of the horse, in consequence of the increasing use of electricity and steam for motive power, is indeed very uncertain.

"I don't know what we are going to do with the horse," he says. "During my recent trip through the mountains I saw thousands running wild as any deer. They usually travel in bands of four or five, and are so thick there is no danger of getting lonely, if you love a horse, as most men do. Some day, I suppose, we will kill them for their meat, the same as we do with cattle. In Europe this is done now, and I'm told the meat is very tender and wholesome. A horse's hide is worth about \$2.00, and it will not be long before we will be killing these intelligent animals for their glossy coats. This is an awful shame, but we are certain to come to it unless some new use is found for these favorite animals."—*Portland Oregonian*.

MAKING PAPER HORSESHOES.

When paper horseshoes were first introduced into the cavalry service of the German army a few years ago, they excited a good deal of interest. Several cavalry horses were first shod with the paper shoes, and the effect observed. It was found that not only

did the lightness and elasticity of the shoe help the horse on the march, making it possible for him to travel faster and further without fatigue than the horse shod with iron, but that the paper shoe had the property of being unaffected by water and other liquids. These new sheets of paper are pressed closely together, one above the other, and rendered impervious to the moisture by the application of oil of turpentine. The sheets are glued together by a sort of paste, composed of turpentine, whitening, gum and linseed oil, and then submitted to a powerful hydraulic pressure. Paper horseshoes are made by grinding up the paper into a mass, combining it with turpentine, sand, gum litharge and certain other substances, pressing it, and afterward drying it, but these shoes are less tough and elastic than those made of thin sheets of paper laid one upon another. These shoes are fastened to the horse's feet either by means of nails, or with a kind of glue made of coal tar and caoutchouc.—*New York Herald*.

STATE ROADS

For the past three years the press of the United States has so thoroughly discussed the different advantages of good roads, and so universally endorsed this reform, that all classes of citizens appreciate the necessity of, and are anxious for, the adoption of such laws as will hasten the construction of State highways.

Massachusetts has from the outset taken the lead in this matter, and the spirit of her Legislature has been shown by making the Highway Commission a permanent one, and by appropriating \$300,000 to be expended, under the immediate supervision of the Commission, in constructing new and rebuilding old roads.

As a result of the popular agitation, the United States recognized the necessity of a move in this direction, and under the "Agricultural Bill" made a special appropriation of \$10,000 to meet the expense of a careful investigation into the condition of roads throughout the country, and for the publication of such information as would assist the people in bettering their highways. The Department of Agriculture has issued a number of bulletins, and it is gratifying to learn that more than a score of States have already passed new road laws, while nearly all the others are planning for the adoption of measures for the promotion of this reform.

Experience has shown that the course pursued by Massachusetts is the one which commends itself most strongly, both to the people at large and to their legal representatives, the various State Legislatures, and it is natural to suppose that if all were familiar with the work here the knowledge would be utilized to bring about similar legislation wherever the method of procedure is still unsettled.

Starting in June, 1892, a temporary commission was appointed to examine into the condition of the roads, and to draft a bill providing for the improvement of the highways of the Commonwealth. The law suggested by the commission was, with some changes, passed

in June, 1893, but before any petitions for construction of State highways were submitted to the General Court, an act was introduced and passed June 20, 1894, increasing the powers of the commission, and permitting the selectmen of any town, or the Mayor and Aldermen of any city, as well as County Commissioners, to petition the Highway Commission for taking roads as State highways. In place of submitting to the Legislature a separate bill for the construction of each road, it was voted that the appropriation be used by the Highway Commission, without further legislation, in building State highways.

The \$300,000 has been pretty evenly divided among fourteen counties. Before deciding which of the many petitions should be granted, an official visit was paid to each locality, and full information as to the value of the proposed improvement collected. While this method has distributed the work in small sections of roads, thus increasing the expense per mile, the advantage to the people at large will be greater, for the reason that each portion of the State highway constructed is intended to be an object lesson to those living near by. County Commissioners and other officials will watch the work as it progresses, and follow out the same lines in building county and other roads which are not intended for State highways.

The plan is to build, section by section, such roads as will connect the great centers of trade, and join with through roads in other States, so that both local and interstate communication will be benefited.

The provisions of the law permit contracts for the construction to be let to municipalities or to private corporations, but the former arrangement is preferred, as it is more effectual in teaching the people the art of road building, and protects the State against cheapening the work by the importation of foreign laborers, an element which is apt to be objectionable.

A resident engineer is appointed by the Commission, and it is his duty to be in attendance, and keep a correct account of all items to be paid for by the State.

Wherever the traffic was of sufficient proportions to warrant it the roads have been broadened. The advantage to owners derived from the construction of the way is, as a rule, so much greater than the injury to them by widening the road that, in a large majority of cases, the town officials have been able to procure releases without any cost.

Thirty-eight sections have been contracted for, and only eight of them are to have a width of eighteen feet of hardened surface, all others being fifteen feet wide. As the primary object is to get length of way, the Commissioners are considering the advisability of building single track roads in the thinly settled districts. These would not be over nine feet wide, with here and there portions of double width as convenient passing points for carriages. A mile and a half of such roads can be built for less than the cost of a mile of fifteen feet width, and the advantage in getting produce to market

is not lessened, provided such construction is confined to localities where the average traffic is from six to eight vehicles an hour.

Progress has been made in the laboratory work on the road building stones of the State. Experiments of this kind are carried on at Harvard University in the Lawrence Scientific School, whose dean, Prof. N. S. SHALER, is a member of the Highway Commission. The chief aim of these inquiries has been to determine the qualities which constitute fitness for road making. This will be of value to the Commission in enabling them to utilize the road material near at hand, and thus lessen the cost of construction. As this phase of the work progresses, maps are made showing the location of all deposits suitable for road building.

A number of towns have already appropriated money to build their streets in the same careful manner as those constructed by the State, and others have purchased road machinery with the intention of extending the work on roads other than State highways.

Careful consideration has been given to the plan of planting shade trees along the highways. With this end in view, experts have been consulted concerning the best varieties for the purpose, and the wayside trees have been examined, so as to determine the species well adapted to the climate and soil of Massachusetts.

As the estimated expense of procuring and planting these trees is not less than one-half a million dollars, the Commission has rightly made this question secondary to road building, but in the meantime they are collecting such data as will enable them to work with profit on the adornment of the roads after the construction is well in hand. The American and English elms have the advantage of fairly rapid growth, with shade high above ground, and the leaves falling from them give but little obstruction to the gutters. They have the disadvantage of being subject to the attacks of insects, so that the cost of protecting them from these pests would be considerable. Maples grow well and are beautiful, though they often shade the road too much. It is the custom in parts of Europe to plant the roadsides with trees which yield profitable crops. In France and Germany, for example, cherry trees abound. In these countries the yield of the wayside trees belongs to the neighboring land owners, but in some cases to the community, and their product is well guarded by law. There will be more or less experimenting on the part of the Commission before they decide upon the species to be planted. The law provides for the beginning of this work in the spring of 1895, and from that time it will be carried on slowly, so as to obtain the benefit of experience.

Every State should make a beginning on road improvement. In thinly settled regions of the country, where the people do not feel able to undertake much, they can do no better than to start the reform by constructing sections of single track roads. No community can afford to neglect the common roadways. Our prosperity is too intimately connected with the facilities for communication.

THE ROYAL UNITED SERVICE INSTITUTION.

The Palace of Whitehall and its grounds, so associated with the names of English monarchs and rulers from the days of HENRY VIII to CHARLES II, occupied the district between Charing Cross and Westminster, extending from the Thames up into St. James's Park. Part was burned to the ground in 1691 and the remainder in 1697. The space is now covered with streets, terraces, and public buildings. The boulevard of the Embankment occupies the river front. The ground is intersected by one of the busiest thoroughfares of London—Whitehall. On the east side of Whitehall, opposite the Horse Guards, still stands the old banquetting hall of the palace. It was built in the Palladian style by INIGO JONES in the reign of JAMES I. The ceiling is embellished with pictures by RUBENS—the apotheosis of JAMES I in the center, with allegorical representations of Peace and Plenty, and scenes from the life of CHARLES I, the artist's patron. The most striking actual scene in CHARLES's life was there enacted. He was on January 30, 1649, led out through one of the windows of the great hall and executed upon a lofty scaffold in front of the building. Under the Georges the pile was converted into a royal chapel, and that it remained until a few months ago.

The Royal United Service Institution composed of members of the military, naval, and auxiliary forces, was founded in 1830 for the advancement of literary and scientific knowledge connected with the "services." It has a membership of 5,000, holds meetings at which papers are read, and publishes a *Journal*. The society early formed the nucleus of a museum. The collection was until of late wretchedly housed, and admission was to be had only by order from a member. Lately, by arrangement, government has made over to it the banquetting hall. Offices and a splendid lecture theatre have been added. The museum is now arranged in the hall and its basement. It is one of the most interesting collections in London. Admission is at a trifling fixed charge—"soldiers and sailors in uniform free." Old flags wave from the gallery. The walls are covered with the weapons of all times and of all countries. The progress of the musket can be studied from the "Brown Bess" to the magazine rifles now adopted by different States. Cannon are there from the rudest of old times and of half-civilized peoples to the most deadly quick-firing ordnance. The uninitiated may learn to realize the difference between "ordinary," "smokeless," and "cordite" powders. The weapons and ammunition of the time of the Crimean War appear almost playthings before present appliances. Large scale models of war vessels are there, from the Malay pirate and the ships of the time of JAMES I and the Hanseatic League, to the great three-deckers of the Napoleonic Wars and the destructive 27-knot torpedoes of the present. Everything connected with modern warfare is expensive—these models even must have cost large sums. Perhaps one-fourth of the 6,000 square feet of the great hall is occupied by "models" of the battle of Trafalgar and a plan of the field of Waterloo. This latter is said to contain 190,000 little figures. A passing study of these will tend to a clearer conception

of the crowning events in the career of NELSON and WELLINGTON than would a long course of reading. Much of the armor, weapons, and dresses has been taken in actual warfare.

It is the relics that will perhaps arouse the greatest interest in most minds. There is a heavy anchor taken up within late years from the wreck of a vessel of the Spanish Armada on the coast of Donegal. (How the past and the present are brought together.) The more precious objects are enclosed in glass cases—a portion of the standard presented by Queen ISABELLA to PIZARRO; Commodore DRAKE's snuff-box, the sword carried by CROMWELL at the storm of Drogheda; arms from the field of Culloden, the sword worn by WOLFE when he fell on the Plains of Abraham; scalping knives and pistols of the Indian auxiliaries on both sides in the War of Independence, and in 1812, papers relating to the private signals and the signal book of the "Chesapeake"; a quadrant and other objects from the wreck of the "Royal George"; Captain COOKE's punch-bowl, his chronometer taken out by BUSH in 1787, and carried by the mutineers in the "Bounty" to Pitcairn's Island—a telescope belonging to the "Bounty"—the prayer-book used by JOHN ADAMS in his morning and evening services with the descendants of the mutineers. Here, again, are weapons used by the insurgents in Ireland in 1798; TIPPUS SAIB's pistol found on his body; Sir RALPH ABERCROMBY's pistols. Numerous are the records of Trafalgar—a portion of the "Victory's" flag, NELSON's hat and a lock of his hair, his desk and sword. The clothes in which he fell are to be seen in the Painted Gallery at Greenwich. We see before us the officers' sashes used in carrying Sir JOHN MOORE from the field at Corunna and lowering him into his grave on the ramparts of the Citadel. There is a memento of an Indian brave in the buffalo powder horn taken from the body of the Shawnee chief, TEUMSEH, at the battle of the Thames in 1813. Many are the reminders of Waterloo and NAPOLEON—the skeleton of the charger "Marengo," which the Emperor rode, the pocket telescope, razors, and shaving apparatus left in his carriage, the desk and chair he used at St. Helena, the saddle of BLECHER's horse, a map carried by General PIETON and saturated with his blood. A number of pikes used by the "Welsh Chartist" at the attack on Newport in 1840, remind us that the present seditious inhabitants of the principality have fiery Celtic blood in their veins, as well as their brethren on the other side of St. George's Channel, whose Fenian pikes are also in evidence. The relics of the FRANKLIN expedition are peculiarly interesting, most of them were brought home by Dr. RAE, one is especially affecting—a silver medal gained by a lad at school in 1830, taken with him (then a lieutenant) to sea in 1845, buried in his grave in the far North three years afterwards, and brought home with his remains in 1880. Numberless are the memorials connected with the Crimean campaign and with the ever recurring Indian wars of the past century.—*The Nation*

BOOK NOTICES AND EXCHANGES.

THE FIRST NAPOLEON. By John Codman Ropes. Houghton, Mifflin & Co. 1895.

We have here the twelfth edition of the series of lectures which were first collected and published ten years ago.

The history of Napoleon has often been written by his friends and by his enemies. National, political or personal ends have in many ways shaped the conflicting accounts of the times. These writers of each nationality have sought to elevate the work of their own heroes by belittling that of their enemies. Even Frenchmen have been divided between the wish of some to bolster up the House of Bourbon by destroying the legend of Napoleonic glory, and the desire of others to keep the patriotic halo about his name. Those who were actors in the great events described have usually devoted themselves to the task of saving their own reputations at the expense of all others. All this was to be expected, and perhaps it is full time for an historian to appear who is able to speak of Napoleon, not entirely as a spirit of health and mercy, nor yet as a "goblin damped." Mr. Ropes is well fitted for this task, and runs down his facts with strict impartiality and logical severity.

We are not permitted to forget many things connected with great names which we might be willing to pass by. For instance, in sitting in judgment upon Napoleon's course toward the Duc d'Enghien, what right of argument has the nation which subsidized the assassins of 1804, and gave them transportation on her war ships? Can it be forgotten that the hero of Trafalgar violated the terms of the capitulation of the Neapolitan prisoners in 1798, and had Admiral Caraccioli hanged at the yard-arm of an English frigate? Did not Wellington stand still and see with indifference the terms of a military convention, to which he was one of the principal parties, violated in the trial and execution of Ney? Events in the career of Blucher, York and Schwartzberg, also show that excellent soldiers are often very mean men, and that Napoleon's acts and aims were as high and good as any. The genius of Napoleon to be sure had many limitations, as shown in his numerous

political mistakes, in his obstinate refusal to make concessions, and in his reckless confidence in war.

The outline of the Waterloo campaign is particularly interesting, because of the researches and investigations of the writer, whose great work on this subject is now the standard authority. Occasion is taken to correct mistakes of former editions of the lectures relating to this campaign. Grouchy is put upon a pinnacle from which his apologists will find it hard to lower him; he is convicted of all kinds of blundering, and of some willful misstatements regarding the Bertrand order. Other military events are very briefly treated.

An account of the First Napoleon which does not cover his military history seems at first like the play of "Daniel in the Lion's Den" without Daniel, but such an idea is corrected by reading this book. There were so many sides to Napoleon's career that Mr. Ropes does not suffer from a lack of material in portraying him, not as a statesman, or as a soldier, but as a great lawgiver, a wise and liberal ruler, a champion of the rights of man.

To make this plain the state of Europe is sketched at the time of the French Revolution. A corrupt nobility and a bigoted clergy had brought the middle and lower classes to a condition of poverty and misrule. Civil or religious liberty, and equality before the law, were not known. The Revolution was the protest against all this. It came in such a terrible form, like all revolutions, and it committed such crimes in the name of freedom, that its true effect is often forgotten. The people were not fit to govern themselves, and they gave power to men who were themselves the fiercest and bloodiest of tyrants. At the bottom of it all lay the fact that humanity was blindly seeking for more liberal laws; greater liberty of action, and less burdensome exactions from the privileged classes. Napoleon was the logical result of this demand and of this state of reaction from revolution following misrule. He first gave the country a solid government, with a code of laws more liberal than any under which the world had yet lived. Not only was this the good result for France, but when he extended his conquests he also spread the spirit of liberty and equality among peoples where these principles were unknown before. The benefits of his code, the publicity of legal procedure, the establishment of the jury system, were the characteristics of the kingdoms which he gave to his generals and brothers. "Be a constitutional king," he tells Jerome, in handing him the Kingdom of Westphalia.

Thus the fundamental principle of the scheme of universal empire was different from what is usually supposed, and it was not merely a soldier's ambition that carried his armies from Madrid to Moscow. His idea was to found an empire based on the principle of the equal rights of all men, and extended by force of arms. In carrying out his plans, the mortal conqueror almost touched the limits of that empire which was founded eighteen hundred years before upon the entirely different plan of morality and brotherly love. It was a great idea, and often seemed likely to succeed.

E. S.

SOME FEDERAL AND CONFEDERATE COMMANDERS.

This book contains a series of critical sketches published by the Military Historical Society of Massachusetts:

1. "General Beauregard," by John C. Ropes, Esq.
2. "General Grant," by Colonel Theodore A. Dodge.
3. "General Hancock," by General Francis A. Walker.
4. "General Humphreys," by General James H. Wilson.
5. "General McClellan," by John C. Ropes, Esq.
6. "General Sherman," by John C. Ropes, Esq.
7. "General Stuart," by John C. Ropes, Esq.
8. "General Thomas," by Colonel Henry Stone.
9. "General Thomas in the Record," by Colonel Thomas L. Livermore.
10. "The War As We See It Now," by John C. Ropes, Esq.

The sketches are edited by Theodore H. Dwight. The book comes as a gift from the Massachusetts Historical Society, and is a welcome addition to the small library of the Association.

THE MILITAER-WOCHENBLATT.

No. 18: War and Peace Problems. The New Landwehr in Eritrea. No. 19: Archduke Albrecht of Austria. How is the Soldier to Keep His Feet Warm in Winter? Extracts from the Annual Reports of the Secretaries of War and Navy of the United States. No. 20: Approach and Deployment of Field Artillery for Battle. The French Army Budget. New Regulations for the Prussian Army Trains in War. No. 21: Approach and Deployment of Field Artillery for Battle (concluded). The "Hiding Hall," Madagascar. No. 22: Freedom of Form or Practically Regulated Attack? Madagascar (concluded). French Maneuvers. No. 23: Notes on the Essay, "Principles of Horse-Training and Equitation." The Training of Cossacks for Battle. Peace Strength of the French Batteries. No. 24: Reorganization of the Italian Army. No. 25: The horses Drafted at a Recent Mobilization in France. No. 27: Cavalry Divisions During Peace. No. 28: Cavalry Divisions During Peace (concluded). The Raiding Parties of the Allies in 1813. Infantry Horses in France. No. 29: Insurance of Horses for Officers and Officials of the German Army. No. 30: The Ideal War Academy. No. 31: The Ideal War Academy (concluded). No. 32: Fillis, Plinzner and the Riding Instructions. Influence of Sea Power on History (Nowlan). No. 33: War Lessons. Horses for Field Artillery. No. 34: War Lessons (concluded). The Railroads of the East Asiatic Powers from the Military Point of View. No. 35: Use of Tents in Winter. No. 36: New Field Guns by Foreign Private Firms. A Means to Increase the Mobility of Artillery. Service on the Line of Communication. No. 37: Cavalry Divisions in Peace Time. Mounted Messengers for Infantry. Mobility of Field Artillery. Smokeless Powder. No. 38: Cavalry Divisions in Peace Time (concluded). Employment of Cycling Infantry. No. 39: Reflections on the Campaign of 1866 in Holz. Are Changes

Necessary in the Training of Cavalry? No. 40: Loebell's Annual Reports. Are Changes Necessary in the Training of Cavalry? (concluded). No. 42: Some New Regulations for Attacks by Brigades and Divisions.

THE PENNSYLVANIA MAGAZINE OF HISTORY AND BIOGRAPHY. April, 1895.

1. The Marquis de Lafayette in the American Revolution, by Charles J. Stille. 2. Washington after the Revolution, 1784-1799, by William S. Baker. 3. Extracts From the Journal of Lieutenant John Bell Tilden, Second Pennsylvania Line, 1781-1782, by John Bell Tilden Phelps. 4. Colonial Mayors of Philadelphia in 1777, by Worthington Channery Ford. 5. St. James's Perkiomen, by Rev. A. J. Barrow. 6. A Register of Baptisms, Marriages and Deaths, 1772-1822, by Rev. William Rogers, D. D. 7. Letters Relating to the Death of Major-General Anthony Wayne, by Isaac Craig. 8. Letter of Surgeon's Mate Benjamin Shield to Brigadier-General James Hamilton, 1781, by Horace W. Sellers. 9. Granville Penn as a Scholar, by Albert J. Edmunds. 10. Letter of General Anthony Wayne.

THE UNITED SERVICE. 1895.

April: 1. The Supply of the Armies of Frederick the Great and Napoleon, translated by Captain H. G. Sharpe, C. S., U. S. A. 2. Yesterday in Annapolis, by K. R. L. 3. Arab Men and Arab Horses. 4. Origin and Development of Steam Navigation, by the late George H. Peble, Rear Admiral, U. S. N. May: 1. Detached Service, by C. 2. Uniform, by Lieutenant C. De L. Hine, U. S. A. 3. Origin and Development of Steam Navigation (continued). 4. Which Was the Thief? by E. L. Keyes. 5. The Supply of the Armies of Frederick the Great and Napoleon (continued). June: 1. The Regular Army and National Guard, by Captain H. R. Brinkerhoff, Fifteenth Infantry, U. S. A. 3. Chronicles of Carter Baracks, by H. W. G. 3. The English Food Gifts After the Siege of Paris. 4. A Forgotten General, by Edward Shippen, Medical Director, U. S. N.

JOURNAL OF THE MILITARY SERVICE INSTITUTION. May, 1895.

I. A Paper on Military Libraries, by Colonel Closson. II. Hygiene and Military Efficiency, by Major Harvey. III. The Army Artillery Reserve, by Captain Chester. IV. Training the American Soldier, by Lieutenant Butts. V. Results of Experimental Firing, by Captain Black. VI. Battery Competition for Gunners, by Lieutenant Wood. VII. United States Marine Corps, by Major Lowry. VIII. The Fire of Dis-mounted Cavalry, by Lieutenant Dickman. IX. Infantry Drill Regulations, by Captain Kingman. X. Extended Order, by Captain Hooton. XI. Comment and Criticism. XII. Reprints and Translations. XIII. Military Notes.

XIV: Reviews and Exchanges. XV: Announcement and Index. XVI: The Seventh Regiment of Cavalry. XVII: The Ninth Regiment of Cavalry. XVIII: The Third Regiment of Infantry.

PROCEEDINGS OF THE ROYAL ARTILLERY INSTITUTION. 1895.

March: 1. The Story of the Civil War in America; a Review, by Major E. S. May, R. A. 2. Diary of Lieutenant W. Swabey, R. H. A., in the Peninsula. 3. General Bourbaki's Campaign in January and February, 1871, by T. M. Maguire, Esq., LL. D. April: 1. Coast Artillery in Action, by Lieutenant-Colonel J. R. J. Jocelyn, R. A. 2. Captain Thomas Brown, Chief Fire Master in the West Indies, 1693, by Charles Dalton. 3. Torpedo Boat Raids on Harbors, by Lieutenant C. G. Verker, R. A. 4. Diary of Lieutenant W. Swabey, R. H. A., in the Peninsula (continued). May: 1. Proposed Slide Rules for Calculating Battery Commanders' Corrections, by Major A. C. Hansard, R. A. 2. Cooperation Between Guns and Cavalry, by Major E. S. May, R. A. 3. Diary of Lieutenant W. Swabey, R. H. A., in the Peninsula (continued).

JOURNAL OF THE UNITED STATES ARTILLERY.

1. The Resistance of the Air to the Motion of Oblong Projectiles as Influenced by the Shape of the Head, by Captain James M. Ingalls. 2. Trained Artillery for the Defense of Sea-Coast Forts, by Lieutenant Samuel E. Allen. 3. Range and Position Finding, by Lieutenant William Lassiter. 4. The Use of the Artillery Fire Game, by Lieutenant John P. Wisser. 5. Coast Artillery Fire Instruction, by Lieutenant E. M. Weaver. 6. Okehampton Experiences, by Major A. R. Hughes, R. A. (reprinted).

ALDERSHOT MILITARY SOCIETY PUBLICATIONS.

The Role of Cavalry as Affected by Modern Arms of Precision, by Captain W. H. James. * Umpiring at Field Maneuvers, as Practiced by Various Foreign Nations, by Captain J. M. Grierson. Field Fortifications as Applied to Modern Conditions of War, by Lieutenant-Colonel Sir G. S. Clarke. Lessons to be Learnt From Small Wars Since 1870, by Captain C. E. Collwell.

JOURNAL UNITED SERVICE INSTITUTION OF INDIA.

1. The Breeding Stud of an Indian Prince, by Colonel T. B. Tytler, R. A. 2. Notes on Cavalry, by Captain H. L. Roberts, F.R.S., Bengal Cavalry. 3. The Training of Railway Volunteer Corps, by Captain E. H. F. Fink, etc.

THE MAINE BUGLE. April, 1895.

1. How the First Maine Heavy Artillery Lost 1,179 Men in Thirty Days. 2. With Sheridan in Lee's Last Campaign. 3. Cavalry Incidents of Maryland Campaign, etc.

THE IOWA HISTORICAL RECORD. April, 1895.

OUR DUMB ANIMALS. May, 1895. Boston.

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MAJOR-GENERAL JOHN BUFORD.*

BY MAJOR-GENERAL JAMES H. WILSON, U. S. V., BREVET MAJOR-GENERAL, U. S. A.

ON this historic field thirty-two years ago to-day the crimson tide of the great Rebellion reached its topmost mark. A little over a mile from this very spot it broke, forever in the East, as it did at the same time on the far-away bank of the Mississippi, forever in the West. The boiling and seething flood, lashed to fury by sectional interest and sectional hate, could not be calmed at once. Fiercely, but with diminishing force, it rolled on for nearly two years more, but after the double victories of Gettysburg and Vicksburg the end was never doubtful to the hopeful heart of the patriot. Peace, the white-winged messenger of God, showed clear and bright her benign face thenceforth, even through the rifts and smoke of battle that hung over the tangled thickets of the Wilderness and the blood-stained slopes of Chickamauga and northern Georgia.

The historian's glowing page tells of the hurrying marches and deadly battles throughout the widely extended field of war, in which the cause of slavery and of rebellion went down forever

*Oration delivered at Gettysburg on July 1, 1895, when the Buford Memorial was dedicated.

before the loyal hosts of the National Union. They need no recital from us. We are met to-day, not to recount these thrilling chapters of the nation's history, nor yet to describe the incidents of the great battle which took place here. The pathetic and imperishable monuments which mark every feature of this lovely landscape, as well as every advanced position of either side in that sanguinary struggle, will hand down to remotest ages the unrivaled story of American valor and American patriotism.

Our task is rather to commemorate by this simple monument and effigy of bronze, and by these guns which opened the action at this spot, the virtues and services of the great soldier and honest, loyal gentleman, whose fortunate lot it was to select this field, and decide that here the battle should be fought, here that the great issue should be tried to the end between the Federal and Confederate hosts.

The statue of bronze and monument of granite which we here dedicate, are reared by loving hands to the ever sacred memory of Major-General JOHN BUFORD, and they too will tell their eloquent story of loyalty and duty to unending generations of patriotic youth. This living bronze speaks to us in the language of the self-contained and courageous soldier, whose calm and dignified person, whose lofty and confident bearing it so impressively brings back to the minds of his comrades gathered here to honor him. Happy and fortunate soldier thus to be honored—thus to be certified throughout all time to his countrymen!

It was not my good fortune to serve under this modest hero. My acquaintance with him was but slight. Indeed, I never met him except in the Antietam campaign, but I vividly recall, through the vista of a third of a century, his erect and manly figure, his bronzed and reassuring face, his flashing eyes, and above all, his calm self-possessed and confident demeanor. He was, at that time, in the very prime of both mind and body, and seemed to all who knew him then to be an ideal soldier and leader, and may we not say without boastful discrimination or injustice to the gallant volunteer, that the ideal soldier and leader of that day and epoch was the well educated, experienced and conscientious West Point graduate who had been ripened and matured by frontier service in the regular army? Surely, up to that time, the world offered no better school, and right successfully had it fashioned BUFORD and STANLEY and GREGG, and SHERIDAN and THOMAS, and STUART and VAN DORN and HARDEE, and even JOHNSTON and LEE of the cavalry, as well as a host of others of the infantry and artillery.

But something more than West Point and frontier service were needed to produce a BUFORD. He was "no sapling chance-sown by the fountain." He had had years of training and experience in his profession, and although they were precious and indispensable, they could not have produced the results which were realized in him, had it not been for the honorable deeds of his ancestors and the hereditary traits developed and transmitted by them. Such men as BUFORD are not the fruit of chance. Springing, as he did, from a sturdy Anglo-Norman family long settled in the "debatable land" on the borders of England and Scotland, he came by the virtues of the strong hand through inheritance. His kinsmen, as far back as they can be traced, were stout soldiers, rough fighters and hard riders, accustomed to lives of vicissitude, and holding what they had under the good old rule, the simple plan: "Those to take who have the power, and those to keep who can." Men of his name were the counsellors and companions of kings, and gained renown in the War of the Roses, and in the struggle for dominion over France. In the wars between the STUARTS and the Commonwealth they were "king's men."

The founder of the family in America was, as usual, a younger son who settled in Culpeper county about 1675, and became the progenitor of all the BUFORDS in Virginia, Kentucky, Carolina and Tennessee. Belonging by right to the gentry of the day, they became prominent men and leaders of the people in all that pertained to the public defense. Whether the name was originally "BEAUFORD" or "BEAU-FORT," it was pronounced BUFORD; but when trouble began to show itself with the mother country, tradition has it that a family council resolved to spell it thenceforth as it was pronounced. The first settler's name was THOMAS BUFORD, and tradition again has it that he invested most of his capital in horseflesh, and his descendants in all the generations have been noted for their fondness for the turf. Branches of the family appeared, in due time, in Bedford and Mecklenburg counties, and their names are found on all the muster rolls of the times. Captain THOMAS BUFORD, of Bedford, commanded a company of Fincastle men in Lord DUNMORE's war with the Indians, and was killed at the battle of the Great Kanawha in 1774. ABRAHAM BUFORD, of Culpeper, was a lieutenant in the same regiment, and JOHN BUFORD, a younger brother of the captain, was a non-commissioned officer. The lieutenant became a captain of minute men in 1775, and rose to the colonelcy of the Eighth Virginia, Continental line. He it was who commanded the battalion of raw levies in GREEN'S Southern cam-

paign, which, in its retreat towards Virginia, was overtaken at Waxhaw Creek by TARLETON and almost annihilated.

The BUFORDS, like most of the patriotic Virginians, suffered heavily from the ravages and sacrifices of the Revolution, and sought to mend their fortunes by emigrating to Kentucky. ABRAHAM, SIMEON and JOHN, and perhaps others of the name, settled in Woodford county in 1790. They intermarried with the McDOWELLS, DUKES, ADAIRS, and other leading families, and multiplied rapidly. SIMEON's son JOHN became known as Colonel JOHN BUFORD, and was an influential citizen of Kentucky and Illinois. He was twice married. By his first wife he had a son who graduated at West Point in 1827, and after a successful career as a manufacturer and banker, became distinguished in the War of the Rebellion as NAPOLEON B. BUFORD. This gentleman was famous as a scholar and philosopher, and enjoyed the respect of all who knew him.

Colonel JOHN BUFORD's second wife was the daughter of Captain EDWARD HOWE, who served under HARRY LEE in the famous "Light Horse Legion." She was the mother of JOHN BUFORD, JR., as he was known till after the death of his father.

Thus it will be seen that the distinguished soldier whose services and virtues we commemorate here to-day, comes of a race of gentlemen who, in the lofty language imputed to a kinsman, were accustomed "to yield their persons willingly unto death to do their country good." SHAKESPEARE speaks of one of the name who may have also been a kinsman, "as another goodly mast," in England's ship of state. They were forward and resolute men of action—rarely ever professional men or statesmen. They were not in any way, nor in any former generation, brilliant people, but had strong practical sense and hardy constitutions. They were honest, straightforward, courageous, and had a strong tendency to arms. They were public-spirited citizens, doing their part boldly, and always in the vanguard of the race to which they belonged; and whether as Scotch bordermen, Colonial rebels, Indian fighters, king's men, or regular army men, standing up stoutly for their opinions, and doing what they conceived to be their duty to themselves and to their countrymen wherever it might take them. But strong and courageous and generous as they were through many generations, the very flower and jewel of their family was the knightly gentleman in whose name we are gathered here to-day.

Appointed to West Point from Illinois in 1844, he was graduated in 1848, too late for the Mexican War, but with the instinct of his family, he asked for and obtained assignment to the dragoons. His

first service was at Jefferson Barracks, whence, after a short time, he was sent to the Western frontier. Kansas, New Mexico, Texas, Nebraska and Utah became in turn the scene of his youthful labors and activities. Those border regions were at that time infested by Indians, who harried the settlements and kept the widely scattered detachments of regulars constantly on the alert and constantly employed. BUFORD, being of a serious turn of mind, and at all times conscientious and thorough in his work, soon attracted the attention of his superiors, and in due course was appointed regimental quartermaster of the Second Dragoons. From the start a good duty officer, he speedily became known as an equally good quartermaster, and as such learned many of the lessons most useful to a general. He served under HARNEY, the greatest Indian fighter of his day, in the campaign of 1855 against the Sioux, and received high praise for his conduct both on the march and in the battle of Bluewater. Later, he took part in the Utah expedition, and won the friendship and commendation of ALBERT SIDNEY JOHNSTON and of P. ST. GEORGE COOKE, as a "most efficient and excellent officer." After returning from Utah, he was on duty in Washington till he received his commission of captain in the Second Dragoons, when he was sent to Oregon with a detachment of recruits. Rejoining his company at Fort Crittenden, Utah, he remained with it till early in 1861, when he was appointed major and assistant inspector general, and ordered again to Washington.

This appointment set the seal of the highest official approval upon his character and soldierly attainments. It certified to the army and to the country, alike that he was one of the best officers at that time under the flag. Assigned to duty in the defenses of Washington, within four months he was appointed brigadier-general of volunteers, and as such was sent July 27, 1862, to act as chief of cavalry of BANKS' corps. Without delay he took personal command of a brigade composed of four regiments, the First Michigan, Fifth New York, First Vermont and First West Virginia Cavalry, and at once threw them against the enemy. He played a conspicuous part with his small but gallant force, and received a wound at the battle of Manassas in POPE's ill-starred campaign.

He was at that time ripe for the gallant and honorable career before him, and hastened back to the field as soon as his wound would permit. A distinguished officer of the same arm of the service, now the President of this Association, said of him that as a captain of dragoons "he was considered," in a regiment famed for its dashing and accomplished officers, "as the soldier par excellence."

He adds, in loving admiration, that "no man could be more popular or sincerely beloved by his fellow officers, nor could any officer be more thoroughly respected and admired by his men than he was. His company had no superior in the service." The same distinguished officer, writing after his career had closed in death, says: "He was a splendid cavalry officer, and one of the most successful in the service; was modest, yet brave; unostentatious, but prompt and persevering; ever ready to go where duty called him, and never shrinking from action however fraught with peril." And these are the elements of true greatness.

It is impossible, within the limits appropriate to this occasion, to recount the many details of BUFORD's splendid but brief career as a brigade and division commander. He took a conspicuous part in the campaigns of Northern Virginia, Antietam, Chancellorsville, Fredericksburg and Gettysburg, participating constantly in raids, skirmishes and battles; and everywhere and at all times bearing himself with perfect gallantry, and leading his followers with skill and prudence through every peril which beset them. He gave hearty and ungrudging support to POPE, no less than to McCLELLAN, BURNSIDE, HOOKER and MEADE. He joined no cabals, uttered no seditious words, and wrote no complaining letters, but honestly and loyally, with unshaken confidence and a stout heart, as a good soldier ought, upbore the flag, not always to victory it must be confessed, but everywhere with skill and credit. It was his misfortune that the day had not come for the best use of cavalry in close cooperation with infantry, but so far as lay within his discretion, it is plainly discernible that he believed in masses, organization and mutual support, and had no prejudices in favor of fighting with the saber, or against fighting dismounted when the circumstances of the case called for or seemed to justify it. He was a true dragoon, as well as a true cavalier, and had he lived till the end of the war could not have failed to reach the highest command in that branch of the service.

After serving with credit, though without any great feat of arms, as McCLELLAN's chief of cavalry, in the Antietam campaign, he was selected to command the Reserve Brigade, composed of four regiments of regulars and one of volunteer cavalry in the first systematic organization of the cavalry corps in the Army of the Potomac, and rendered gallant service at the battle of Fredericksburg and in STONEMAN's raid. He succeeded shortly to the command of the First Division, and bore himself splendidly in the brilliant but some-

what desultory and disjointed cavalry battles on June 9, 1863, with STUART's cavalry about Brandy Station.

From that time forth, till the end of the Gettysburg campaign, he kept close watch, in conjunction with GREGG's division, on LEE's northward march. In the splendid combats at Aldie, Middleburg, and Upperville, in which he took a leading part, the Federal cavalry for the first time gained a substantial victory over STUART and drove him back into the defile at Thoroughfare Gap. Crossing the Potomac at Edward's ferry behind the infantry, BUFORD pressed rapidly to the front through Frederick and Boonsborough into Pennsylvania and the Cumberland Valley near Waynesborough, and thence through the defile at Monterey to Fountaindale and Fairfield where, on the 29th of June, he overtook the enemy's infantry, with which he skirmished heavily, but needing artillery for effective work, and yet fearing that its use would cause a premature concentration of the enemy, he turned east towards Emmitsburg, where he met REYNOLDS with the First Corps. Pausing only long enough to tell his story, he advanced rapidly along the turnpike northwardly to Gettysburg, which place he reached at 2 P. M. on the 30th of June. He expected to meet here KILPATRICK, who had succeeded to the command of STAHEL's division, but instead found the town occupied by a small detachment of rebels, which he promptly drove out. He learned at once that EARLY of EWELL's corps had passed through towards York on the 26th. From the reports of his scouting parties which he kept out constantly, and from such scanty information as he could gather from the badly demoralized citizens, he became satisfied late that night that HILL's corps of the invading army had reached Cashtown, only nine miles to the westward, and had pushed an advanced force of infantry and artillery to within four miles of Gettysburg. Meanwhile, it must not be forgotten that his own command was badly fagged out. He had been constantly on the move from the 9th of June; his horses had had but little grain, and were beginning to need shoeing badly. The trains and regular supplies were far in the rear, and as the day had hardly come for living off of the country, especially our own country, the subsistence of the command was precarious, and the tendency to straggling almost irresistible. It was an anxious afternoon and a busy night for him and his brigade commanders. A hasty examination of the country about Gettysburg convinced him that its commanding features no less than the admirable system of highways radiating from it in all directions, would make it a strategic point of extraordinary value to the Union army. He saw at once that it

must be occupied as well for fighting, if that should be decided upon, as for obtaining information of the enemy's movements. Having sent out additional scouting parties during the night, and strongly picketed the roads towards Chambersburg, Mummasburg, Carlisle, Harrisburg, York and Hanover, he had by daylight gained positive information of the enemy's position and movements, and in his own graphic language had "completed his arrangements for entertaining him" until REYNOLDS, who had camped only five miles south of him, could reach the scene with the First and Eleventh Corps.

MERRITT, with the Reserve Brigade, having been detached by orders from General PLEASANTON, commanding the corps, the day before, BUFORD's force consisted of GAMBLE's and DEVIN's brigades only, in all eight regiments of 4,200 men, with CALEF's battery of horse artillery, which he posted as they debouched through the town on suitable ground commanding the roads to the west and north, so they could support the pickets and promptly deploy for battle. BUFORD himself encamped in the town, and it is now perfectly certain that he knew and declared that night that the battle between LEE and MEADE would be fought at Gettysburg, and that it would be a desperate one. On this important question the testimony of his signal officer is conclusive. Having been personally present, he makes the following explicit report of what occurred on the night of June 30th: "General BUFORD spent some hours with Colonel TOM DEVIN, and while commenting upon the information brought in by DEVIN's scouts, remarked—'That the battle would be fought at that point, and that he was sure it would be commenced in the morning before the infantry would get up.' These were his own words. DEVIN did not share in this belief, and replied, 'That he would take care of all that would attack his front during the ensuing twenty-four hours.' BUFORD answered, 'No, you won't; they will attack you in the morning, and will come booming—skirmishers three deep. You will have to fight like the devil to hold your own until supports arrive. The enemy must know the importance of this position, and will strain every nerve to secure it; and if we are able to hold it, we will do well.' Upon returning to our headquarters he ordered me to seek out the most prominent point and watch everything; to be careful to look out for camp fires, and in the morning for dust. He seemed anxious, more so than I ever saw him."

This same officer, who early in the morning of July 1st had taken his station in the cupola of the Theological Seminary, being the most eligible point of observation on the field, says: "The engagement was desperate, as we were opposed to the whole front of HILL's

corps. We held them in check fully two hours, and were nearly overpowered when, in looking about the country, I saw the corps flag of General REYNOLDS. I was still in the seminary steeple, but being the only signal officer with the cavalry, I had no one to communicate with, so I sent one of my men to BUFORD, who came up and looking through my glass confirmed my report, and remarked: 'Now we can hold the place.' General REYNOLDS and staff came up on a gallop in advance of the corps, when I made the following communication: 'REYNOLDS himself will be here in five minutes; his corps is about a mile behind.' BUFORD returned to my station, and watched anxiously through my signal telescope. When REYNOLDS came up, seeing BUFORD in the cupola, he cried out, 'What's the matter, JOHN?' 'The devil's to pay,' said BUFORD, upon reaching the ground. REYNOLDS said, 'I hope you can hold out until my corps comes up.' 'I reckon I can,' was the characteristic reply. The two officers then rode rapidly to the front."

But to return to the regular sequence of events. Early on the morning of July 1st, not later than 6 o'clock, GAMBLE's pickets on the Cashtown or Chambersburg road were driven in from their advanced posts beyond Willoughby Run. BUFORD, who was on the alert, and was promptly informed, at once ordered GAMBLE to support his pickets with his brigade and, if possible, drive the enemy back. The latter having already taken up a strong position on Seminary Ridge, overlooking the run and its valley, at the word moved proudly forward to meet the enemy. CALEF's battery was called from the point near town where it had bivouacked, and placed in position on the Chambersburg Road by BUFORD himself. DEVIN's brigade was thrown forward on the right so as to cover the space from GAMBLE's right on the railroad cut around to the Mummasburg Road. The object being to hold the advancing rebels back and to keep them out of Gettysburg as long as possible, or till the infantry could reach and occupy the ground, the gallant troopers dismounted and moved forward like infantrymen. The whole country between Willoughby Run and Rock Creek was covered by a well-posted line of pickets and skirmishers, so that no hostile force could possibly approach the town until that line was broken or driven back. Surprise was from the first impossible, and it was now merely a question of numbers and endurance. As has been shown, BUFORD, with unerring instinct, had perceived that Seminary Ridge running north and south to the west of the town must be held till MEADE's army could reach Gettysburg and take position on the dominating ground south of it. He entertained no illusion of any kind; he liked cav-

alry work, both mounted and dismounted, and had thoroughly enjoyed the brilliant successes he had gained at Brandy Station, and especially had he delighted in the rapid succession of charge and counter charge at Aldie, Middleburg and Upperville, by which STUART had been beaten and jammed back into Thoroughfare Gap. We may be sure he would have liked nothing better than to try it over again with his gallant antagonist, had the latter been there, but inasmuch as it was certain that HILL's veteran infantry "with their tattered uniforms and bright bayonets," was before him, and must soon be joined by EWELL with STONEWALL JACKSON's men, he knew that there would be bloody work that day, and that it would be all the better for him and his gallant division if he could convince the enemy that they were fighting infantry instead of cavalry. For this reason, if no other, the cavalymen were dismounted, and we may be sure did not disdain to avail themselves of any cover they could find. The horses were sent to the rear, or concealed, and the skirmish lines were long enough and dense enough to create the impression that they were backed up by a heavy force.

GAMBLE, upon whose front the main attack fell, made a resolute advance, and after a severe struggle, in which he was effectively aided by CALEF's well directed guns, drove the enemy across Willoughby Run; but the success was temporary. Gathering strength from the different divisions as they approached the field, the rebels in turn forced GAMBLE slowly back. By 10:10 BUFORD reported that HILL was driving his cavalry pickets and skirmishers in upon the main body of his command. Although REYNOLDS' leading division had moved at 8 o'clock from his camp on Marsh Creek, five miles from Gettysburg, it did not reach the field till a little after 10 A. M. REYNOLDS himself waiting for his column, reached the fighting line at 10, and going at once to the front, was shot through the head at 10:15. He was succeeded in command of the First and Eleventh Corps by HOWARD. On taking command of the two corps REYNOLDS turned over the First to DOUBLEDAY. WADSWORTH commanded the leading division, and it was this gallant gentleman who brought the first infantry troops into the field, and with them took the place of the hard pressed cavalry.

Time will not permit me to give the details of the bloody battle which followed that afternoon on Oak and Seminary Ridges. Nor is it necessary. The infantry arrived not a minute too soon. The cavalry had performed prodigies of valor, and against overwhelming odds had held the field for over four hours against the increasing pressure from LEE's veterans. If there are any here to-day who

participated with the Third Cavalry Division in the part it took a year later at the crossing of the Opequon and in the battle of Winchester under similar circumstances, they at least will know what GAMBLE and DEVIN went through with, and what anxieties the gallant BUFORD suffered while waiting for REYNOLDS and HOWARD to come to their relief. They had gone into action cheerfully and willingly in the morning, and with varying fortunes had done their best for four long hours. Relieved at first by WADSWORTH's infantry, they had a slight, but welcome respite from the desperate struggle; but the infantry was, in turn, overborne and driven back and had to call lustily for the support of the cavalry. BUFORD, in person, rushed GAMBLE promptly and vigorously to the left front to a strong position covered by a fence, under the shelter of which they broke the enemy's advancing line and compelled it to fall back upon its supports. The arrival of other divisions of the First Corps ultimately strengthened the Federal position, so that the cavalry could be withdrawn, first to the extreme left, of the advanced line, and then to Cemetery Hill, where it was held to cover the formation of the new and final line of battle extending from that place along the ridge towards the Roundtops and Devil's Den.

BUFORD had done his self-allotted task successfully and well — better, indeed, than anyone but himself then knew. Speaking many years afterwards of the part taken in this great day's work by BUFORD's cavalry, General FRANCIS A. WALKER, in the "History of the Second Army Corps," uses the following language: "On the left the remnants of the shattered First Corps were forming along Cemetery Ridge under cover of BUFORD's brigades of cavalry, (GAMBLE's brigade only), which, drawn up in a line of battalions in mass, stood as steady as if on parade." This was, as near as can be fixed, at half past three on July 1st, and after their bloody and prolonged work against the Confederate infantry, was as high a compliment as could be paid to the cavalry, but it was not all. The author, himself a splendid soldier, adds: "When last it was my privilege to see General HANCOCK, in November, 1885, he pointed out to me from Cemetery Hill the position occupied by BUFORD at this critical juncture, and assured me that among the most inspiring sights of his military career was the splendid spectacle of that gallant cavalry as it stood there unshaken and undaunted in the face of the advancing Confederate infantry." No higher commendation for the cavalry can be found. Its services have generally been minimized, if not entirely ignored, by popular historians, but no competent critic can read the official reports or the COMTE DE PARIS'

"History of the Civil War in America" without giving the cavalry the highest praise for its work on this day, and throughout this campaign. "To BUFORD was assigned the post of danger and responsibility. He, and he alone, selected the ground," says that trustworthy historian, "upon which unforeseen circumstances were about to bring the two armies into hostile contact. Neither MEADE nor LEE had any personal knowledge of it. * * * BUFORD, who, when he arrived on the evening of the 30th, had guessed at one glance the advantage to be derived from these positions, did not have time to give a description of them to MEADE and receive his instructions. The unfailing indications to an officer of so much experience, however, revealed to BUFORD the approach of the enemy. Knowing that REYNOLDS was within supporting distance of him, he boldly resolved to risk everything in order to allow the latter time to reach Gettysburg in advance of the Confederate army. This first inspiration of a cavalry officer and a true soldier decided in every respect the fate of the campaign. It was BUFORD who selected the battlefield where the two armies were about to measure their strength."

There is but little left to say. BUFORD having selected and held the battlefield, and successfully covered the formation of the line on the ridges against which LEE's veteran corps fought themselves to a frazzle in the two days bloody conflict which followed, camped that night on the extreme left, and picketed the country well out towards Fairfield. The next day, after being engaged with sharpshooters, he was relieved by SICKEL's corps, and permitted to withdraw by the left and rear as far as Taneytown, and on the 3d to Westminster to rest and refit, and possibly to be ready to cover a retrograde movement of the army in that direction if haply such a movement should become necessary.

As soon as it was known that the enemy had begun his retreat to Virginia, BUFORD took part with GREGG and KILPATRICK in pursuing him by Frederick and Williamsport through Warrenton and Culpeper to the south side of the Rapidan. His last action was at Bristow Station on October 14th. The hard and constant work he had done had begun to tell upon his constitution. Weakened by his wound he fell sick, and in November was permitted to return to Washington for better treatment than could be given to him in the field. But there he gradually grew worse, and on the 16th of December, 1863, the very day upon which President LINCOLN had signed and sent him his commission as Major-General his eyes were closed forever in death. And here it is proper to remark that

no general who was killed in battle, or died from natural cause during the war, was more profoundly regretted by his companions, or by the government and loyal people, than JOHN BUFORD. Like REYNOLDS, McPHERSON and SEDGWICK, he had reached the prime of his powers and his virtues, and having been tried as by fire he was believed to be worthy of the highest command and responsibilities. What would have been the career of this modest gentleman and true soldier had he been spared to the end of the great war, must forever remain a matter of conjecture: but unless all signs fail, he must have gone on in success and honors, and reached the highest round of fame. We know from experience that —

"There is a history in all men's lives.

The which observed, a man may prophesy,
With a near aim of the main chance of things,
As yet not come to pass."

May we not from the facts related "prophesy with a near aim" that this good soldier's future, had he lived, would have been still more brilliant and successful? His work from his first entry into the military service, as we have seen, was of the highest quality. It had won for him general recognition as the best cavalry leader yet developed in the Army of the Potomac. Finally, it must be conceded that his selection of the battlefield of Gettysburg and his retention of it against overwhelming odds, were services of the first magnitude, and indicate clearly that he possessed the highest attributes of generalship. They fully justify the modest claim made in his official report for himself and his gallant followers: "A heavy task was before us. We were equal to it, and shall all remember that at Gettysburg we did our country much service."

And surely our country will remember it also. In the words of the immortal LINCOLN: "It can never forget what they did here." Having dedicated this monument with all the solemnity we could give to the occasion; having refreshed here our patriotism and consecrated ourselves anew to the Union, one and indivisible, let us again, in the words and spirit of the martyred President, "Here highly resolve that these dead shall not have died in vain; that this nation shall have a new birth of freedom; and that government of the people, by the people, for the people, shall not perish from the earth."

THE TRAINING OF THE RECRUIT.

BY FIRST LIEUTENANT FREDERICK S. FOLTZ, FIRST U. S. CAVALRY

I CONSIDER this subject in the light of experience in two opposite systems—the troop system, and the system of the Cavalry Recruiting Depot, where I have been on duty for the past two years. The Cavalry Recruiting Depot having for good and sufficient reasons been abandoned, let us see whether the troop system of recruit training fully meets the requirements, and if not, whether we can formulate a scheme more in harmony with existing conditions. Each regiment now has control of its recruits, and can train them together if so desired, limited only by the conditions imposed by the manner in which the troops of the regiment are still scattered, at points not tributary to regimental headquarters.

It will not be useful for our purpose to study the recruit training in Continental armies, where the men arrive at a stated time each year, thus permitting the formulation of a course of instruction that culminates with the absorption of the recruit in the squadron at the autumn maneuvers.

The best way to learn to skate is to skate and keep on skating, and were our troops in active service in the field as used to be the case on the frontier, then there would be no better school for the recruit than his own military family, and no quicker way to produce a true fighter and campaigner. This of course implies that the recruits should, even then, join their troop a few at a time, for no troop of forty men can assimilate twenty additional recruits in two weeks of bitter winter weather and feel equal to tackling its weight in wild cats, or even Pine Ridge Sioux for that matter.

In Napoleonic times, and until the Franco-Prussian War showed the world how short had become the time for actual experience in the great school of war, all European nations relied to a great extent upon the training officers and men could receive in actual service.

Officers learned their duties in their regiments under the mentorship of some grizzled sergeant; recruits learned theirs in the rear rank, in lockstep with a front rank file to whom it was all an old story. All this is changed; and though our frontier work in past years has enabled us to lag behind, and most profitably, we must now change our system to meet new conditions.

Let us first examine the training a recruit receives in his own troop. The men arrive in small numbers, often singly; they are put in charge of some non-commissioned officer to be drilled into shape. The sergeant will usually have no particular love for the minutiae of recruit drill; he will, if he does his duty, be working hard with his men from morning until night, while the other non-commissioned officers about him are taking it easy in the intervals of ordinary garrison routine. Small wonder then, if he puts his squad through their work as superficially as possible, and reports them ready for the troop, with only a lick and a promise of their proper training.

The troop wants the men to help out with the guard duty, to ease up on the stable and kitchen police, to fill out the fatigue details. The first sergeant wants Recruit JONES as troop clerk; the captain needs BROWN, who is a tinner, to make some things for the troop; the quartermaster would like ROBINSON as a carpenter, and the adjutant must have SOLOMON LEVI to learn the cornet in the band. Everything thus conspires to the prejudice of the recruit's preliminary training; he can execute fours right and left with the troop, can march in review, and ride a horse with more or less injury to the animal, though the mount first assigned him has probably had all his fine points and feelings blunted long ago.

The lack of proper grounding will, however, show in the end; first, by contrast with the old soldier, and finally, as the troop fills with men of the new *regime*, the contrast will disappear, but the *esprit* and tone of the whole organization will assimilate itself to the recruit standard.

The recruit in a troop labors under many disadvantages. His work is necessarily hard and continuous, if we are going to condense his preliminary training into a period of six weeks or two months, as will be necessary.

No man likes to admit that he is unable to bear the strain to which all about him are equally subjected; but a very little work will make him grumble when intimately thrown with comrades who have some leisure, even though this leisure be gained at the expense of greater exertion or responsibility. The two or three men drilling

with him are lost sight of in the troop when the squad is dismissed, and his first associates will be usually those men who are most idle, easily familiar, and least likely to give him proper ideas. Again, he misses the great advantage of competition and emulation; his progress is not dependent upon his individual aptitude; there are no upper classes for him to pass rapidly through; no awkward squad to hold him while his fellows pass on. The pace of his little squad is that of the slowest man; the single instructor cannot push him forward and neglect the others, and even if a corporal is detailed to assist, he cannot teach to one the extended order movements or even excite the same interest in the orders of the sentinel or in the saber exercise that would be found in a squad of men each eager to be reported proficient before his fellows, and to drop the title of "Recruit."

How can a drill master exact neatness of person, immaculate arms, equipments, bunks and horses, smartness of bearing and military precision, when his recruits are constantly mingled with other men who, for perfectly good and sufficient reasons, may not be required to pay such attention to mere details.

In the field, or wherever there is good reason, we do not care for rust on a bit, sweat marks on saddlery, or bacon grease on clothing, and the forms of military courtesy are relaxed; but we know that every man understands that this is a concession to necessity. We are for the time being savages struggling with nature, with her cold or heat, her hunger or thirst, her fatigue, or only the loneliness of her wilderness. If we know that our men have learned how a bit and saddle should be kept; if we know that military deference and spirit is there, then we are willing to dispense with the evidence, and the training of the recruit should be such as to leave us in no doubt on these points.

Recruits of troops at the same post are often consolidated for drill under non-commissioned officers specially detailed, and this method is a step in the right direction, but it does not go far enough. The control of the instructor lasts only during drill hour, and at other times the recruits are scattered to their several troops, where usually they are under no special supervision, held under no stricter discipline, nor kept more busily occupied than the other men. The recruit, in this case, has the advantage of drilling with a larger squad, and probably under a better instructor than if the selection of the sergeant had been limited to one troop. He still, however, is held to the pace of the squad and cannot be advanced or retarded according to his individual aptitude.

The solution of the problem is found in a depot troop, which will have its functions in war as well as in peace, and which, as necessity demands, can be filled and made an effective troop, or skeletonized to its frame work of officers and non-commissioned officers.

The experiment of spoiling good Indian scouts to make a poor imitation soldier, seems to be dying a most natural and well-merited death; and as the Indian troops vanish in each regiment, it would seem that a frame work might be given for a depot troop.

Let "M" Troop be made a visible skeleton troop, not a nominal skeleton. Give it its complement of non-commissioned officers, its farrier, blacksmith, saddler, trumpeters, tailor and cook; give it back as many horses as may be found necessary; give it station at headquarters or at the most convenient post, with other troops of the regiment; give it the best quarters, the best stables, the best equipments, and require of it that, in consideration of these advantages, everything be kept in perfect condition.

If there is a riding hall at any post of the regiment, the depot troop should be there. Its non-commissioned officers should be picked men, and to secure the most efficient instructors their position could be made desirable by privileges in the way of quarters for some of them, separate rooms, and exemption from fatigue and guard. Among the non-commissioned officers should be an expert horseman, a gymnast and a swordsman, while all of them should be neat and soldierly.

The recruits should be quartered so that there should be at least two squads in separate rooms, men being distributed as they arrive among the squads, so that each shall have its proportion of the new arrivals. The chiefs of squad are charged with the interior instruction, barrack discipline, regulations, military courtesy, orders of sentinels, care of clothing, arms and equipments. The advantage of having two or more squads will become evident in the emulation which will develop between the different squads, or rather squad leaders.

The non-commissioned officer showing the greatest aptitude at mounted work should be kept at that work alone, assisted by as many as may be necessary of the other non-commissioned officers, according to the number of recruits and number of classes. One non-commissioned officer should be specially detailed as gymnastic instructor, and will find his time fully occupied with gymnastics and setting up exercises, with the care of the apparatus, and the en-

couragement and direction of sports. He will also usually be the sword-master.

When a recruit arrives the officer commanding the depot troop should see him at once, and by conversation learn as much as possible of his history and character, making notes afterwards for future reference and amplification. This preliminary interview should be had before he is taught to stand attention. He will give the most information from a comfortable chair.

The depot troop should have a thoroughly competent tailor, and he should be required to dress the recruit in self-respecting shape as soon as possible after arrival. To save the clothing, mounted drills and gymnastics should be in blue shirts and stable overalls, the field belt being worn to support the trousers.

The horses should be ridden twice daily, morning and afternoon; they will thus learn their work better, and be more useful than double the number of animals ridden once daily. The recruit should not be pushed too rapidly to actual riding; it is hard to go back from that to the folding of the saddle-blanket, the nomenclature of parts of the horse, and other details which he eagerly seizes upon at the very outset. The gymnastic instructor should work in harmony with the instructor in riding, teaching the mounted exercises on the inexpensive and easily carried wooden horse, of which a number should be available.

Much use should be made of the horse on the longe. Half a dozen men will learn more gymnastics with a steady going animal on the circle than they would with a horse apiece in double the time. Grooming should be specially taught, and no man passed out of the grooming class until he can take a sweaty, dirty horse, whip him dry, and bring him to a state of glossy perfection, hand rubbing his legs, and putting muscle into the brush. Time enough when he has learned this, to tell him that grooming may sometimes be dispensed with, just as belts and arms may sometimes be worn scratched and greasy. After every drill the horses should be immediately groomed. The recruit thus learns to give his first attention, on dismounting, to his horse; and the horse gains in capacity for hard work, in clean legs, fine coat, and if he is black, stays black the year around. Saddlery is to be cleaned after every drill before the recruit leaves the stable, suitable racks being provided, convenient to water, where the sweat can be sponged off, the leather well soaped and metal oiled, before the saddles and bridles are put back in the saddle room.

On returning from riding, in warm weather, the squad should

be marched to the bath rooms and required to bathe before being dismissed. This not only in the interest of the individual, but for the benefit of those who are compelled to occupy the same room with him, for whose benefit he will also be required to be clean in speech.

Stormy weather should not suspend recruit drills, but only modify their character. There is always something the recruit can be taught indoors, and his military constitution is not yet sufficiently strong to stand more than one day's rest in seven. Lectures take the place of riding if there is no riding hall, the attention being held by requiring the recruits to answer questions in chorus at any moment. As for instance (the instructor touching a horse): "What part is this?" The recruits answer in chorus: "Hock," "Poll," etc. It will also be found useful to have the squads repeat in chorus during rests at drill the orders of sentinels, or matter which they may be required to memorize. The course of instruction should cover the whole of the School of the Trooper, stopping short of the School of the Troop.

The routine of the day should comprise one hour or more mounted; one hour gymnastics and setting up; one hour and twenty minutes foot drill, and manual of carbine, saber and pistol. For one class, the order might be as follows: Reveille, breakfast, policing quarters, gymnastics and setting up for one hour (uniform, stable overalls, undershirts, barrack shoes), inspection of quarters by troop commander, accompanied by chiefs of squads, recruits standing at bunks; leisure during guard mounting to allow recruits to witness ceremony and enjoy music; then mounted instruction, (uniform, leggins, overalls, blue shirts, forage caps), one full hour at least, after which comes morning stables; saddlery is put away clean, horses whiped dry and thoroughly groomed and hand rubbed; this will occupy another hour; then dinner, one hour's foot drill and manual, (uniform, blue shirts and trousers); at retreat twenty minutes foot drill and manual, in uniform as required for guard mounting at the post, arms and equipment carefully inspected. Evening stables would be attended by the other class which would ride in the afternoon and drill on foot after guard mounting.

Special attention should be paid to neatness at table, the recruits being required to wash before meals, and wear a specified dress. The white stable jacket, or the blue shirt, is more economical and cleaner than an old blouse. The mess call should be responded to as promptly as the call for any duty, and men coming in late should be turned out if unable to give proper explanation.

No recruit should be excused from any drill unless sick. The stable sergeant would need no further assistance, usually, than could be rendered easily by the farrier, blacksmith, saddler and wagoner, who, together with the tailor and trumpeters, would take their tours as kitchen police. No old soldiers, not required for special duty, should be retained in the depot troop, as the recruit will be better kept with other recruits exclusively until he passes to his own troop.

To sum up: I have outlined a system which concentrates the efforts of a few picked instructors upon the whole contingent of recruits for the regiment, and which concentrates into the recruit period much instruction which is now left to be picked up later, or not at all. For its full effect, the sanction of the War Department must be given, but the plan can at once be practically carried out by any post commander who can find the space necessary to quarter the recruits separately.

The necessary officer and non-commissioned officers could be detached from other troops, together with a cook, a kitchen police and a stable orderly. The troops from which these details were made would gain, by having in their quarters and ranks none but men who had received thorough preliminary training, by putting in at least eight hours of solid, hard work every day during their stay in the recruit troop. Some recruits, who had had the advantage of military association or athletic training, would pass to duty with their troops in three weeks, while the slovenly men, the dullards and louts, would be held three months if necessary, or discharged.

The Adjutant-General, in a letter to the superintendent of recruiting service, has said: "If by reason either of temperament or habits, or of mental, moral or physical deficiency, he (the recruit) be found manifestly unfitted for the service, he is to be recommended for discharge. * * * The advantages of this disposition of him are obvious. The government suffers the least possible pecuniary loss by the enlisting officer's mistake; regiments are spared the trouble or disgrace resulting from the assignment of ineffective, immoral or discontented persons, and discharges from regiments before expiration of term, always productive of restlessness among the contented portion of the rank and file, are reduced to a minimum. * * * It must be remembered that the depots are not disciplinary institutions for loafers, criminals and worthless men. When a recruit is found to be a dullard, a drone, or a drunkard, he is not only of no account to the service, but an incubus upon it, to be got rid of by speedy discharge on special report."

The War Department has shown perfect willingness to discharge undesirable men upon the recommendation of the commanding officer of the cavalry recruiting depot, and it is presumed that it would, in the same way, second the efforts of regimental commanders.

The commander of the depot troop, having all his efforts concentrated on one object, and being assisted by non-commissioned officers similarly intent, would have a better opportunity than the commander of a regular troop, of judging the unfitness of men for military service, or for the cavalry arm. He would thus be able to rid the service within a few weeks of men who otherwise would lower the standard of the regiment, and who while borne on the rolls would never render any returns to the government for the money and effort wasted upon them. It cannot be claimed that the recruiting officer has made no mistakes, yet we at present retain all the men he sends, unless they can be discharged for physical disability, by the action of courts-martial, or of their own motion, by purchase. Cannot every troop commander put his finger upon men of his troop who are dead timber, but whom he cannot get rid of?

To quote once more from the Adjutant-General's letter: "The principal functions of recruiting depots are (1) to determine the aptitude of the recruit for military service, and (2) to give him such preliminary instruction," etc., etc. We have been giving him some preliminary instruction, but we have worked up every man regardless of his aptitude and fitness, even when, without special investigation, his want of aptitude or his unfitness forced themselves upon our observation. Let us then assume *all* of the functions which, with the mantle of the departed cavalry recruiting depot, have fallen upon our regimental shoulders.

CONVERSATIONS ON CAVALRY; BY PRINCE KRAFT ZU
HOHENLOHE-INGELFINGEN.

TRANSLATED FROM THE GERMAN.
BY LIEUTENANT CARL REICHMANN, NINTH INFANTRY, U. S. ARMY.

THIRTEENTH CONVERSATION (APRIL 18, 1886).—THE SUBSEQUENT TRAINING OF
THE OLDER MEN AND HORSES.

H. You said the last time you did not approve of forming the squadron anew each spring from the riding squads, and that the squadron should remain formed throughout the winter.

S. That is my opinion.

H. When the reserves have been dismissed and the recruits are not yet sufficiently advanced to drill with the squadron, the latter becomes so small as to cease to be a squadron.

S. It always is a squadron, though a weak one. What does that mean? We assumed forty recruits per year (including one one-year volunteers) as a high figure. For these we need thirty-nine service horses, for the one-year volunteer furnishes his own mount. Two contingents of remounts, numbering twenty-six horses, must be deducted; total, sixty-five, leaving seventy horses for the formed squadron.

H. You forget the twenty-six remount riders, the trumpeters and non-commissioned officers.

S. The twenty-six remount riders (if we have that number) must ride old horses, in addition to the remounts, otherwise they cannot remain firm riders. Nor should we forget that there are some recruits from the previous year who need additional training in riding. Let us calculate the number of horses first, that of the men afterward. If we wish to drill merely, we may form a squadron of three platoons from the seventy horses, if in the number of the most indispensable non-commissioned officers we limit ourselves to those on the flanks; that is, sixty-four trumpeters and eleven files per platoon (inclusive of two blank files), or twenty riders.

H. A single sick or detached horse will throw this calculation out.

S. Not at all; I simply take an additional blank file.

H. SCHMIDT does not approve of that.

S. For the great divisional exercises; and there I concur with him. For exercise within the squadron he wishes to have drill in single rank diligently practiced. He would not object to a few blank files in that case. I have another reason, however, why I would not like to form the squadron of seventy horses in three platoons of eleven files, which is the usual formation during winter.

H. What is your reason?

S. I would be limited to the six flank non-commissioned officers, besides depriving the remaining nine non-commissioned officers of their horses. My desire is to give to the squadron that formation in which it would have to take the field, and there each of the fifteen non-commissioned officers must have his horse, which, moreover, he should ride throughout the winter. Hence it would be rarely that I would turn out with the squadron formed in three platoons to go through some drill movements; I would form it definitely in two platoons in double rank, or in four platoons in single rank. I have enough horses for that purpose, though some may have to be deducted on account of detached service or sickness, for after allowing for fifteen non-commissioned officers' horses and four trumpeters' horses there remain fifty-one horses for the other riders.

H. The idea of forming the squadron in four platoons in single rank is an excellent one. It would enable us to have drill in single rank during the winter as advocated by SCHMIDT, without losing thereby much of the time allotted to drill. Would you not rather form the squadron in single rank anyway until the recruits join it, who then might ride in the rear rank?

S. That sounds very pretty, but is impracticable, because for orderly drill we need other riders in the rear rank also, specially for the guide file of each platoon. Furthermore, if the troop rides in single rank for six months, the men will lose eye for, and practice in, the observance of distances in wheeling by platoons.

H. Because there is no rear rank; that is true. It did not occur to me. I suppose you also agree that the platoons should not be less than eleven files on account of the distance.

S. Theoretically drill with ten files per platoon is impracticable, because in that case (including chief of platoon and his distance) there would be greater depth than front: in practice, however, it is otherwise. It is practicable with ten files. Let us, however, take

eleven files as a basis. I for one would rather drill with eleven than with ten files.

H. How will you get the riders for the fifty-one horses with which you are going to drill during the winter?

S. We have 133 men in the squadron, from which are to be deducted fifteen non-commissioned officers, four trumpeters, eight men on an average detached from the regiment, four officers' servants, two per cent. sick, *i. e.*, one or two men; five men for guard, kitchen or other interior service, lastly thirty-nine recruits; total seventy-seven men, which leaves us fifty-six.

H. Then you have five men more in the squadron than horses, and you cannot have every man ride every day. That has its disadvantages. It will not be possible to have every remount rider ride daily an old horse in addition to the remount.

S. I shall take good care not to let the select, best riders forget how to ride a trained horse. Other losses must also be considered. There are the tradesmen of the squadron who do not ride every day, also men detailed away from the regiment, as for instance "*ordnances du jour*" (daily messenger details), etc., and lastly, I prefer to have the worst riders change off and not ride every day, than to let the best riders get rusty.

H. These best riders are kept in practice by their remounts.

S. They might very easily acquire a faulty seat, and particularly so if serving in the second year, need daily practice on a trained horse to confirm the correct rider feeling. Some old, firm, excellent riders (non-commissioned officers) who, on account of their reputation, have an opportunity to ride officers' horses within and without the regiment, are the only ones whom I might excuse from riding each day on old horses in addition to the remount, if I have not enough horses.

H. In the number of horses you have not allowed for the sick, though you have in the number of men.

S. Because the sick horse would balance the sick man, but not the reverse. The whole calculation, however, is an approximation, and subject to many variations. For instance, when the number of recruits and remount riders is smaller, so that some of the latter have to ride two horses daily, then I need fewer old horses for the remount riders and recruits.

H. Very well. Let us assume our squadron to consist of seventy horses during winter. Are you not afraid you are acting contrary to all our traditions in not dividing the older men and horses in riding squads? Is it not necessary to confirm the riding proficiency

proper after the great summer exercises? Do you not think that the recruits of the past year will need additional training? Do you think that, after undergoing two years training, the remounts are so firm (laggards excepted) that they can serve eight years more and drill continually without being gone over again? Does not SCHMIDT demand that even the riders of the first-class, according to the then riding instructions, work their horses over again during the winter?

S. You are asking a great many questions at once. In the first place, I have not said at all that I would not divide the older riders into riding squads: because I form them in a small squadron during winter, I no more mean to omit that than to fail to do away with the division into squads in the spring and summer after the recruits have been placed in ranks. SCHMIDT demands expressly that the division into riding squads be kept up during the summer. Why should I not demand that the squadron remain formed during winter, when the riding under supervision of the squad instructors is chiefly practiced? With this demand, I am not in opposition to a single one of our old traditions. On the contrary, I am following an old tradition from the glorious period of the cavalry. The squadrons of the Great King remained ready for war as such throughout the year, and it did not prevent them from turning out for riding. You may infer that from the ungracious remark of the king mentioned by MARWITZ, as you stated yourself. The king said: "Who is in charge of the riding of the squadron?" Do you think that there was no individual riding under supervision of the squad instructors? The squadron commander, lieutenant, cornet or first sergeant, whoever was in charge, could not by himself have superintended the riding of the whole squadron.

H. Each instructor no doubt had his own squad. Last fall you invited my attention to the essay, "A Visit to Ohlau in 1772," which appeared in No. 41 of the official publication. *The Comrade*, on October 10, 1885. There the Saxon officer who visited SEIDLITZ reports, that in the evening after the horses had been taken to water, "each rider took a turn around the place at a gallop, and finished by taking some obstacles at full speed and with ease." The report continues: "All the officers were assembled on the place dismounted. They followed attentively the movements of each rider, correcting here, remedying there, and advising." In the morning the general drilled; he commanded everything himself, and for an hour—that was the duration of the drill—not a word was spoken or movement made except by his order.

S. I wish we could turn out twice each day, once in the morning for an hour's drill, and once for another hour, more conveniently appointed, for individual riding and "tummeln." Besides the distance of the drill ground from the stables there are many other circumstances which prevent us from doing so in most garrisons. As for the rest, we can do just as SEIDLITZ did—drill and individual riding on the same day. Both the formed squadron and riding in squads should go on at the same time throughout the year, summer and winter. I can see no reason why this approved practice of the Great King has been departed from.

H. Simply because of the adoption of universal liability to three years' service, and the resulting reduction of the squadron after furloughing the reserves.

S. We know that that is not a good reason. Any way, we can drill in the school of the squadron with four platoons in double rank, however reduced the squadron may be. All we have to do is to combine several squadrons for the purpose.

H. Not often, let us hope. The squadron should form a unit in itself.

S. Certainly; not often, however, perhaps twice or thrice during the winter. As to your questions regarding additional training of recruits and old remounts of the past year, no one could be better convinced of its necessity than I am. But it can also be done, if the squadron turns out formed as a squadron, and, on the drill ground, is divided into riding squads. I am, however, decidedly opposed to retraining and tormenting every year, as is universally done, all well trained horses which are firm in their gaits, for it simply results in harm to them. It is useless cruelty to animals, and, what is worse, the main ideas of riding, which were imparted to the recruit with so much care, are also ruined.

H. How so?

S. If a man is to give additional training to a well trained horse, he is apt, without being able to account for it, to get the idea that the horse is not going well enough, and that the rider feeling heretofore experienced is not the correct one. Thus he is taught to play at equerry, to "*kniebeln*," to work backward, when it would be well to reward the horse for its accomplishments by leaving it alone. The man is therefore taught something wrong—to mistrain instead of to ride.

H. I cannot rid myself of the idea that it will be quite necessary for many horses to be gone over again thoroughly during the winter.

S. You express there a truth in exact form. Some horses need it very much, but not all of them. Hence, in individual riding of squads of old men on old horses during winter, those alone which need it should be bent to it by preparatory exercises or any other means you may choose, but never all the horses, nor should bunglers ever be placed on horses to be retained, but on the contrary the very best riders. Those lessons should be applied which tend to eradicate the difficulties named. The training should, however, not be "*en bloc*," nor should the whole squad be put through all of the second part of the riding instructions. Least of all, should the two illustrations of the presentation of a squad for inspection, which are given on pages 195 and 196, be worked into a scheme "F." in conformity to which the whole year's work is regulated, and for which coaching is done *ad nauseam*, as you may frequently observe during the last few months. Whatever riders may be detailed to train, to bend, should train and bend if they know how, but only where it is necessary. Whoever is not ordered to train or does not know how, should leave it alone and simply ride, or learn how to ride properly, of which he would probably stand in need.

H. You would not, then, permit the riders of the late first riding class, *i. e.*, now the smaller squads of the second riding class, to work their horses all over again during the winter as advocated by SCHMIDT.

S. I entirely disagree with SCHMIDT on that point. The riders of the (late) first riding class should not be allowed to do any training. Those alone who are sufficiently progressed may be instructed how to train. It is conceivable that toward the end of the first year of his service some recruit may prove suitable, if he has learned riding before his entry in the service, or has special ability. Whoever at the end of the first year of service is relegated into the (late) first riding class should never be permitted to train, simply because he cannot do it. I mentioned to you once before that SCHMIDT's greatness consisted rather in his ability as drill master of large bodies than in correct views on the details of training.

H. I was told that he was so infinitely zealous and indefatigable as to forget everything else. It is said of him that as regimental commander he once had his trumpeters ride in the hall, got warmed up, and remained in the hall until late in the evening, entirely forgetting a party he had invited to his house for the evening.

S. It is wrong in itself to become so interested and forgetful as to remain so many hours in the hall with the same squad. Any expert rider knows that one or two horses may be ruined in this

manner in a single day, in fact, more easily so than if there had been drill twice as long in the open.

H. I am curious to know how you wish the winter riding of the older men on the older horses managed, when they are doubly divided, into a squadron of two platoons in double rank, or four platoons in single rank, and also in squads, each under its riding instructor.

S. Not at all differently from the service method observed by the squadron during the summer, when the special service is prescribed for it; it would drill as a unit, practice individual riding under the supervision of the squad riding instructors, or make the proof of the example by a short ride within the square. The difference would chiefly be this, that during the winter the drill in the school of the squadron would not be so frequent and long as in summer, though during the latter the squadron commander would also have to consider every day as lost for his riders on which they have not practiced their horses in individual riding. One or two drills per week with the whole squadron would suffice in winter, drills lasting not more than half an hour, and taking place before or after the squadron is divided up among the squad instructors.

H. Would you arrange the squads according to the efficiency of man and horse?

S. In the manner heretofore pursued by all intelligent squadron commanders. The average number of riders in the same squad depends on the number of remounts received each year, which is thirteen.

H. Thus you get eleven riding squads, each of twelve or thirteen horses. Of these squads the remounts constitute two, *i. e.*, the old and young remounts; the recruits form three; leaving six squads, among which the seventy older horses would be divided. On what basis would you assign them to the other riders?

S. In the first place, I would give the old remounts of the year just preceding to the oldest and most expert remount riders, to be ridden in addition to the young remounts, unless they have lagged behind, and are to undergo another course of training with this year's old remounts. That may be the case with weakly horses and such as are behind in their bodily development; it is less apt to be the case the more the old remounts of the year just preceding were spared during the great summer exercises. To this squad should also be assigned the horse or horses of older contingents, which have been spoiled during the summer by poor riding, and need a thorough retraining. Some of them may have to be specially taken in hand

by themselves. The longer, however, the squadrons adhere to these principles, the fewer will be the horses of older contingents which need retraining. Specially well developed and firmly going horses of last year's old remounts may, on the contrary, be placed in the next higher squad.

H. The second squad of older riders would then probably consist of the junior half of the twenty-six remount riders, which squad would train the old remounts of the current year, and mount those horses also which had been old remounts in the past year but one.

S. Something like that, though there may be special exceptions; for instance, if some horse of the old remounts of two years ago should show such firm training as to make it available as a recruit horse. In its place the squad might take charge of a horse of the older contingents which needs retraining, but not to the same extent as the horse assigned to the first squad of remount riders.

H. You assumed two, or at the most, four horses as requiring retraining.

S. Apparently, yes; in fact, however, it is different. Most of the horses requiring retraining will usually be found among the old remounts of one or two years ago, and are therefore counted in among those horses which are ridden by the twenty-six best riders of the squadron in the third or fourth year of service. Having been carefully trained for four years by the best riders of the squadron, I should think the horses ought to be so firm that they cannot be easily spoiled by unskillful riders. Horses are usually spoiled by awkward riders through stupid "*kniebeln*" and training, because non-expert riders do not know how, when and where to train. If great care is taken, as I have explained, that the recruits and the poor riders among the older men ride only with correct seat, refrain from all "*kniebeln*" and training by rein, never hang on by the reins or give any aids by them but for the purpose of getting the horse lightly up to the bit, none of the older horses once thoroughly trained is apt to be spoiled so as to need retraining.

H. To what riders would you assign the next older horses, which have been more than four years with the squadron?

S. Among the horses of the earlier contingents which are in their fifth, sixth, seventh, eighth and ninth years of service, the best trained and freshest are to be found. Exceptionally some horses may remain fresh on their legs for a longer period, just as they may lose in freshness at an earlier period. With these exceptions the contingents named will probably contain the horses from which the recruit horses may and should be selected.

H. From these five contingents, *i. e.*, more than sixty horses, you would select the thirty-nine best for the recruits?

S. The best trained and which, at the same time, are perfectly fresh on their legs. In order that the recruit may gain a perfectly correct rider feeling, it is necessary that he do not receive his first training on a numb or stiff horse. As to the degree of training, it is necessary that his horse be thoroughly trained and obedient to aids of thigh. It must obey the thigh in order that it may respond when the rider is to be taught how to gather the horse for an active gait. No fear need be entertained lest the horse lose its obedience to the thigh through its employment as a recruit horse; for it remains in practice in point of obedience to thigh, since the recruit must constantly use his thigh in riding the turnings, as well as the gait ordered, thus preserving the horse's obedience. The instructor should carefully see to it that the recruit rides with his thigh. Otherwise obedience may be converted into disobedience, the horses become hard, pull and bolt. If retraining becomes necessary, it should be entrusted to the most expert men, never to recruits.

H. I suppose you wish to have the same principles for selecting the horses carried out in the case of those of last year's recruits who, for some reason, are behindhand in their training and have to be reassigned to the recruit squad for retraining. Not many horses are needed for this purpose. If I remember right, there were but two or three such men on an average.

S. At present, when all the older men are assigned to the second riding class and only such of last year's recruits as are behindhand are to be assigned to the first riding class, the advisability becomes apparent of extending this regulation to a greater number of men. They are habitually formed into a separate riding squad, ranging from ten to thirteen horses.

H. If this squad "rides with the recruits," you will have to deduct them from the squadron, since they cannot turn out with it in the current year when the small squadron is formed for drill.

S. Why not? They have drilled with the squadron during the past summer. I might distribute them at first among the recruit squads as leaders, to give the recruits a certain support until the latter no longer fall off and can guide their horses to some extent. After that it would be better to combine these recruits of last year's contingent, who are riding with the new recruits, in a separate squad.

H. It is true they are ahead of the recruits by six weeks of additional training between the conclusion of the fall maneuvers and the beginning of November, since the recruits do not arrive

until November 1st, and hardly get on horseback before November 6th or 7th.

S. There are six precious weeks during which they can learn much to rid themselves of defects which have become apparent during their first year of service. Soon after the arrival of the recruits they will probably again be fit to ride with saddle and stirrup, which does not preclude that during those six weeks they turn out with saddle and stirrup on those days when the squadron commander wants to drill in the school of the squadron for half an hour.

H. How would you make up the last riding squads, all of which, under the new riding instructions, belong to the second riding class?

S. Here I will begin at the bottom. The horses still remaining will, with some exceptions of course, be, in the main, the oldest in the squadron. From them I select those which show signs of numbness, and seem, therefore, candidates for condemnation. On these older horses I let those of the older men ride alternately, who, according to our calculation, do not ride every day on account of other service (tradesmen, kitchen police, etc.). The remaining old horses I assign to the remaining older men according to their temper, degree of training, and skill in riding, forming them in two squads, on the principle that each man retains his horse.

H. Where do the non-commissioned officers who are not remount riders, and the trumpeters ride?

S. Wherever they belong according to their skill in riding.

H. Horses and men would then be grouped about as follows: 1. Young remounts (contingent 1) under the best riders: thirteen horses. 2. Old remounts (contingent 2) under the remaining remount riders: thirteen horses. 3. Last year's old remounts (contingent 3) under the riders under first heading; thirteen horses. 4. Old remounts of two years ago (contingent 4) under the riders under second heading: thirteen horses. 5, 6 and 7. Recruits on horses selected from contingents 5 to 9; twelve to fourteen horses per squad. 8. Last year's recruits for additional training with this year's recruits on horses like those in squads 5 to 7, each ten to thirteen horses. 9 and 10. Older men on older horses; ten to thirteen horses per squad. 11. Men who do not ride daily, on horses which will probably be condemned at the next inspection: ten to thirteen horses.

S. That would about express the principle to be followed. I must add, however, that any exception should be made which circumstances, skill in riding, degree of training, etc., render necessary.

H. In the Hussar regiment of the division which I commanded

there was a squadron which took particular pride in being able to let the third and fourth contingent of remounts, each in a separate squad, ride in the second class.

S. It shows that very good principles were observed there.

H. On all occasions the squadron showed the highest efficiency in riding. One thing I did not approve of was to make up the squads according to the color of the horses.

S. That is a hobby in which those only can indulge who have no idea of riding.

H. Now that we have made up the double skeleton, which we consider proper for the older horses in the squadron during winter, I would like to ask you for information on the subject of the kind of service which is to form the continuation of the training of these older men. We have seventy horses, which for riding in squads and for individual riding are divided into squads, numbers 3 and 4, 8, 9, 10 and 11, and form a squadron of two double rank platoons or four single rank platoons of eleven, twelve, or thirteen files.

S. It will not often be practicable to form thirteen files, for of the non-commissioned officers we only leave the recruit instructors and those detached at home, and all the trumpeters turn out as such unless they are still riding with the recruits. There are also some detached horses. Only thirteen files could be formed if no horses were sick. That is immaterial, however.

H. When and how frequently does the squadron turn out and drill as such?

S. I would make it obligatory to turn out twice a week for drill and once for field service.

H. The time available for confirming the riding would thus be shortened one-half.

S. Not at all. The troop commander should not drill all day. He may drill for half an hour in the school of the squadron, and then break up the squadron into riding squads for individual riding. One-half hour twice a week suffices to keep the principles of the drill inculcated in the squadron during the summer fresh in the mind. Nor need field exercises be carried to the exhaustion of the horses. This service may terminate on the drill ground, where individual riding may then be added. I lay great stress on having individual riding every day. I again remind you of the Great King's words: "The day on which the rider has not exercised (*tummeln*) his horse is lost to him." It may be that in October, when some of the officers' problems of field service have yet to be

solved, the individual riding cannot be had on such days. They should be counted as field days of the formed squadron.

H. In this individual riding, would you have riding in squads with distances?

S. Sometimes it must be had; in all cases, however, merely as proof of the example, and for controlling the gaits.

H. I see another difficulty in the way of carrying out this measure; it is the equipment of man and horse. If all or part of the horses had to be ridden on the snaffle, or if the recruits undergoing additional training, ride on the blanket, they cannot be taken out for drill, because they need the curb.

S. Drill movements can easily be executed with horses on the snaffle. The squadron commander will have to select his evolutions accordingly. As regards the last recruits who resume riding on the blanket, it will do them no harm to ride on those days with saddle and stirrup, as they have drilled before.

H. And on the other days of the week you would simply have riding in the open?

S. And individual riding whenever practicable; the horses are to be exercised (*tummeln*).

H. When in the fall would you begin this kind of exercise of the older men?

S. The very day after our return from the maneuvers.

H. Would you give no day of rest to the horses at all?

S. No. I consider these pauses, which sometimes extend over four or five weeks in September or October, quite harmful to the older horses. It is a tradition not older than this century, that after great exertions horses should have a rest for some time. For five long months in winter, from November to March, inclusive, the horses are tormented one hour five times per week in the unhealthy atmosphere of the hall, and an effort is made to get a hay-belly on them, so that they may look fat. With weight thus increased, without development of muscles to carry the horse, they are introduced to the fatigues of the spring drill period. They thus become more fatigued than their poorly developed muscles are capable of withstanding. The hay-belly disappears, they run down, not the least as the result of the excitement and nervousness engendered by faulty training and treatment. At the termination of the squadron drill period a few weeks rest is considered necessary to fatten them up again. They are exercised daily for a half an hour, or perhaps ridden as far as the target range. This period of rest is followed by that of regimental, brigade and division drill and maneuvers, in

which again more is demanded from the horses than the poorly developed muscles and fat lungs can bear. They return from the maneuvers fairly collapsed. Again they are given a rest for some weeks, only again to begin the winter duties in an unhealthy condition. What is the result? Great exertions cause the fat, untrained lungs to become diseased. Those horses which emerge from these great exertions well, though fatigued, develop a terrible appetite during the first few subsequent days. They eat hastily, and during their time of rest do not get sufficient exercise to regularly digest the food. Thence arise diseases of the digestive organs of a typhoid character, i. e., influenza, which is both epidemic and endemic in character.

H. Once before you referred to the fact that our system of service was producing influenza.

S. And I pointed out at the same time that during the past century in the most flourishing period of cavalry under FREDERICK THE GREAT, influenza was entirely unknown. The reason was that the King insisted on every horse having at least two hours' exercise each day.

H. If the horse does not accumulate fat in the lungs, and at the same time has its muscles strengthened daily by rational exercise, great exertions will not tell on it so much as when it enters a period of severe fatigue in fat condition, without muscles or training, and more particularly so if it be in constant conflict with the rider who "kniebels" and mistrains it senselessly, and makes it nervous. But at no time is it more in need of two hours of exercise in the open than when passing from a period of fatigue to one of comparative rest.

S. For these reasons I consider it advisable to give each horse at least two hours of exercise in the open air as prescribed by the Great King. I would like to include even Sunday.

H. It would be contrary to our ideas of keeping the Sabbath.

S. Does not the cook cook on Sunday? Does not the domestic wait on you Sunday and blacken your boots? Must not the horse be fed and groomed on Sunday? It is not necessary to drill on Sunday, but as far as permitted by their health, the horses might be taken out for a steady walk early on Sunday morning, before grooming, if you wish, or before or after church.

H. If you consider daily exercise in the open necessary, you would at no time consign your recruits and remounts to the hall.

S. It is admittedly a great evil that the requirements of training drive these sixty-six horses into the hall whenever the weather pre-

cludes instruction in the open; hence I would not let these horses use the hall whenever it can be at all avoided. But I fail to see why I should willfully allow this evil to affect the older men on the older horses when it can be avoided. I am of the opinion that during the winter these seventy horses should not be permitted to set foot in the hall.

H. How will you ride in the open when the weather forbids?

S. Did the winter ever prevent us from riding in the open during the War of 1870-71? We had to do it, and did not allow ourselves to be prevented. The times are long past when both parties went into winter quarters at the appearance of winter, and resumed active operations at the opening of the spring.

H. It is true we had a winter campaign in 1814; in 1864 we began a war in the midst of winter, and in 1870-71 an unusually severe winter failed to interrupt active operations on our part. In most recent times the Russians crossed the Balkans in the worst winter weather. In the winter campaign, however, we do not care for loss of material, so long as it brings in fair returns. Nor should we forget that the action of cavalry was very much limited in such weather.

S. Unfortunately, yes; and chiefly why? Because it had no experience in overcoming the difficulties connected with winter weather. A number of splendid days can always be found in winter, on which it is simply delightful to ride in the open. When frost has made the newly fallen snow into a kind of loose sand, the practice grounds are fit for use; nor does the farmer object or send in a bill of damages when we ride over his fields. We then have all the better opportunities to use the terrain for field exercises than during the summer or fall after the harvest, for under modern conditions of husbandry the harvest is no sooner brought in than the ground is at once ploughed and sowed anew. In your letters on infantry you have pointed out yourself how many days this arm can use in winter for field exercises; so can the cavalry. As regards sparing the horses, I would not demand that in winter weather we ride in the open as long in peace time as we are compelled to in war.

H. There are times in winter when the practice grounds are frozen so hard that we can ride at a walk at the best, and even thus lame some horses. On such days the plowed and cultivated fields become so rough and inaccessible that, if we enter upon them, we may be reasonably sure of breaking some horses' legs. Nor are the fields covered with snow all winter. The farmer will render a bill for damages if we ride over his sowed fields during frost.

S. At such times I would make practice marches with the squadron of seventy horses, or, still better, with the whole regiment of five such squadrons.

H. The roads are then, as a rule, so smooth that you cannot go riding at all.

S. It is a misfortune that we do not learn how to ride on ice. It would be a fine testimonial for cavalry, indeed, to state by way of excuse that frost and ice prevented it from pursuing and patrolling during war. We must learn how to ride on a smooth surface. A steady seat, deep and firm in the saddle, coolness, confidence to the horse which itself feels uneasy and needs assistance from the rider, guiding by the snaffle, horses' heads straight to front, low position of hand, which should be particularly steady when the horse slips, a specially short gait in trot—the dog trot—these are the rules to be observed. Horse and man must, however, be practiced in them, if they are to carry them out in war. Riding on smoothly frozen ground should not be continued too long at a time, as it is very hard on the tendons; the dog trot is apt to make the joints stiff. A livelier gait should therefore be assumed the moment soft ground is reached. Sharp calkins should be used. We have a very good kind of adjustable calkins. Do you believe the men will use them properly in war unless they have been taught their correct use in peace? Not even our farriers would learn how to adjust them if we did not use them every winter. There are many special matters to be taken into consideration. The calkins are manufactured in bulk and kept in store; the farrier punches the hole in the shoe, the calkin may not go in, or may fall out. I have seen such things myself. If the farriers are inexperienced they will not know how to handle them. The men, on the other hand, should know how to change the dull for the sharp calkin when the ground calls for a change. Otherwise the sharp calkin may speedily become dull on hard, rough roads, and useless.

H. When it is very cold I suppose you will not insist on individual riding, for you said yourself when we discussed the training of the recruits, that with stiff fingers they would not profit much from riding in the open.

S. When it is cold and the riding grounds are frozen so hard and rough that I am obliged to relinquish individual riding, I would simply make practice marches until the weather changes. Just think how much is gained for the warlike efficiency of the men by drilling twice a week during winter, if but half an hour each time, and by having one field exercise a week. That will make—

I calculate on one month during the winter when the weather will make drill and individual riding impracticable, and my figure is high—twenty-one weeks, *i. e.*, forty-two drill days and twenty-one field exercises between October 1st and April 1st, and includes besides a month of practice marches.

H. During the month devoted to practice marches because the cold prevents other exercises, many noses, ears, and feet will be frozen.

S. For what do we have overcoats with hoods and gloves? The soldier should learn how to defend himself against cold, otherwise he will succumb to it in war. He must also learn how to ride with his overcoat on. He must be practiced in wrapping the stirrups with straw: in war there is no time to learn it. If the available means are put to use, there is no need of freezing. On the contrary, such a ride in the open makes one feel good.

H. There are days when the snow balls. I have seen horses go on stilts, as it were, and fall. That would put a stop to riding.

S. In that case I would not ride.

H. Might you not in this way be obliged to leave the seventy old horses of the squadron in the stable for days and weeks at a time?

S. No. Do mail and other public conveyances stop their service for days and weeks on account of the elements? Where the mail and hackmen can get through the trained cavalryman will.

H. Mail and hackmen must under circumstances risk the loss of their horses in peace, the cavalry should only do so in war.

S. For these reasons I admit that there may be days in which it is impossible to ride the horses. But there will not be many successive days of such weather.

H. Sometimes a cold spell will last quite a while.

S. Whenever the cold is such that drilling in the open is forbidden by regulations (more than ten degrees below zero, Reaumur), it is preferable to take the horses out on the roads for half an hour of exercise, rather than confine them to the hall and encroach on its use by the remounts and recruits.

H. Are you not afraid, lest mere horse exercise make man and horse slouchy?

S. They are not to be permitted to become slouchy. Many practical exercises may be combined with this horse exercise. Properly utilized it will greatly benefit the squadron. There is in the first place the riding in the long marching column, requiring much care on the part of the men and great uniformity of gait. It

is a good preparation for drill, and may be practiced for its own sake, for on it depends the success of a charge on emerging from a defile. The men's proper bearing must not suffer during horse exercise. On the country roads, no less than on the riding grounds, squad leaders are responsible that the men do not slouch. Supervision over the position is a prerequisite for the attainment of good marching discipline. Horse exercise affords a better opportunity for it than the hall. And the better the marching discipline, the more sabers before the enemy.

H. How far do you mean to promote the art of riding, as such, in the several riding squads into which the seventy horses, continuing as a squadron throughout winter, are divided?

S. The riding instructions prescribe that recruits who lag behind ride according to the first part of the riding instructions. That gives our limit, and refers to the squad which we called No. 8. The remaining squads, Nos. 3, 4, 9, 10 and 11, are to be trained in accordance with the principles of the second part of the riding instructions, for they belong in the second riding class.

H. These five squads should then be able, in the end, to go the side paces on the double trail, and shortened gaits.

S. That would certainly be contrary to the red thread which runs throughout the riding instructions, and against their express wording. It is stated there, that progress should conform to the bodily development of the horse. A badly ridden side pace on the double trail will ever be injurious to it. The instructions state further and expressly, that there are horses which will never be able to go the higher paces, as I mentioned several times. They should, therefore, be omitted with such horses. The insight of the riding instructor and squadron commander is to decide in each case, whether or when a horse may be trained in them. Let us begin with the squads of older horses to which the best riders belong, that is, according to our division, with the remount riders on older horses, which we called squads 3 and 4. In squad 3, *i. e.*, among the horses which were old remounts during the past year, horses will be found which may be bent sideward so far that the two hoof prints separate (double trail). It will be possible so to shorten their gaits with hindhand well under, as to approach the shortened school pace. Horses will also be found among them with such conformation that the higher side paces should never be; others with which they may not yet be begun.

H. Hence the greater number of horses on which the higher paces may be ridden and illustrated will be found in Squad No. 4,

i. e. of remount riders on horses, which, on the average, are in their fourth year of service.

S. Yes; if the remount riders in Squad No. 4 were as good riders as those in Squad No. 3. We should not forget that in Squad No. 4 the less experienced trainers are riding, and for that reason be more cautious in the rate of progress and demands.

H. You would in no case make fixed demands on these two squads.

S. Yes, I would. I make the fixed demand that each rider individual (man and horse) be so far (and no farther) advanced in the art of riding as is beneficial to the horse and intelligible to the rider. This degree of progress in the side paces on the double trail consists in the distance between footprints (from zero to the normal of one pace), and in the shortened trot in the degree to which the hindhand is brought under, which carries the forehand more or less. Under no consideration would I ever have the high school paces (side paces on the double trail and completely shortened paces) practiced in squads, but merely by those riders and horses which are sufficiently advanced. That holds good for all the riding squads of the squadron, for the degree of shortened gait which a horse can go varies. None could show its greatest proficiency in squads with distances, because it must conform to the gait of its leader. The very best horses cannot go side paces on the double trail in squads, and observe distance at the same time, for depending on circumstances, the rider might have to urge and increase the gait just when the horse's gait would call for "half position," or to rein in when the horse's gait would call for urging. I believe I developed that idea once before; but I am obliged to repeat, if I am to precisely define the demands to be made.

THE OFFICER'S PATROL.

BY LIEUTENANT EDWARD D. ANDERSON, FOURTH CAVALRY, U. S. ARMY.

"I cannot refrain from here making a statement, which sounds like a paradox: namely, that in many, even in most cases, a simple officer's patrol reconnoiters better and sees more than an entire squadron or an even stronger detachment of cavalry."—*Hohenlohe.*

THE first step towards a military success is to know where the enemy is, what his forces are, and what he is doing. Informed upon these points, it is an easy matter for the commander to make his plans, which if not the best, are at least appropriate to the circumstances. It is necessary for the general to base his measures upon many uncertainties, and this makes command very difficult. His decisions cannot be made lightly, for their consequences are of great gravity, as upon them may perhaps depend the safety of his army, as well as his own professional advancement or ruin.

The movements of the enemy are enveloped in a semi-obscurity, and it devolves upon the cavalry screening the advance of the army to prevent this obscurity from changing into utter darkness. The cavalry must, therefore, put forth both its physical and intellectual efforts to lift the veil which covers the dispositions of the enemy, and it must furnish most of the information upon which the general will outline his action. Though the sources of his information may be many, such as agents, spies, prisoners, and reports of his secret service men, the greater part of it is obtained by his own officers, *i. e.*, the most advanced *antennae* of the cavalry screen—officers' patrols.

History teems with instances of the invaluable service rendered by these important threads of the military fabric. Several officers, who rode fearlessly between the different corps of the French army on the 24th, 25th, and 26th of August, 1870, determined without doubt the direction of MACMAHON'S march. An officer's patrol brought the first news of the retreat of the French on August 12th.

GOEBEN decided to carry out the concentration which led to the battle of St. Quentin solely on the report of a single officer's patrol that had pushed boldly to the front. It is well known that the plans of the German army were based upon the famous reconnaissance which Major VON USGER made on July 2, 1866.

NAPIER gives the following graphic description of Captain WILLIAM LIGHT'S dashing reconnaissance during the Peninsular War: "One of these bodies (of the enemy) was posted on a hill, the end of which abutted on the high road, the slope being clothed with trees, and defended by skirmishers: it was essential to know whether a small or a large force thus barred the way, but all who endeavored to ascertain the fact were stopped by the fire of the enemy. At last, Captain WILLIAM LIGHT, distinguished by the variety of his attainments, an artist, musician, mechanist, seaman, and soldier, made the trial. He rode forward as if he would force his way through the French skirmishers, but in the wood dropped his reins, and leaned back as if badly wounded, his horse appeared to canter wildly along the front of the enemy's light troops, and they, thinking him mortally hurt, ceased their fire and took no further notice. He thus passed unobserved through the wood to the other side of the hill where there were no skirmishers and, ascending to the open summit above, galloped along the French main line, counting their regiments as he passed. His sudden appearance, his blue undress, his daring confidence, and his speed, made the French doubt if he was an enemy, and a few shots only were discharged: but he, dashing along the opposite declivity, broke from the rear through the very skirmishers whose fire he had essayed in front, and reaching the spot where WELLINGTON stood, told him there were but five battalions on the hill." These are only a few of the instances that might be mentioned.

The operation of war, which, of all others, permits a young officer to employ his military aptitudes, is the officer's patrol. An officer detailed on this duty emerges, for the time being, from the realms of tactics and becomes a strategist on a small scale. He must, therefore, have a certain knowledge of the details of war.

Composition and Use.—The officer's patrol is used most extensively in connection with the cavalry screen. This, however, is not its exclusive field. In our service, the officer's patrol consists of one or more officers alone, or an officer and a few men, both men and horses being especially selected. Many patrols will be sent forward from the different contact squadrons of the screen, and these will be composed of such officers as are available at those points, but for special and important missions the commander of

the screen, or of the army, will entrust their execution to officers recommended by their regimental commanders as possessing those qualities which make them the most fitted to undertake them. If an escort or orderlies are necessary, the officer to undertake the mission is generally allowed to select, from the troops to which he belongs, men mounted upon good strong horses upon whom he knows he can depend. The officer, if possible, should speak the language of the enemy, if it differs from his own.

Their Duties and Instructions.—The duties which officer's patrols in our service will be called upon to perform, are: To obtain information of the enemy's position, strength and movements; to reconnoiter particular localities; and to establish connections with or carry dispatches to a distant force.

When an officer receives an order to make a patrol, he must be sufficiently informed upon the intentions of the superior who sends him, if these intentions are not generally known, and whether or not it is desired to keep them secret. This knowledge is indispensable to him, in order that he may be able, from among the observations he will have occasion to make, to distinguish those which are important from those which are not.

The *Service in Campaign of the German army*, says: "A subordinate officer will be able to distinguish more easily a piece of information of value, from one without importance, when he has been well instructed as to the intentions of his chief." Also, " * * * the officer must be as far as possible informed of the situation of the enemy, and the plans of the commander." Consequently, the commander of a division of cavalry screening the front of an army would not order the commanders of the contact regiments to send such or such number of patrols, but would order them to send a certain number of officers to report to him, and he would himself give them their instructions.

If any one of these officers does not fully understand the intentions of his general, or any particular point of his instructions, he should, before taking his departure, clear up the point by questions addressed to the general himself, to his chief of staff, or an aide-de-camp.

Let us suppose that an officer knows only that his division is to march in a certain direction. When he is making his patrol, he perceives some patrols of the enemy upon a line of railroad that he is exploring. As these are simple patrols, and as they have been in the vicinity of the army and have been reported before, he does not think it necessary to inform his commander at once, and reserves

the mentioning of it until his next report. Now, his division has been ordered and had intended to occupy this railroad and cover it. The appearance of the enemy's patrols was, therefore, to his commander, a fact of great importance. The general will then receive this piece of news too late, because he has not communicated his intentions to this officer's patrol. The chief would have still less reason to keep from the patrols what he knows of the enemy's movements, than he would have to keep secret his own designs. The better instructed an officer is before starting, the more quickly he will collect useful information, for in advance he can represent to himself the position of the enemy, and from his map recognize the points from which he could have an extended view of the country occupied by his adversary, and those from which he could likely approach his first lines, or perhaps traverse them.

All instructions should be committed to memory and papers containing information of value to the enemy should not be carried. Most of the orders for reconnaissances are given after some knowledge is already possessed of the enemy, and have for their purpose the extension of this knowledge. The *"Service in Campaign"* says: "Officers' patrols should not be given invariable directions, or a fixed itinerary, but they must clearly see the points towards which their missions are directed." If the forces occupying a certain point are desired, the instructions would be: "Find what force of the enemy are in S." The officer is thus hampered by no iron-clad instructions, and is bound to no particular route, but is left to accomplish his mission in the way that his genius, ingenuity, and sagacity may show him is best. Furthermore, orders given in this precise manner are the most easily executed, for the reason that the officer then knows precisely what to do, and they bring better results than general instructions to go out and bring in information of the enemy.

It may be necessary to impose the itinerary in certain cases, and, where this is done, the officer must of course conform to it. Before contact is gained with the enemy, the patrols sent out are assigned to each of the main routes, and they must follow them until contact is obtained.

Gait to be Taken.—Time is of great value in war, and the officer must accommodate the gait of his horse to the circumstances of the case and the importance of his mission. In going to the zone of observation he should, if possible, avoid any region infected by the enemy's patrols or inhabited by a hostile population. This precaution will allow him to move rapidly to the point where his

operations are to begin. If he has previous knowledge of the enemy, he can calculate accurately enough where his safety is assured; but having no such knowledge, he will generally move rapidly until he sees the first patrol of the enemy, or until the attitude of the inhabitants indicates the proximity of the enemy. Beyond these points commensurate care is necessary. The general will sometimes prescribe the gait to be taken.

Sure and Dangerous Zones.—The terrain towards the enemy may, therefore, be divided into a sure zone and a dangerous one. In the sure zone, the pace may be from seven to ten miles per hour. The patrol's comparative safety in this zone must not, however, be an excuse for violating the invariable rule of carefully searching the new horizon before emerging from a wood or village, or descending from a height into an unexplored valley. Three steps too many may cause the officer in charge to lose his party, to discover himself to the enemy, or to compromise the success of his mission. If not alone, the officer should always send forward one or two men as a point. If his party is large enough, its dispositions should be similar to those of the main army. The duties of these advance, rear, and flanking parties, are the same as those of other patrols.

When the dangerous zone is reached, the usual routes of communication will be given up for those less frequented, or the advance will be across country, or under cover, a few yards to the right or left of the main road. The advance is more cautious, and a rapid glance at the horizon is now not sufficient. Every fold of ground should be separately and carefully examined. A pair of good field glasses is indispensable for this work. Some officers seem to be naturally endowed with the faculty of discovering anything unusual at a glance, others have to search long and diligently before they discover the enemy, while others never find anything, whether they search or not. After assuring himself that the horizon is clear, the officer should take advantage of his commanding position to select his route to the culminating point following. Failing in this precaution, he may, after advancing a short distance, emerge from cover and be compelled to advance in an absolutely open terrain.

What Should be Reported.—The first detachment of the enemy which the patrol will meet will, as a rule, be one of his patrols. What then would he do? Would he report it? Not always. If he had seen nothing else during the journey, he would report it in the evening as the result of his expedition. But if his instructions had said that the enemy was in the vicinity of S, and he had seen some

detachments in this direction, and some patrols at points unmentioned, he would not fail to report this fact at once. But, as a general thing, patrols will not be reported, except at the beginning of the campaign, or when contact has been lost for some time. In these cases the appearance of the first patrol of the enemy becomes an important fact. Whether or not a fact should be reported should be left to the intelligence of the officer and the logic of the facts. A rule could not be prescribed that would cover every case.

Reports.—The "Service in Campaign" of the German army requires all reports to be sent upon blanks of the following form:

5 mm.	40 mm.	50 mm.	10 mm.	10 mm.	25 mm.
	SENDER.	FROM WHERE SENT.	DAY.	MONTH.	HR., MIN., A. M. OR P. M.
20 mm.	No.				
180 mm.	To	Received			

The sender fills all spaces except time received. The officer to whom sent will fill in the time of arrival. Under "Sender" will not be written the sender's name, but the name of his expedition, as "Officer's Patrol from the Sixth Cavalry upon the Village S."

The number of the report must not be forgotten. It will enable the receiver to know sometimes that a report has been lost, and will thereby facilitate his understanding a succeeding report, which, without a knowledge of this accident, might be incomprehensible. It is well, however, when one report is based upon the one preceding to recall succinctly its purport, as "The troops mentioned in my report No. 2 (one regiment of infantry, two troops of cavalry) are marching towards Kickapoo."

The point "From Where Sent," should be given with reference to an inhabited place or a well known landmark. This permits the receiver to orient himself quickly, and he at once knows the distance that the patrol has traveled, where it actually is, or the terrain it has occupied or reconnoitered. He can then decide whether or not it is necessary to send out new patrols. The moment of departure is, however, of most importance. Where a report takes several hours to reach its destination, it loses half its value if the time when the information was taken is not recorded. The information is not exact at the moment when received on account of the

events transpiring while it is on its way. But, if the receiver knows the hour at which it was sent, he can, by calculating the time and inspecting the map, change the situation to correspond with the present.

The superscription will be simple. The report proper should be clearly and legibly written, and should be scrupulously accurate as to facts. Proper names should be carefully spelled. The length of the report, however, demands some reflection. A wise man once said: "As I have not the time to write you a short letter, I write you a long one." Brevity is desirable, but not at the expense of clearness.

The instructions of the "Service in Campaign" encourage officers to express in their reports personal opinions and impressions; and, indeed, they may be of value. There is no reason to suppose that a general will allow himself to be led away on a false maneuver upon the advice of a lieutenant. At the end of the report is written the name and grade of the sender.

Conduct in Presence of the Enemy.—A question more difficult to solve than that of the report is the course of conduct when the enemy's patrols are sighted. The officer in command must remember that he is after information and must avoid a skirmish, but if he can exterminate the enemy's patrol by throwing his party upon it, thus rendering his route free, the attack would not be a bad operation. In an exceptionally propitious case, an enemy's patrol, after being repulsed, could be followed in its retreat without falling into the enemy's hands, and a glimpse of his advanced line obtained. This, however, is extremely risky. Once a patrol's presence is discovered to the enemy, its movements are hampered, and it cannot freely follow the route it had chosen to accomplish its end. It would be better to seek concealment till the enemy has passed and then proceed undiscovered.

Strength of the Patrol.—The strength of the detachment will vary in different cases. If several reports are to be rendered, that many couriers will be necessary. In traversing a hostile country, or one infected by the enemy's patrols, the courier will need an escort in returning with the information obtained. There are many cases where an officer can best accomplish his mission alone.

BREDOW, in the "History of the Ninth Hussars," says: "Lieutenant BLANKENSEE, belonging to a regiment of Canneberg dragoons, which was surrounded, resolved to pierce the enemy's line and seek reinforcements at a neighboring cantonment, with the aid of which they hoped to escape the next day. The Colonel gave him his best horse,

and, after being forced to return the first time, he made a second attempt, and succeeded in passing the line. He had to cross a marsh, to swim his horse across a deep stream, and to climb some dangerous heights beyond; but notwithstanding all these difficulties, he arrived happily at Trappan, and obtained the desired aid: his regiment was rescued after a brilliant fight, and he received a squadron as his reward."

The same history recounts the brilliant exploit of Lieutenant BLUMENTHAL, who had carried an order to General KETTLER near Dijon. After delivering the order, and while returning, he was assailed by some franc-tireurs. His horse was shot and fell upon his leg. He thought himself lost, but finally succeeded in extricating his imprisoned leg by parting with his boot. The French pursued, but he escaped, and after a long march, one foot bootless, was picked up by a patrol of the Eleventh Dragoons.

General Considerations.—An officer on this service must be prepared for any contingency. When he perceives an enemy's patrol he will avoid collision, and try to accomplish his ends by taking a new direction if necessary. A new itinerary, the seeking of a hiding-place, a forced march, a march at night, and above all, a good horse, will deliver him, if he has no bad luck, from the consequences of a bad step. There are two cases where the enemy's patrols should, if possible, be attacked: First, when they are discovered upon the point of obtaining a knowledge of your movements or position; and, second, when the opportunity of capturing the whole patrol presents itself. An especially appropriate occasion for the latter case is when rejoining after accomplishing its own mission.

It is always important to make prisoners, for from them can generally be learned the names of their chiefs and the positions of the corps to which they belong; but they should be taken incidentally, and no important mission abandoned or interfered with to make the capture.

When the enemy is encountered the real work of the patrol begins. Here no rule of action can be prescribed. The circumstances of the case and the good judgment of the officer in charge must determine its course. But it is only by boldness and coolness that a patrol will be useful in the neighborhood of the enemy.

In the Franco-Prussian War Lieutenant KONIG was reconnoitering with a patrol of German cavalry a long way ahead of his army in the enemy's country, and going along a lane to avoid a body of French troops he met a French infantry regiment marching up it.

Escape seemed impossible, but the officer and his four men galloped straight on along the road, and the infantry made way for them almost without noticing them at all, thinking they were some of their own cavalry; they never expected to see any Germans for many days to come.

The same patrol afterwards came across another body of French infantry, and emboldened by their former escape, they quietly rode up to this lot showing a flag of truce, and told them to lay down their arms as they were surrounded. The infantry, supposing from their boldness that this was the case, did so, and moved off to a neighboring village as they were ordered. The patrol then broke up the rifles, burnt them, and rode away. The infantry reported of course that there was a large force of German cavalry there, while in reality, besides this patrol, there was not a German within 100 miles of them.

For such enterprises as these, every man in the patrol must, of course, be full of pluck; and every man must be sharp at finding out information, and finding his way about in a strange country, and this is where it becomes so important for a man to know how to read a map. This knowledge and a compass are indispensable.

Two things go to put pluck in a man; one is confidence in himself, and he can only have this confidence when he knows how to find his way back to his own people, and when he knows that he is on a good horse, and is himself a good enough man for any two of the enemy; the second point is to remember that if he feels any nervousness, his enemy feels just as bad and probably worse.

It is most necessary that when on patrol duty every man should take the greatest care of his horse. It is on this kind of duty that the horse gets twice as much work as on any other kind, and at the same time does not get so regularly fed or groomed. A trooper can never tell when not only his life, but those of his comrades too, may not depend on the speed and amount of energy left in his horse. He should avoid over-riding him, and he should, as often as possible, dismount and give him rest; let him drink a little as often as he can, and give him plenty of food at every convenient opportunity. His horse's feet must be examined frequently and have the best of care.

After the patrol's mission is accomplished, it must rejoin its corps, and the question of route is an important one. The officer in charge can alone judge which one is best. While the road just traversed has the advantage of being known, if it lies through a hostile population, or if the country is infested by patrols of the

enemy, there will always be danger of capture when it is chosen. As a general rule a different route will be selected for returning.

To be successful in this field, an officer must join cunning to bravery, and prudence to audacity. Always solicitous, always surrounded by danger which he must foresee and surmount, he will acquire in a short time an experience of the details of war which an officer serving with his troop will rarely obtain, because the latter is always under the influence of a superior authority who directs all his movements.

No branch of the service gives so many occasions for a young officer to distinguish himself as the service of the officer's patrol.

THE SIEGE OF CHITRAL.

BY LIEUTENANT C. S. STEWART, R. A.

INTRODUCTION.

IT will interest readers of the following article to note that the special correspondent of the *Times*, writing from Camp Dir on May 6, 1895, says:

"At Gupis, sixty-five miles from Gilgit, where there is a small fort, built last year by the Government of India, as an advance post in the direction of Chitral, Lieutenant STEWART, R. A., was picked up (on Colonel KELLY's march) to take command of the two guns brought from Gilgit. This, as it proved, was a most valuable addition to the force, for Lieutenant STEWART is not only a highly scientific artilleryman and one who took the highest places in professional examinations, but also a man of unbounded energy and determination.

A. J. A.

On January 5, 1895, the first news reached Gilgit of the murder of the Mehtar, NIZAM-UL-MULK, of Chitral, by his brother, AMIR-UL-MULK. Lieutenant GURDON, Political officer, was then in Chitral with eight men of Fourteenth Sikhs. Fifty men Fourteenth Sikhs were at once ordered to join him from Mastuj under SOUBADAR GURMUKH SINGH. This they did forthwith. Mr. ROBERTSON, C. S. I., British Agent at Gilgit, arrived at Chitral on 31st January with forty rifles, Fourteenth Sikhs under Lieutenant HARLEY, and 100 rifles of Fourth Kashmir Imperial Infantry, with Captains CAMPBELL and TOWNSEND. One hundred men Fourth Kashmir Rifles followed on 2d February, and on 20th February Captain BAIRD reinforced Chitral with another 100 men of Fourth Kashmir Rifles. The garrison occupied the fort and numbered —

100 rifles Fourteenth Sikhs, under Lieutenant HARLEY.

300 rifles Fourth Kashmir Rifles, with Captains CAMPBELL, TOWNSEND and BAIRD.

On March 3d, Chitral fort was surrendered, and all communication ceased with Gilgit. Lieutenant FOWLER, R. E., and EDWARDES, Indian Staff Corps, left Mastuj with some sixty men, with a convoy of ammunition to open up communications. They were surrounded in a house in Reshan, and fought desperately for seven days, having to make sorties for water; Lieutenant FOWLER was wounded. The enemy then told them peace had been arranged, sent them provisions, and two or three days later invited them to see a game of polo. The officers, probably fearing to jeopardize the only chance of escape of their party, accepted. On a signal from MAHOMED ISA, the leader of the Chitralis in Reshan, they were set on suddenly, taken prisoners with the escort they had brought, and bound. The house in which their party was, was rushed, and all sepoys not Mahomedans murdered in cold blood.

Early in March, Lieutenant MOBERLEY, D. S. O., Political officer at Mastuj, having heard some disquieting rumors, arranged for Captain Ross, with Lieutenant JONES and 100 rifles Fourteenth Sikhs, to leave Mastuj and reinforce Lieutenant FOWLER. He proceeded as far as Buni, some seventeen miles from Mastuj, left a party of forty men there, intending to make a dash to reach FOWLER and EDWARDES, and return with them. On the way he was set on in a defile by men rolling stones down the mountain sides from a height of 2,000 feet, lost many men, and tried to return. His retreat over the river was cut by the bridge being broken, and a long line of stone trenchments (sangars), opened fire on them. The survivors reached some caves in the hills, and remained there two nights and days. An attempt was made to scale the mountains and turn out the enemy, but a precipice was reached and return became necessary, one man being killed by falling, in the attempt to scale the precipice. The only alternative now left was for the party to cut their way back at any cost. This was done, but only Lieutenant JONES and fourteen men, of whom ten were wounded, got through to Buni. Captain Ross was shot through the head, storming a sangar, after he had killed several of the enemy himself. Lieutenant JONES and his men rejoined their forty men in Buni, and resisted successfully till Lieutenant MOBERLEY relieved them six days later with 150 men from Mastuj. He escorted them, followed by enemy in large numbers to Mastuj, having done thirty-four miles over a mountain road without halting, his men carrying their kits and 120 rounds each. Mastuj was surrounded on March 22d, and all communications ceased with Gilgit and Chitral.

On March 22d, great alarm being felt in Gilgit at non-receipt of

any post from Chitral, a column was collected at Gilgit under command of Colonel KELLY, Thirty-third Pioneers, consisting of 400 rifles Thirty-second Pioneers under Captain BORRADAILE, and two guns No. 1 Kashmir Mountain Battery under Lieutenant STEWART. R. A. Colonel KELLY's orders were to advance towards Chitral, and if possible relieve it and Mastuj. We arrived at Ghizar, about 120 miles from Gilgit on 31st March. Here our difficulties began, there being a hitch as to transport, and Ghizar being at an elevation of 10,000 feet, snow was lying about eight inches deep. The road from Ghizar lies for thirteen miles along the Ghizar Valley, over more or less level ground to Langar, which is at the Gilgit side of the Shandour Pass. The road rises here gradually for some four miles to Shandour Lake, 12,500 feet, passes over the lake at this season of the year, and descends rapidly some five miles on to Lasper, a large village at the elevation of 10,000 feet.

On leaving Ghizar on 1st April the column proceeded for about five miles, when deep snow was encountered, so that the battery mules and transport ponies went in over their shoulders, and it was found impossible to proceed with them, even unloaded. The column returned; 200 pioneers with all cooly transport were left at Tera, a small village three miles from Ghizar, with orders to proceed when possible; the remainder returned to Ghizar. On 2d April heavy snow fell. Sledges and toboggans were made and tried for guns and ammunition in Ghizar, and appeared to answer fairly well. On 3d April the guns joined the pioneers at Tera, and proceeded as far as the mules could go, all battery men carrying their own kits. They were then placed on the sledges. It had now, however, become very hot; the track made was not broad enough for the sledges, and snow was soft. The labor of dragging was excessive, so the guns and ammunition were slung on poles and carried by gunners and sepoy. Owing to deep snow and the narrow track this was most arduous work, as when a man's foot got off the track he went in up to his waist. We proceeded at about half mile an hour till 8:30 p. m., when we were about three miles from Langar; here darkness came on, men could not see where to place their feet, and were utterly done. All loads were stacked in the snow, upright poles being left to mark the spot in case of more snow falling, which appeared likely. The last men got into camp at 11 p. m., and had to bivouac on the snow with a bitter wind and severe cold, no tents having been brought from Gilgit. The next day the 200 pioneers, under Captain BORRADAILE, crossed the pass to Laspur, which they reached with great difficulty at 7:30 p. m. The gunners and fifty

men of the Fourth Kashmir Rifles and thirty-eight coolies returned to fetch the guns and ammunition, which reached Langar by 4 p. m., and the men bivouacked again. At 6 a. m. on 5th April the guns started over the pass, forty relief coolies met us half way, and the guns arrived in Laspur at 4:30 p. m., nearly all the men being snow-blind and very done up. On 6th April a reconnaissance took place ten miles down Mastuj Valley and back, guns being carried by coolies. The enemy were discovered in position at Chakalwat. On 7th April troops halted to recruit, and Colonel KELLY joined us. On 8th April the force moved to Gusht, two miles from Chakalwat, and eight miles from Mastuj. The enemy were observed strengthening their sangars. They were attacked on 9th April, and driven out after an hour's fighting, losing some twenty or so killed. The column marched into Mastuj, which had been shut up for eighteen days, but was all correct.

Two hundred more pioneers joined here on 11th April, and the gun, carriage and wheel saddles having been got over the pass, the guns and ammunition were packed on country ponies, about thirteen hands high, which seemed to act fairly well. On 13th April the column, consisting now of 400 pioneers, two guns, 100 Fourth Kashmir Rifles, forty Kashmir sappers and miners and 150 levies, advanced to attack the enemy at Nisha Gol, a very strong position on the far side of a deep, precipitous nullah. The enemy had a line of sangars along the far edge of nullah right across the valley, with sangars at intervals up the steep mountains on either side into the snows, and occupied, as far as we could guess, by some 2,000 men. The nullah above mentioned bisected a large, undulating, fan-shaped delta, inclining up from the Chitral River to short, rugged nullah into the mountains on our right. The cliff over the river was sheer for 200 feet, and into the water course of the nullah for 250 to 300 feet.

The only way of crossing the nullah appeared by the road, which had been cut away on either side of the nullah, and was blocked on the far side by some large sangars, occupied by about 1,000 men. On the other side of the river precipices rose, which were quite impassable, and studded with many sangars.

The column having advanced by right bank of river, debouched into the plain and deployed to attack enemy's left. The guns came into action at 500 yards, the first point from which the lower sangar was visible. After this was silenced the guns advanced to within 150 yards of the large sangar, a most formidable one. This was necessary, owing to undulating ground, but it had luckily been

evacuated. The guns came into action at 275 yards on another sangar, and fired common shell into it, and just before retiring two rounds of case. This sangar also being silenced, the guns retired, and came into action at 1,050 yards, and 850 yards on large sangars on enemy's right. Levies were sent to turn enemy's left flank high up the nullah, the Thirty-second Pioneers keeping sangar fire down by well directed volleys. Light ladders with ropes were let down into the nullah, and men crossed slowly, there being a goat track up the far side. When the enemy saw that the levies had turned their flank, and sepoy's were crossing the nullah, they retired from all their sangars and fled towards Chitral. Volleys were fired at them, and some rounds of shrapnel. The main body crossed by the road and bivouacked about one mile beyond the scene of action. Our losses were six killed and sixteen wounded, of which the guns lost three killed and three wounded. The enemy were seen carrying away their dead and wounded. We found some twenty dead, and computed their losses at fifty killed and 100 wounded; this was more or less confirmed by native intelligence.

The enemy were armed with many Martini and Snider rifles, and had lots of ammunition, and made wonderfully good shooting. Had not the ground been undulating, our losses must have been much greater.

The wounded were returned to Mastuj, and on 14th the column marched to Kila Drasan, a most arduous march. There had been a hitch in commissariat and transport arrangements beyond Ghizar, the people having fled. The roads and bridges were broken in many places on the road to Chitral, and we did not arrive till 20th. The enemy were not again met with, and evacuated Chitral on night of 18th to 19th. We arrived just in time, as the garrison said they did not think they could have held out another week.

Great credit was due to all ranks for the way they performed this most arduous march; carrying the guns was very hard work. There was only one case of falling out in the section; this was due to severe snow-blindness, and altogether there were thirty cases of snow-blindness and twenty-six of frost bite. We were all very pleased in Chitral to receive two congratulatory telegrams from Sir GEORGE WHITE, praising the resolution shown in getting over the snow and the conduct of the troops in action.

The following account of the siege of Chitral Fort is deduced from notes kindly lent by Captain CAMPBELL, Central India Horse:

Chitral Fort is a square erection, having a high square tower at each corner, made of stone, wood and mud. The walls are about

twenty feet, the towers from thirty feet to forty-five feet high. The fort lies near the river, that is, low down, and can be seen into and commanded from all sides. A covered way had been made to reach the river, there being no other water supply. Trees grew quite close up to the walls on three sides, and owing to suddenness of investment, there was no time to cut them down. Although a bad position, the fort was the only place offering a chance of resisting the large numbers of the enemy for any time. A large quantity of grain had been stored, and the men had 300 rounds per rifle.

On Sunday, 3d March, news was received that SHER AFZUL, with a numerous following, had arrived at the southern extremity of Chitral plain, about four miles from the fort. Captains CAMPBELL, TOWNSHEND and BAIRD proceeded to make a reconnaissance with 200 Kashmir sepoy's. The enemy not showing up in great numbers at first, an attempt was made to dislodge them from a hamlet called Koka Sand. On becoming closely engaged, the enemy appeared in great numbers, and many were seen descending the high hills on our right, whither Captain BAIRD had been sent with some men.

An attempt was made to clear the village with the bayonet, but failed. Captain CAMPBELL was shot in the knee just prior to the rush; Captain BAIRD was mortally wounded almost at once; Captain TOWNSHEND led the rush on the village, and on either side of him were General BAJ SINGH and Major BIKHAN SINGH, of the Kashmir army. These were both shot dead. It appeared impossible to do anything but retire, so the men were placed behind a wall and waited for darkness. At 6:30 p. m. the order to retire by alternate half companies was given. The steadiness of the movement was interfered with by an overwhelming fire from front and flanks. Every bit of cover was made use of to check the enemy, and the troops reached the fort at 7:30 p. m. having lost twenty-two killed and thirty-four wounded. The final retirement was covered by fifty men of Fourteenth Sikhs. Surgeon-Captain WHITCHURCH, I. M. S., had proceeded at once, under a very hot fire, to assist Captain BAIRD. He carried him down the hill, and placed him in a dooly, but two of the bearers were at once shot, and WHITCHURCH, with one sepoy, and escorted by four others, carried BAIRD about half mile, till they reached a deep nullah running across the Chitral plain towards the river. They did this under a most severe fire, and three or four times were obliged to place BAIRD on the ground and with the bayonet clear the enemy from stone walls in their front. On reaching the nullah, they found it impossible to proceed straight, and had to make a long detour by the river, and under fire, arriving at the fort

with nearly every one of the party hit. Captain BAIRD was again hit quite close to the fort. Surgeon-Captain WHITCHURCH has been recommended for the Victoria Cross, for this very gallant deed, and the sepoy for the Order of Merit. From 3d March to 19th April the fort was closely invested on all sides by the enemy. They built fascine entrenchments at forty yards distance, and kept up a fire night and day. They were armed with many breech-loading rifles and lots of ammunition, and the losses in the fort amounted to seventeen killed and thirty wounded. The conduct of the Fourteenth Sikhs, under Lieutenant HARLEY, was beyond praise. They never got a night off the walls, and the greater the danger became the more cheerful they appeared. The garrison was rationed from 3d March on one pound of gritty flour only daily, and the only meat obtainable was the officers' ponies. Several attempts were made to fire the fort, one of which fired a tower largely made of wood, and in attempting to put this out, the British Agent, Mr ROBERTSON, was severely wounded in left shoulder.

The enemy also mined to within two yards of one tower, and when this was discovered, on 18th April, Lieutenant HARLEY, with forty Sikhs and sixty Kashmir sepoy, made a brilliant sortie, caught the enemy in the mine, killed forty-six of them, and blew in the mine. His party lost eight killed and fourteen wounded.

Great preparations had been made for a grand assault on 19th April, but the enemy fled on the approach of the Gilgit column on the night of the 18th to 19th. The whole garrison were never off the walls at night, and endured their privations cheerfully. The bhisties should not be forgotten; two of them were killed and one wounded.

PROFESSIONAL NOTES.

HOW THE FIRST MAINE HEAVY ARTILLERY LOST 1,179 MEN IN THIRTY DAYS.

The organization of heavy artillery constituted a peculiar and distinct branch of service in the late war. Practically speaking, during the first three years of the war, they were neither artillery nor infantry, though allied to both. Their uniform was of the infantry pattern though trimmed with the red of the artillery, and though they were well drilled in the tactics of all the heavy guns from the six-inch mortar to the hundred-pounder Parrott, yet they were fully armed and equipped as infantry, and could show a better line and execute all the intricate movements of that branch of service with more precision than any infantry regiment in the field.

This was their standing, when to the number of 25,000, in the month of May, 1864, this force was ordered from the defences of Washington to join the forces of General GRANT near Spottsylvania Court House. From this time until the surrender of General LEE at Appomattox, they were to all intents and purposes so many regiments of infantry, working in the same brigades, making the same marches, enduring the same hardships and fighting the same battles with the infantry regiments, and, in short, after being incorporated into the infantry brigades their only distinction was the red trimming upon their uniforms and the cross cannons upon their caps. As a general thing these regiments had been recruited and organized as infantry, then by special orders from the War Department they were transferred to the heavy artillery branch of the service and recruited up to 1,800 men by filling the ten old companies to 150 men each and by adding two new companies of equal numbers.

When the First Maine Heavy Artillery marched down Pennsylvania Avenue in Washington, on the morning of May 15, 1864, it was a regiment of nominally 1,800 men, but of course all were not present for duty. Some had permanent details away from the command, others were scattered in the Northern hospitals, while a large contingent, including the large number of sick in our post hospital and many others who had been on duty about camp, but were unable to bear the fatigues of the march, were left behind. Besides

this, quite a number were detailed as cooks, orderlies, and hostlers. The exact number of men which the regiment took into battle the 19th of May, I have been unable to determine, but the knowledge I have of my own company and the written statements of several company commanders, noted down at the time, and from all the information I can gather, I am satisfied that not over 1,600 were with us that day.

The regiment embarked on a transport at the foot of Seventh Street during the forenoon of May 15th, and landed at Belle Plain the same evening, where it remained until the morning of the 17th, when it took up the line of march, passed through Fredericksburg and arrived at Spottsylvania at 11 o'clock that evening. We had now literally arrived at the seat of war and were liable to be called into action at any time. Made up from good material, perhaps no better, and certainly no worse than the average regiment from the old Pine Tree State, the schooling we had received while in the defences of Washington had made us thorough soldiers so far as drill and discipline were concerned, but we lacked the practical knowledge of fighting the enemy or how best to protect ourselves when in range of the enemy's bullets. This we learned later on in the hard school of experience, that is, what few of us there were left after thirty days of such schooling. Early on the morning of the 18th, we were awakened by the booming of cannon. We had heard the artillery firing at the second Bull Run battle in 1862, and at Aldie in 1863, and in each case were at a safe distance, with no likelihood of being called into action, but now the case was different. The firing was only a mile or two away, and in less than ten minutes we were moving on double quick time towards the point of attack, going into line behind well built breastworks in support of what proved a feeble attack by our forces on the bloody angle, the scene of General HANCOCK's brilliant charge on the morning of the 12th. Here we prepared breakfast, accustomed ourselves to our new surroundings, and enjoyed as best we could our first day under fire. We were well out of the range of bullets, but many shells burst along the line, yet we moved out late in the afternoon with ranks unbroken, and at roll call the next morning, for the last time, every comrade answered, "Here."

All day the 19th, the troops from the right of our army were moving away to the left, and the Fredericksburg Pike, over which our supply trains were moving, became uncovered, and the enemy, always feeling for an opportunity, had advanced a force under General EWELL, which had cautiously moved along, until late in the afternoon they struck the wagon train protected only by a light guard, which was immediately swept away, and our supplies were in their hands. Our regiment chanced to be the nearest the point of attack, and it was started at once on the double quick. About the time we started a heavy shower came on, but on we rushed through rain and mud, and as we neared the train filed off to the right so as to bring ourselves into line, then made a dash for the wagons. The force of the enemy at that point was not a heavy one, and they

were brushed away without a halt on our part, some being captured; but the larger part fell back to their main line. Advancing for half a mile through the thicket without meeting the enemy we emerged into a clearing, a field of perhaps ten acres, divided nearly equally by a small sluggish brook fringed by low trees and running from right to left. The ground sloped gently on our side of the brook, but was steeper beyond up to the edge of the woods, where the enemy were posted. Up this hill the force driven from the wagon train were rushing as we came out of the woods, but were soon out of sight.

The regiment moved two-thirds the way down the slope, where they were brought to a halt, and firing commenced which lasted two hours and twenty minutes. During all this time the men stood, fought just as you see them in pictures, and were the coolest lot of men I ever saw under any circumstances. They loaded, took aim and fired, then would deliberately clear the smoke from their guns by half cocking, throwing off the old cap and blowing into the muzzle, always giving the gun time to cool a little before reloading. Men were falling, to be sure, but those who were able got away to the rear, while those who were not, lay quietly along the line, and the survivors were too much engaged with their work to notice much about them until the enemy retired and the firing ceased. I spoke of our being in an open field; so we were, but not all. We made so long a line that one or two companies on either flank extended into the woods and were more or less protected; in fact, the loss in Company "D" amounted only to one killed, and he on the color guard out in the field, and three slightly wounded; while on the other hand, Company "E," which was in the field and fully exposed, had twenty-three killed or mortally wounded and forty-seven others wounded—a total of seventy out of 135 who went into action. The loss in the regiment was 155 killed or mortally wounded and 369 wounded—a total of 524. This was an enormous loss, amounting to nearly one-third of the number engaged.

In fact, up to this time since the war began, no regiment had suffered such a numerical loss in any one battle, but the end was not yet. There were two things which largely contributed to our loss. The first and most important was the position in which we were halted on the field. Had we remained at the edge of the woods on the hill, or even advanced across the brook, we should have been partially covered from the enemy's fire. Then, had we thrown ourselves flat on the ground, a less number of men would have been hit. After this the regiment never fought the enemy while standing, except in making an advance. As soon as the firing slackened, Company "E," of which I was a member, was deployed as skirmishers, and advanced against the enemy so close that two of our men in the woods on the left of the company were taken prisoners, one of whom went to Andersonville, but the other not liking to take the chances of prison life, tried his hand at making his escape. He was a wily fellow, fertile in resources, and as cool as he was brave. He not only succeeded in making his escape back to our lines, but brought in a

prisoner with him. It was not all smooth sailing for him, for he was obliged to shoot down two of the enemy who stood in the way of his escape. Near midnight the company was relieved and ordered in to a point on the hill in rear of where we had fought in the afternoon. The men came in through the darkness, singly or by twos, and I venture the assertion that no more cordial greetings were ever accorded than were extended to each new comer by those who had preceded him. We had been in service twenty-one months and had learned to trust and love each other as brothers, and is it any wonder that tears came unbidden—tears of sorrow that so many had fallen, and of joy that so many had escaped?

Later on I accompanied a squad of men who were going on to the field to bring off the body of Lieutenant JOHN F. KNOWLES, of our company, who had been killed. As we neared the point where we had stood in line, I noticed eight or ten of our men laid out side by side, the beams of the moon struggling through the fleecy clouds, lighting their upturned faces, all smeared with the smoke of battle, some showing gaping wounds, and all ghastly and lifeless. Looking to the right, where the color guard and Company "M" had stood, was a similar lot of dead carefully laid out: beyond this another and another, until the woods were reached, and the same thing away to the left. It was a solemn moment, as I gazed on the scene at that midnight hour, my first look upon a deserted battlefield, and how forcibly those rows of dead men reminded me of the gavels of reaped grain among which I had worked on my native hills, but here the reaper was the Angel of Death. I picked up a canteen to replace my own which had been pierced by two bullets, and hurried from the field. One look was enough.

ERVIN CHAMBERLAIN went into action on my left. This was his only battle, and the impressions made on his mind were lasting. He told me a few weeks ago that the man on my right and the one on his left, as well as the two who covered us in the rear rank, were all killed or mortally wounded, and that he was hit seven times before being disabled, and I could count the marks of nine bullets which had made a close call on me. At 11 o'clock the night of the 20th, the regiment was on the march, which was kept up at a rapid pace for seventeen hours, with less than five minutes' rest during the time. Passing through Bowling Green, we were halted near Milford Station, where the regiment went into line and threw up breastworks, while Company "D," under Lieutenant HENRY E. SELLERS, was advanced as a line of pickets, but were attacked by the enemy, losing one man killed, one wounded, and one prisoner.

On the 23d of May we reached a point near the North Anna River, and near night were subjected to a severe shell fire, losing two or three men. We were kept in reserve until the afternoon of the 24th, when we crossed over the river on a bridge upon the run, under one of the liveliest shell fires we ever got into. Probably twenty-five shells exploded over our heads while making the run, but one man only was hit, getting a slight scalp wound by a small sliver of iron. We labored most of the night building breastworks

and remained here until the night of the 26th, when the army was withdrawn to the north side of the river, and proceeded on another flank movement. The loss of the regiment was two killed or mortally wounded and five wounded. The 28th and 29th we were near Hanover town, where we had one man killed. The 30th we moved out near Totopotomy Creek, and the morning of the 31st moved across the creek and assisted in driving the enemy from their outer line of works. Getting into position, we lay under a broiling sun and a most uncomfortable shell fire the rest of the day. In this action we had three men killed and ten wounded, mostly by exploding shells. One shell exploded immediately over the left of Company "K," which lay on the right of Company "E." One "K" man was killed and two others wounded, but the "E" men were all unhurt, though several pieces of the iron struck among us, one piece going through the gun-stock of Corporal FENLASON and another demolishing Sergeant CHAPIN'S canteen. In a few minutes some enterprising man in the company, who was short of cooking tools, had melted the solder around the edge of the canteen, and with a split stick for a handle on the good half, was busy frying meat and preparing his supper.

The next day, June 1st, commenced the battle, or rather, series of battles, of Cold Harbor. In this action our regiment was not directly engaged with the enemy, but were held in reserve while other regiments and brigades were being hurled under a terrible fire against a line of earthworks so strong and well protected by abatis and almost impenetrable slashes that no force of men, however brave, could hope to break, so long as the works were well manned. Our work was to rush from point to point along the line, now to the right, then to the left, in quick succession, always exposed more or less to the scattering fire from the not far away front. The heavy fighting was on the 1st and 3d of June, and the loss to the army amounted to some 13,000 men. Our regiment was continually under the scattering fire of the enemy, and scarcely a day passed from the 1st to the 12th of June but what one or more of our men were wounded. A reconnaissance of Company "A," on the evening of the 12th, resulted in the loss of five prisoners. The total loss of the regiment in those twelve days amounted to one killed, twenty-seven wounded, and seven prisoners. At 10:30 on the night of June 12th we moved out of the works, marched a few miles, then slept by the roadside the rest of the night. The 13th we crossed the Chickahominy and marched to the James River, which we crossed on transports on the 14th, and 11 o'clock on the night of the 15th found us facing the enemy's lines in front of Petersburg. Late in the afternoon of the 16th we were advanced against the works in our front, being in the second line, and not directly engaged, but lost some men. Working all night, throwing up breastworks, we were given a day of comparative rest through the 17th, but were kept well up to the front, losing occasionally a man. That evening we were put into the front line on the right of the Prince George Court House Road, where we soon became engaged with the enemy. A brisk fire was kept up for some twenty minutes, in which Major

GEORGE W. SABINE, was struck by a minié ball, which passed through one thigh and lodged in the other, from the effects of which he died the following May? At 4 o'clock on the morning of the 18th we emerged from this position, driving in the enemy's pickets, and developing the fact that they had withdrawn from their position of the night before to an inner and stronger line. Taking position along the road in front of the HARE field and buildings, we soon had a strong line of earthworks, which we felt capable of defending in case of an attack. Several attempts had been made by the different corps to break through the enemy's line at various points in the course of the day, but without success, when well along in the afternoon General BIRNEY, then in command of the Second Corps, received from General MEADE the following orders:

"I have sent positive orders to Generals BURNSIDE and WARREN to attack at all hazards with their whole force. I find it useless to appoint an hour to effect coöperation, and am therefore compelled to give you the same order. You have a large corps, powerful and numerous, and I beg that you will at once, as soon as possible, assault in strong column. The day is fast going, and I wish the practicability of carrying the enemy's line settled before dark."

MOTT's division was selected as the assaulting column, and when the order was transmitted to him he protested vigorously against so rash and hopeless an undertaking, but protests under such circumstances avail nothing. The order was positive, and must be obeyed. Our Third Brigade was designated to make the direct assault, and the other brigades were well in hand to follow up any advantage that we might possibly gain. The different regiments composing the brigade were withdrawn from the line and brought together a little to the rear under cover of the woods, and then marched back into position in column in an open pine growth back from the road, so we should just clear the HARE house on the right as we advanced. As we came into position we found that our regiment not only headed the column, but we had been made a column by ourselves by breaking up into three battalions of four companies each, and according to our instructions, the first battalion was to lead off, and each succeeding battalion to follow at a distance of twenty paces. In short, the First Maine Heavy Artillery became the "strong column" with which the assault was made, for no other regiment advanced beyond the road. It was just as well, for no ten thousand men in column could have pierced that line, manned as it was with infantry and artillery. The more to advance the more to be killed; that was all. There was lead and canister enough, and to spare. From our position among the pines we could see the whole field over which we must pass and the earthworks beyond. We could see the men behind those works, no doubt elated at the prospect of the harvest of death they were about to reap; but the two batteries which were to be served with double-shotted canister on either flank were under cover. It was perfectly safe to stand up now, both for Union and Confederate troops, for on our part of the line, at least, the noise of the battle was hushed; it was the lull before the storm.

And now came the final preliminaries before starting. We were ordered to load, and the guns were loaded and capped; then to fix bayonets, which was done. Instructions were given not to fire a shot until we got into the enemy's works. "Pile up your knapsacks, and leave two men from each company to guard them," ordered the Colonel. The guards were detailed, and the men stripped to light marching order. For the next few minutes the guards were busy with pencil and note book taking down addresses of wife, mother, sister or loved one far away in Maine. When called to attention, the men were readily in place. There was a little nervous tightening of belts, and a little firmer grasp of the musket as it was brought to a trail. Teeth may have been set a little harder to prevent any sign of trembling which might take possession of us. The order was given, and we dashed off at double-quick time. A shower of lead struck us, but the men involuntarily pulled their cap visors down over their eyes, and with bowed heads advanced against the storm. The shells crashed over our heads for a minute, and then the deadly canister got in its work. The ranks melted and the lines grew thin, but on we pressed, hoping against hope, a few getting nearly up to the abatis, when the order to retreat was given, and such as could got off the field.

Thus ended the battle of Petersburg, and "the practicability of carrying the enemy's line" was settled in the negative. I wish to say a word here in regard to the time we were on the field. I have seen it estimated by those present all the way from eight to twenty minutes. Let us figure a little. The distance from the point of starting to the enemy's line is 350 yards. Now, 352 yards is one-fifth of a mile, so the distance out and back is two-fifths of a mile, over which a man can easily walk in eight minutes, going at the rate of a mile in twenty minutes. The average speed we attained in the advance and retreat must have shortened the time one-half from that of a walk, so that it is altogether probable that in four minutes after starting every man except those disabled was off the field. Our loss in this battle counted up 240 killed and died of wounds, and 364 wounded; a total of 604, nearly all of which occurred in the assault of the 18th of June.

The Eighth New York Heavy Artillery had suffered a loss at Cold Harbor which exceeded ours at Spottsylvania, but our loss at Petersburg stands out as being the heaviest that occurred in any regiment in any one battle during the whole war, while that at Spottsylvania stands third in the list, being exceeded only by the loss of the Eighth New York above mentioned. Our losses from May 19th to June 18th, a period of thirty days, had been:

	Killed.	Wounded.	Total.
Spottsylvania.....	155	369	524
Milford Station.....	1	1	2
North Anna.....	2	5	7
Hanover Town.....	1		1
Totopotomy.....	3	10	13
Cold Harbor.....	1	27	28
Petersburg.....	240	364	604
Total.....	403	776	1,179

Besides this we had lost fourteen prisoners, twelve of whom died in Southern prisons. To the casual reader the results to the regiment of this thirty days of fighting represents the death of 415 men, and 776 others more or less disabled for life, but to us of the command and to our families, it means more. It means not only death, but individual suffering. Comparatively few of the killed die instantly, and those who linger from a few hours to many months have their cup of suffering filled to the brim.

And what of the loved ones at home? It means sorrow without measure; it means an aged father or mother going down in poverty and grief to the grave for the want of a staff to lean upon; it means a widowed wife and orphan children; it means other than literal wounds, which are never healed on earth. The same thing holds true, though in a less degree, in all the ordinary losses in battle, but this aggregation of death, of suffering and of anguish, becomes terrible to contemplate on account of its magnitude. Considering the number of men engaged, and the brief time in which this loss occurred, it is without a parallel in the history of modern warfare. —Major Charles J. House, in *The Maine Bugle*.

PURCHASING CAVALRY HORSES.

Captain ALESHIRE, Assistant Quartermaster, the officer detailed to inspect cavalry horses in St. Louis under recent contracts, has adopted the very sensible plan of accompanying the buyers through the horse raising districts, with a view to selecting the best mounts obtainable for cavalry. This saves the contractor from shipping a great many unsuitable horses to St. Louis, only to be rejected upon arrival. Some of these horses bought in the immediate vicinity of Fort Leavenworth have been turned over to the squadron of the Sixth Cavalry, without being shipped on the cars, or stabled in city stables, thus avoiding the probability of contracting influenza.

Another innovation, which it is hoped will be so successful as to encourage its extension, is to furnish the names of the sires of these horses in order to have the remounts carefully watched, to determine what colts develop into the best cavalry horses. This is with a view to encourage the breeding of mares to those stallions most likely to produce colts suitable for army use. The farmers in

the neighborhood are willing and anxious to raise such horses as are adapted to cavalry service, and if this small beginning is followed out to a legitimate and successful conclusion, the question of remount farms and other projects may be happily solved in a most natural and business-like way, without causing the government to go to the expense of providing establishments for breeding and raising horses on its own account.

The one serious drawback to the success of this excellent plan is, that while farmers may breed according to the recommendations made after trial of various colts, and produce just what is wanted, the evils of the contract system crop out, for the lowest bidder may refuse to buy his horses in that part of the country at all. It is believed that if farmers are willing to devote special attention to the production of cavalry remounts, contractors would find it advantageous to buy from them. A failure to respond to the exigencies of the case should be cause sufficient to ask Congress to authorize the Secretary of War to announce a fixed price each year for certain localities, and let all the farmers compete. This would educate horse raisers very quickly, for it is manifestly to their interests to raise only what they can sell to advantage.

In any event the experiment now being tried saves the transportation of the horses to St. Louis and back, and leaves them for duty within a few miles of where raised so that they do not have to be acclimated, a process which often takes a year, and sometimes is never accomplished.

W. H. C.

HORSES AND BICYCLES.

The craze for bicycle riding has assumed such proportions that many otherwise conservative people think they are about to witness the complete downfall of that staunch and loyal friend of the human race, the horse. Such views are inconsistent with the teachings of history, and careful thought as to the limitations of the case should be sufficient to explode any theories of that kind. The possibilities of the application of steam may have worried the past generation of horse breeders, but there can be no doubt that railroads and steam vessels have materially aided the horse breeding interests of the world by the rapid extension of settlement and consequent increased agricultural developments.

That the raising of common Eastern stock and Western broncos, classed in the markets as "scrubs," is no longer profitable, is not altogether a matter for public regret. The best papers in the country devoted to agricultural interests as well as all government publications have for many years set forth the disadvantages of breeding worthless animals, but nothing could be written in the way of argument half as effective as the recent decline in prices, and finally the total disappearance of any market for this product.

The prices of horses have fallen in common with everything else during the past two years, and the large numbers of such animals

between the ages of one and five years in the hands of farmers has been a source of serious consideration to them because of the uncertain conditions of the near future. In some sections the breeding of mares has been curtailed, while in many instances jacks are being used to breed mules for the great cotton section. This refers to ordinary farm horses, for the depression has not prevented the breeding of high class animals in any way whatever.

The establishment of annual horse shows has shown so many advantages over the ordinary country fairs, that breeders of first-class animals are encouraged to exhibit the very best produced, and purchasers are always at hand for prize animals of almost every class.

Now that the seal of fashion has been put upon bicycling the world seems about to revolutionize the methods of exercise and transportation in order to avoid the use of horses. One of the cheap arguments is, that bicycles do not require grooming and feeding. In all fairness it might be replied that horsemen do not have to carry monkey wrenches, bolts, lanterns, etc. But this sort of argument is puerile. The true lover of the horse finds more pleasure and entertainment in the possession of a fine animal than could possibly come to him through the ownership of the most perfect "wheel." This is aside from the actual riding or driving of the animal, and it is safe to predict that those who are really fond of horses and amply able to bear the expense of ownership, will not surrender the pleasures of a visit to the stable, a gallop across the country or a friendly "brush" on the road, however much they may be carried away temporarily with the craze.

So far as the army is concerned the advent of bicycle corps comes only as an addition, and in nowise supplants any of the components of a well regulated force. No bicycle corps can do away with animals for transport service, and as for cavalry, now more than ever before the eyes and ears of the army, its composition and duties and the necessity of its being are not affected in any way whatever. So far as any injury to the sale of cavalry horses, there has been none. It is a regrettable fact that the contractors for the supply of cavalry horses are not able to procure suitable animals to fill their contracts within any reasonable space of country in the United States. The class of horses demanded for this service is not raised in perfection on many farms, and even in the great horse State of Missouri the government is buying in open market at this time, because the contractors have failed to find the number of horses required for remounts this summer, a season of almost profound peace.

The possibilities of the bicycle in some directions are scarcely comprehended even by enthusiasts. If the records are absolutely accurate, then the bicyclists have made faster time than horses running, pacing or trotting:

	1/4 Mile.	1/2 Mile.	3/4 Mile.	1 Mile.
Johnson (bicyclist).....	21 1/2	46 1/2	1:11 1/2	1:35 1/2
Salvator (race horse).....	23 1/2	47 1/2	1:11 1/2	1:35 1/2
Flying Jib (pacer).....	29 1/2	59 1/2	1:28 1/2	1:58 1/2
Robert J. (pacer).....	30 1/2	1:00 1/2	1:30 1/2	2:01 1/2
Alix (trotter).....	30 1/2	1:01 1/2	1:32 1/2	2:03 1/2

When it comes to long distance rides, some of the bicycle performances are marvelous. One, HOLBEIN, on July 7th, covered 297 miles in twenty-four hours, on roads between London and Peterborough. In a twenty-four hour track race at Putney, England, June 22d and 23d, A. C. FONTAINE made 474 miles 1296 yards in twenty-four hours. Only a few weeks ago, a Frenchman named HURST covered 515 miles on a track in twenty-four hours. These are certainly remarkable performances, but they do not exercise any influence as to the permanent popularity of the bicycle with the public at large.

Physicians will probably discover a train of minor evils arising from the new form of exercise, but if used in moderation there can be no doubt that bicycle riding will benefit more than it injures. There are many people who can indulge in the ownership of a bicycle to whom horseback riding is an unknown quantity. To these people are given the opportunity to go out over country roads and byways, thus opening up to them new scenes and incidents hitherto existing only in imagination. The manner of riding for such health and pleasure seekers as these should not correspond to the hump-backed record-breakers any more than a gentleman or lady on horseback should appear like an anxious jockey on a thoroughbred.

There is no antagonism between horses and bicycles so long as they do not actually interfere with one another on the road, but the increasing number of bicyclists is apt to make them pugnacious and their demands for right of way excessive, and this horsemen will resent, for roads are kept up at public expense, primarily for public convenience as to transportation. However, horsemen may content themselves in peace, for if history does not belie its teachings, the fashion will go out, and there will be thousands of second-hand bicycles offered for sale within a few years.

Then again, suppose half a million bicycles are in actual use in this country, and that each one supplanted a horse, which of course is not a fact, this would affect less than five per cent. of the total number of horses reported in the United States.

Electricity and cables have displaced the horse generally from street car traffic, and while the farmer is perhaps entitled to some sympathy, the patrons of street cars are to be congratulated on the change, and doubtless if the horse could express his views he would be found arrayed against a return to horse cars.

The cheap buggies and wagons of the present day have a ten-

dency to extend the use of horses; a drop in the price of horses will, if at all permanent cause thousands of vehicles to come into use as soon as the business revival is assured.

W. H. C.

STATIONS OF BRITISH CAVALRY REGIMENTS.

First Life Guards.....	Lieut.-Col. Sir M. S. LOCKHART, Bt.	Hyde Park.
Second Life Guards.....	Lieut.-Col. EARL OF DUNDONALD.....	Windsor.
Royal Horse Guards.....	Lieut.-Col. J. F. BROCKLEHURST.....	Hyde Park.
First Dragoon Guards.....	Lieut.-Col. R. C. B. LAWRENCE.....	Norwich.
Second Dragoon Guards.....	Lieut.-Col. C. E. BECKET.....	Egypt.
Third Dragoon Guards.....	Lieut.-Col. R. K. PARKE.....	Natal.
Fourth Dragoon Guards.....	Lieut.-Col. P. K. DOYNE.....	Rawul Pindi.
Fifth Dragoon Guards.....	Lieut.-Col. M. BOWERS.....	Meerut.
Sixth Dragoon Guards.....	Lieut.-Col. T. C. PORTER.....	York.
Seventh Dragoon Guards.....	Lieut.-Col. W. CREAGH.....	Shorncliffe.
First Dragoons.....	Lieut.-Col. H. TOMKINSON.....	Dublin.
Second Dragoons.....	Lieut.-Col. A. C. E. WELBY.....	Aldershot.
Third Hussars.....	Lieut.-Col. C. W. H. HELYAR.....	Aldershot.
Fourth Hussars.....	Colonel J. B. P. BRABAZON.....	Aldershot.
Fifth Lancers.....	J. J. S. CUSHOLME.....	Mottra.
Sixth Dragoons.....	Lieut.-Col. A. C. MCKEAN, C.M.G.....	Manchester.
Seventh Hussars.....	Lieut.-Col. H. PAGET.....	Mhow.
Eighth Hussars.....	Lieut.-Col. J. DAVIDSON.....	Hounslow.
Ninth Lancers.....	Lt.-Col. J. A. STEWART-MACKENZIE.....	Aldershot.
Tenth Hussars.....	Lieut.-Col. N. C. WOOD.....	Newbridge.
Eleventh Hussars.....	Lieut.-Col. C. E. SWAINE.....	Sialkote.
Twelfth Lancers.....	Lieut.-Col. C. E. BECK.....	Edinburgh.
Thirteenth Hussars.....	Lieut.-Col. E. R. H. TORIN.....	Dundalk.
Fourteenth Hussars.....	Col. Hon. G. H. GOUGH.....	Cahir.
Fifteenth Hussars.....	Lieut.-Col. J. B. S. BULLEN.....	Dublin.
Sixteenth Lancers.....	Lieut.-Col. J. M. BABINGTON.....	Lucknow.
Seventeenth Lancers.....	Lieut.-Col. E. A. BELFORD.....	Preston.
Eighteenth Hussars.....	Lieut.-Col. E. A. PALEY.....	Umballa.
Nineteenth Hussars.....	Lieut.-Col. J. C. HANFORD.....	Bangalore.
Twentieth Hussars.....	Lieut.-Col. Lord BEAUFORT.....	Colchester.
Twenty-first Hussars.....	Lieut.-Col. R. H. MARTIN.....	Secunderabad.

PROMOTION FROM THE RANKS IN THE BRITISH ARMY.

It may be true in theory that every private soldier is a possible commissioned officer, but the theory works out badly in practical application. During the past ten years only about two hundred have risen from the ranks. And it appears that no enquiry is made into the social status of a candidate for a commission beyond the fact that a C. O. is bound to satisfy himself that the candidate is in all respects qualified for the position of a commissioned officer. So far so good. But youngsters who have unfortunately failed to pass the examination for Sandhurst are anxious to know what regiment they can join as rankers in which they can look forward to a commission within a reasonable period.

The choice evidently lies between cavalry and infantry, as engineers and artillery are out of the question. Cavalry is undoubtedly the favorite with the "gentleman ranker." The handsome uniform,

the essential swagger of the horse soldier, and the attractions of riding over walking, are sufficient to account for the preference. Then a superior class of men enlist in the cavalry: they are better cared for in barracks, and the whole life has a higher tone than is obtainable in the ordinary infantry regiment. These are indubitable advantages, but against them must be placed the fact that so many "gentlemen rankers" are to be found in the cavalry, and that only the very pick and flower of them can hope to struggle through a commission. In certain crack cavalry corps a very large proportion of the troopers are so termed "army failures." One must admire the pluck and perseverance of these young fellows, who have made up their minds to obtain a commission from the ranks, but their chances of success are very slight.

With regard to the infantry, there are certain well-known corps bearing historic names whose deeds are in everybody's mouth, and who carry with them an atmosphere of smartness and dash. To serve in the ranks of one of these battalions is in itself a distinction. But this in itself will not help the "gentleman ranker" to a commission. All these crack line regiments have the same drawbacks as the cavalry corps. They are crowded with superior privates hoping for a rise to a commission. It is a difficult matter to get made even a sergeant in one of these sober, steady regiments, so many irreproachable candidates are there for that position. It seems, then, that the only way to obtain rapid promotion from the ranks is to enlist in an infantry regiment with a cloudy reputation as regards discipline and general behavior. If the N.C.O.'s are constantly getting into trouble for drunkenness and dilatoriness, it naturally follows that a well educated young fellow of steady habits would soon be made a sergeant, and once a sergeant it would depend on himself to push on rapidly, and to make a name for himself.—*Army and Horse Guards Gazette.*

MOUNTED ORDERLIES.

Much interest has been aroused abroad by the demand lately made in the German Parliament for credits to cover the formation of a corps of mounted orderlies. The necessity for such an organization was thus officially brought forward by Major WACHS: "The transmission of messages has become difficult owing to the introduction of smokeless powder, and is yet more important now than of old. Mounted orderlies are a necessity for use with the infantry, but cavalrymen could scarcely be trained for the work, nor could they be spared in the numbers required." The Minister for War states that "the German cavalry has no extra establishment of men and horses available for use with the infantry as mounted orderlies. Not a horse or man can now be spared from the cavalry. Long range weapons give a new feature to the battles of the future. The voice, which is the usual means for transmission of orders and messages, is no longer able to carry them to their widely extended destination.

The only effectual means of transmission now is the employment of mounted orderlies. This is no mere fad, it is the conclusion arrived at after the experiences of active service.' The result of these representations was a general order authorizing the formation of a detachment of mounted orderlies to be attached to the Guards Corps, and to the First and Fifteenth Army Corps. The corps of mounted orderlies, it is laid down, is intended to supply for the use of the general staff and of infantry divisions men who have been fully trained in the transmission of orders and information, and in all the duties of outposts and reconnaissance. 'They need not,' it is said, 'take altogether the place of cavalry attached to a division for reconnoitering and screening duties. But they will relieve the cavalry from such duties as escorts to generals and staff officers, to baggage, etc., and as mounted orderlies.' The establishment of each detachment, of which there are to be three, comprises one captain in command, one lieutenant, two second lieutenants, two sergeant-majors, four sergeants, six corporals, ninety-six men, and 108 horses. Each detachment will be attached for discipline and instruction to a cavalry regiment in its district. When a detachment is broken up for duty with different staffs, its officers will be available for employment in their army corps as orderly officers. They will thus be able to superintend generally the working of their men. The non-commissioned officers will be obtained by transfers or reengagements from other regiments. The men will be enlisted for three years' service, and should possess these qualifications: knowledge of horses and their management, special aptitude for the work of mounted orderly, good conduct, good eyesight, ability to read and write German fluently. The armament consists of a sword and a revolver, the equipment includes field glasses and a map case.

As regards instruction, the objects to be aimed at are: Each orderly should be absolute master of his horse, he must know how to treat him generally, and especially in case of minor ailments and injuries; he must be a bold and clever horseman over all kinds of country; he must be able to find his way with or without a map, to observe rapidly and completely, and to report what he has seen clearly and in a few words. The three main points of the instructions are: (1) development of the riding powers of the man; (2) thorough training of the horse; (3) practical and theoretical instructions in the duties of mounted orderly. Individual training only is desired, not that of men in the ranks. The men are to be practiced in riding alone over all kinds of ground. They are not to be taught any movements or formations in bodies larger than mere column of route, such as half sections and sections; no instruction need be given in the use of the lance. The basis of the theoretical instruction rests on what will be required of the men on service. The points in particular insisted on are: reports, both written and verbal; map reading; principles of reconnaissance of villages, bridges, roads, fords, etc.; computation of the strength of troops of all arms; use of field glasses; estimation of distances; knowledge of staff and other uniforms and badges of rank; care of horses, shoeing, etc.

Every man should be able to render 'first aid' to his horse in the event of colic, rubs, overreaches, etc. The veterinary surgeon of the regiment to which the detachment is attached will be responsible for this part of the man's instruction. Practical work is to be carried out in individual expeditions, long rides, attendance at infantry maneuvers, etc. These orderlies are to be distributed among staffs and infantry divisions. The permanent attaching of orderlies takes place at the commencement of general maneuvers. For an approximate guide to their distribution it is proposed that the staff of an army corps should command the service of four orderlies, staff of a division five, staff of a brigade four, regiment of infantry eight, battalion of chasseurs two. In these numbers non-commissioned officers are included, except the two sergeant-majors, who with ten or twelve men and young horses remain at the depot.

Under the head of employment care has to be taken that the orderlies, while performing all the duties that are expected of them, are not prematurely played out with boundless orders, nor used for services other than those for which they are intended. The orderlies, it is stipulated, are if possible to take part in all maneuvers and practical field exercises of any importance. The chief employment will be to keep up communication during an action between the staffs, their own troops, and the neighboring troops; to ensure a simultaneous receipt of an order by commanders of units. Of course, at a short distance from the enemy these orderlies would not be sent up to the first line. It is further pointed out that they should be trained to reconnoiter roads, crossing places, etc., to take the place of cyclists when the nature of the ground does not admit of their use.

In forming a corps on the above principles the German army is once again showing to others a practical step in the development of efficiency. The move is naturally much commended in Germany and in France alike, especially in articles in the *Neue Militärische Blätter* and in the *Revue de Cavalerie*. The work of divisional cavalry on service should be as interesting and as redundant in gallant deeds as that of the cavalry divisions. Indeed, its opportunities of coming into action should, from the nature of its employment and surroundings, be more frequent. But experience in the Franco-German War showed that, on the contrary, the divisional cavalry was seldom able to gather laurels for itself owing to the manner in which it was misemployed. Briefly, the duties of divisional cavalry are to carry out the reconnoitering and screening duties for the infantry division to which it is attached, and to guard its front when halted and its flanks when fighting. In battles they will use every opportunity of taking the enemy in flank or rear or of getting at his artillery; will stave off flank attacks; will complete to the full the effects of a victory; or, in the case of a reverse, will protect the retirement by flank blows, etc. It is in these, its legitimate duties, that divisional cavalry finds frequent opportunities for distinguishing itself on service. But there are other minor and non-legitimate duties which it is too often called upon to perform, such as escorts to generals, guards to baggage and prisoners, post-riders, transport

conductors, and orderlies. Experience shows that these minor duties are very apt to be considered as the more important ones on service, and the result is that the force of divisional cavalry becomes frittered away by dribblets to these various minor uses until there is little or nothing left of any combatant force. Nor do the 'dribblets' effect their work in a manner altogether satisfactory, since their previous training has done little to prepare them for this particular rôle, a consideration which in the case of orderlies is a very important one. Moreover, the best men and the best horses are, of course, taken for the duties, which leave the inferior ones for the important work of reconnaissance and outposts. In the Franco-German War it was found that many squadrons, even after receiving their drafts of remounts, etc., were reduced to about half their proper strength—not by losses in action, but by the demands made upon them for mounted orderlies, etc. In many cases their total fighting strength amounted only to thirty files, and these consisting for the most part of inferior men and horses. Their efficiency was further injured by the withdrawal from them of numbers of officers required to act as gallopers owing to the inability of the untrained orderlies to convey verbal messages correctly.

"The system, while producing such dangerous disruptions, shows no corresponding advantages to balance them. It gives satisfaction to nobody. The staff find the untrained orderlies very unreliable for their purpose, the squadrons are denuded of their best men and horses and of their all too few officers, and the duty is most unpopular with all ranks. There are many ways of courting disaster, and the maintenance of this system appears to be one of them. The Germans have been the first to recognize the fact and to take practical steps to remedy it. Doubtless other armies will follow in their wake. In our own army we are luckily one step in advance of most others in this direction, having at our disposal a certain force of mounted infantry. This branch will on service take many of the duties that should not legitimately fall upon the divisional cavalry, such as escorts, convoys, and mounted orderlies. And it must be remembered that were it not so our squadrons, being on a very much lower establishment than those of foreign armies, would be unable to find any combatant force at all of divisional cavalry to oppose to that of the enemy; consequently it is the more incumbent upon us to develop our mounted infantry power. To effect this it would be necessary in the first place to increase our establishment of mounted infantry in men and horses; also to give them a special individual training, somewhat on the lines laid down in the German general order above described, to fit them for the duties of orderlies, and finally to add to their establishment a detachment of cyclist orderlies. These latter would be of more use than horsemen in most any country, now that roads exist everywhere, and bicycles are perfected to stand all the exigencies of service; and not requiring such long and varied instruction as their mounted comrades, the cyclists might at once, after preliminary instruction in their duties, be attached to the various district headquarter staffs, and so obtain

regular practice in their work in peace, and at the same time relieve men who are at present taken away for the duty from their proper regimental work. The duties would thus be performed with greater efficiency and satisfaction to all concerned, and the cavalrymen and horses would come again under the hand of their officers to be properly trained in their legitimate work instead of—as a certain squadron commander was heard to describe it—being used up by an infantry general in giving a fictitious show of importance to himself and staff."—*Army and Navy Gazette*.

This recalls to mind the cavalry experience of the Civil War, when notwithstanding the recommendations, appeals and warnings of experienced cavalry officers the real object of cavalry was ignored or misunderstood, and this valuable arm was frittered away. Details for body guards, personal escorts, numerous orderlies, etc., finally had to be curtailed in order to obtain any service commensurate with the expense of the numerous cavalry organizations. Such lessons cannot be too deeply impressed upon the minds of all officers, in order that they may avoid similar faults upon arriving at high commands.

THE CAVALRY MANEUVERS

The annual training of selected cavalry regiments under the superintendence of the Inspector General of Cavalry, Major-General G. LUCK, C. B., is proceeding satisfactorily. The division consists of six regiments. The Inspector-General commenced his work of supervision by a close inspection of each regiment.

Many of the regiments that are now out for manoeuvres were similarly employed last year, and it is only reasonable that points either of resemblance or difference from their appearance and steadiness in the field this year as compared with last should be looked for. "To be frank," says the correspondent of the *Morning Post*, "it must be said that the work so far as it has gone indicates that the squadrons are neither better nor worse than they were a year ago. The same faults as were apparent in the early days of the Berkshire manoeuvres are evident now." General Luck resolved before assuming command to give the brigades a protracted period of steady drill before entering upon the execution of schemes or of actions of opposing forces. In the fourth week, however, it is intended that a reconnaissance shall be made which will extend from Aldershot to the south coast.

The Duke of Cambridge will attend the manoeuvres of General Luck's force on Wednesday and Thursday next.

The cavalry division drilled for the first time with the Royal Horse Artillery on Thursday. They were out from 9 A. M. till nearly 1 P. M., the heat being very great and the dust blinding. Special attack movements were carried out with the machine gun section of

the Fourth Hussars, and they proved to be no unworthy rivals of the Royal Horse Artillery, by the workmanlike and smart manner the guns were brought into action. The details of the Third Hussars left behind were formed into a skeleton or flag division, as it is termed at Aldershot, and drilled during the earlier hours of the morning. On the conclusion of the maneuvers, probably about September 9th, the Household Cavalry return to Windsor and London, the Seventh Dragoon Guards march for Norwich, the Fourth Hussars move to Hounslow, and the Eighth to Leeds (with a squadron at York).—*Army and Navy Gazette*.

THE SEQUEL OF WAR.

It has been frequently urged that where the bullet or the sword kills its thousands, disease and insanitary conditions will slay their ten thousands. At the present time the victorious Japs, who so easily defeated their pig-tail opponents, have now to contend with a far more formidable enemy—cholera—and they do not like it. The last number of the transactions of the Imperial German Board of Health states that "according to official intelligence, dated June 2d, cholera is spreading in a most alarming way among the Japanese troops stationed in China, 500 fatal cases being reported to have occurred in the guard regiments alone at Port Arthur. It is feared that the impending return of the troops will cause a further spread of the disease in Japan; A communication from Seoul, dated July 17th, states that the cholera has broken out in Corea." This intelligence is of interest, as it tends to confirm the observation that the seat of war is a fruitful ground for the propagation of disease, and that cholera, in particular, develops in places where war is being, or has lately been carried on. The apprehensions that the disease may spread in Japan by the return of the troops are abundantly warranted by the history of cholera, as shown by the facts collected by Herr A. HIRSCH. When cholera made its first appearance in Europe, in 1830, it was at once perceptible how important a part was played by war in the spread of this disease. It became prevalent in Russia in 1830, where it had asserted itself in spite of the hard winter that preceded the outbreak. The Russo-Polish War took place in that year, and an outbreak of cholera was the sequel to the march of Russian troops into Poland. From there the disease passed, carried by the waters of the Warsaw and Kalisch, and in a very short time was raging in the Prussian provinces of Posen and Silesia; then, through the Oder, it penetrated into the provinces of Brandenburg and Pomerania. In the following year it was seen that this was not the only way in which war aids in disseminating cholera. In May of 1831 some Russian warships arrived in Dantzic Harbor with several cases of cholera on board, which caused the inhabitants of Dantzic to become infected, and the disease spread thence by way of Elbing to Königsberg, and to the district of Köslin and Gumbinnen. It has been clearly proved that cholera

was introduced in 1849 by Austrian troops into Vienna, and in 1866 by English troops from Malta into Gibraltar, and this in times of peace. The most instructive observations, however, are those made during the wars of the year 1866. A few cases of cholera had occurred in Austria in the summer of 1865 at Fiume and Trieste, but in 1866, starting from the Bukovina, it spread over the whole of the Austro-Hungarian monarchy, those provinces suffering most in which the principal events of the war had been enacted. Thus, from the province of Moravia 50,000 cases were reported; from Bohemia, 30,000; and from Lower Austria, 10,000, and it is well established that the cholera was then introduced into Prussia and Saxony from there. The influence of war was clearly perceptible in Bavaria, and in this case from the fact that Bavaria suffered most of all the South German States, while, as the pestilence was especially virulent just in the districts of Middle Franconia, Asehaufenberg, Suabia and Neuenburg, it may be safely affirmed that war was responsible, most essentially, for the severe character of the plague.—*Admiralty and Horse Guards Gazette*.

MILITARY REORGANIZATION IN SWITZERLAND

The *Revue Militaire Suisse*, for August, contains an article from the pen of Colonel LECOMTE on the proposed changes in organization and administration of the Swiss army, to be presented for adoption or rejection on November 3d, the Federal authorities of Switzerland having called together the electors to vote upon this question on that date. As the relationship of the various Swiss cantons is somewhat like that of our own sovereign states to the Federal Government, and as the proposed changes tend to great centralization and towards an increase of the Federal authority, the results of the voting will be awaited with great interest.

The article does not present a very roscate view of the new plan, either from a military or political standpoint. It argues: "You will in vain overburden our citizen soldiers with incessant changes of Constitution, of laws, of regulations, of organizations and reorganizations; you will never succeed in making them the rivals of the Prussian Guard, which, furthermore, is not necessary in order to successfully defend our country of mountains and valleys."

THE CAVALRY SOCIETY OF THE ARMIES OF THE UNITED STATES

CONSTITUTION.

1. The name of this Association shall be "THE CAVALRY SOCIETY OF THE ARMIES OF THE UNITED STATES."
2. Any honorably discharged officer or soldier, who at any time has served in the cavalry corps in the said armies, shall be entitled to membership in the Society.

3. The object of the Society shall be the promotion of kindly feeling, the revival of old associations, and the collection and preservation of records of the services rendered by this corps during the "War of the Rebellion."

4. The officers of the Society shall consist of a president, seven vice-presidents, secretary, treasurer and historian, who shall be, with the exception of the historian, elected at each meeting of the Society.

5. The duties of the president shall be to preside at the annual meetings, to call extraordinary meetings of the Society in case of necessity, and to issue such orders as may be necessary for the good government and control of the Society.

6. The vice-president shall exercise the powers of the president in case of the absence of that officer.

7. The secretary shall keep a record of the minutes of the Society, a roll of members, and perform all duties usually pertaining to an office of such character.

8. The treasurer shall have control of all funds, to be expended only on approval of the president, and shall render an account of all disbursements at the annual meeting of the Society.

9. The historian shall prepare for the use of the secretary a history of the cavalry corps, and of all matters connected therewith of interest to the Society.

10. There shall be a standard bearer, who shall be an officer of the Society, and who shall be appointed at each annual meeting by the president. The duties of the standard bearer shall be to have charge and custody of the flag of the Society, and carry it on all occasions of ceremony when the Society shall be present.

11. There shall be elected annually an assistant secretary, who shall perform the duties of the secretary at the annual meetings of the Society in case of the absence of that officer, and who shall perform such other services as pertain to the office of secretary as may be required of him by that officer.

12. There shall be elected annually an adjutant-general, whose duty shall be to assist the president in all cases where the Society is formed for parade, and to act as an aide to the president, and perform such services as that officer may direct.

BY-LAWS.

1. The entrance fee of the Society shall be one dollar.
2. The annual dues shall be one dollar.
3. The president shall determine the time and place of each annual meeting, being governed in his selection thereof, as far as practicable, by the time and place of the meeting of the Society of the Army of the Potomac.

NEXT MEETING.

Place of meeting next year, as fixed by Society of the Army of the Potomac, is Burlington, Vt.; date not named.

BADGE OF THE SOCIETY.

The badge of the Society is a pair of crossed sabers, accurately copied from the regulation cavalry saber, and finely finished in gold, upon a boldly worked "sunburst" of silver. It is attached to the coat or the ribbon of the Society by means of a brooch-pin at the back. Price, \$5.00. Send money with order to Major G. IRVINE WHITEHEAD, treasurer, 206 Broadway, New York.

RECORD OF PROCEEDINGS.

The Cavalry Society met in the headquarters rooms of the Third Regiment of the Connecticut National Guards, and was called to order by the president, General JONATHAN P. CILLEY.

NOTES ON THE REUNION.

While the number of cavalrymen in attendance at the reunion was larger than usual, and filled the commodious headquarters rooms of the Third Connecticut Regiment of National Guards, the absence of BARTLETT and his bugle was much lamented. The bugle calls during our service waked us in the morning, directed and timed each duty of the day, and in melodious tones as clearly enunciated as spoken words, "put out the lights" in our shelter tents at night as we pulled off our boots as the only unrobing act for the night. In field, in battle, and in camp, the bugle inspired and controlled us.

However, our flag was still there, and Captain BOEHM, our standard bearer. It is not generally known by the Cavalry Society what rich associations cluster round our beautiful silk banner, as the special gift of the great cavalry general, SHERIDAN, and that the name of our Society, which has the appearance of a misnomer, was fixed in its present form because SHERIDAN's large heart wanted to encircle every cavalryman in the United States, especially desiring that when the Society of the Army of the Potomac met in the western part of our country the cavalry boys in that section should come in as members and participants in our reunion.

The resolutions of the Cavalry Society, presented by General SAWTELLE at the meeting of the Army of the Potomac, in regard to a monument to the soldiers from the regiments of the regular army participating in the battle of Gettysburg, received a unanimous vote at such meeting, and Senator HAWLEY, who sat near General SAWTELLE, stated that he would give his personal efforts to secure the passage of an act for the purpose desired.

The cavalry reunion lacked some of the minor incidents which added much to the enjoyment had at Boston in 1893, but the impress New London left on our memory was most happy, and the pictures of the place where ARNOLD stood, appropriate in its sepulchral relations, and the remains of the old fort on Groton Heights will enable each visitor to remember the historical war flavor of the city, while its memorial library, and the most interesting of any relic of the past, "the old town mill," with its rocky stream and trees as they existed in their primitive form of 1650, will recall its literary and artistic aroma. — *Maine Bugle*.

DIARY OF LIEUTENANT W. SWABEY.

The diary of Lieutenant W. SWABEY, R. H. A., in the Peninsula, edited by Colonel F. A. WHINYATES, has been appearing for some time in the *Proceedings of the Royal Artillery Institution*, Woolwich. It furnishes plain reading of every-day soldier life, and impresses one strangely in comparison with the grandiloquent and egotistical language of most French writings of that period, and of which there has been a goodly surfeit during the Napoleonic revival. There is but little attempt at explanation or discussion of campaigns or theories as to the conduct of the war, although an occasional outburst shows that all parts of the machine do some serious thinking once in awhile about their superiors.

A few scattered quotations will suffice to show some of the difficulties attending service at that time in the Spanish and Portuguese Peninsula:

12th December. We are now put to our wits' end about forage, and the villages being all exhausted, we have to look for it in the mountains, where it is so well concealed that it requires much labor to find it, and is a very precarious supply.

25th February. Marched to Capinha, part of the road being very hilly, we got in, however, by four o'clock. Green forage was all we could procure.

26th February. Marched by a good route to Atalaya. Still green forage. We halted on the road for about ten minutes by a rye field; the men were ordered to cut forage, and in that time filled sacks enough for 100 horses.

29th February. * * * Our route was to Samadas, but there not being room for the cavalry and ourselves there, we proceeded to Villa Velha, which I may call the most miserable place in Portugal; no doors to our stables, and our billets hardly to be called covering, the night rainy, and no forage, green or dry, for the horses. There is a hospital for Portuguese troops in a church here, which, when I was at this place before, was ruined and empty. I was anxious to get the horses in, and opened the door, when all the cowardly rascals lying sick in their beds, cried out to the sentinel to bayonet me. I had not time to draw my sword and did not like to run, so I caught hold of his musket and grappled with him till I had explained that I did not want to put in the horses; he then let me go with his bayonet close to my breast. I hit him next morning, after threatening to cane him, in custody of the militia captain who had charge, who promised he should be punished. No doubt if I could have drawn my sword the rascal would have made off, but being alone and haying so many about me, I did not dare to try the experiment.

7th March. Spent my day at the troop stables endeavoring to cure the sore backs, of which, in this march, we have more than our share.

8th March. Went in the morning to see Sir STAPLETON COTTON inspect the Fifth Dragoon Guards. The condition of their horses far exceeds anything I have seen. It must be observed, however, without wishing to detract from their merits, that they have been lying in idleness at Thornar all the winter, whilst we and others have been on short forage and taking fatiguing marches. Their appointments and discipline, however, sufficiently prove that this good fortune is not the only cause of their present effective state.

18th March. Marched at 5 o'clock, in a most tremendous rain, and overtook the dragoons at Santa Martha, where only last night 300 French were turned out. The second day the horses have had no corn.

20th March. Rain all day. Our men having above a league to go for forage, wheat was cut, no other datable for the horses being found. Occasional firing heard from Badajos, and various reports in circulation.

21st March. To my inexpressible joy there arrived for our use this day seventeen horses, most of which come to my division; the number of horses

that have died in it sufficiently proves that it is absolutely useless to send old horses on this or any other service. Rain all day. The service at Badajos must be exceedingly hard.

4th April. To-day I resolved to give up the idea of being settled even for a moment; for, whilst our horses were gone a league for forage, an order came to march to Torre de Almendral, two leagues. We arrived there in the evening without an atom of forage.

26th July. This evening at 8 o'clock we went out on picket, which I understand is to be the system pursued; as it is useless at a distance from the enemy I consider it a harassing order.

15th October. We lost this week one bombardier and three gunners, who died from a fever brought on by sheer weakness. I read the funeral service over some of them, and was surprised to see with what little reverence or awe the superstitious, ignorant Spaniards witnessed the ceremony, and with what little decency they behaved.

Campaigning under such circumstances was no doubt attended with a maximum of discomfort; the dangers from sickness, arising principally from improper food, and alternate billeting and exposure to the weather, were quite as great as those to be apprehended from the enemy. The constant change of masters caused the country people to fear both English and French. In one instance, while the British troops occupied a village, the French made requisition upon the alcalde for provisions, stating they would come for the supplies, and the demand was actually being complied with by the people when discovered by the troops occupying the place.

Altogether, the diary is most interesting reading, and is commended for its simple, manly record of a soldier's daily life.

RULES OF THE FORT LEAVENWORTH POLO CLUB.

1. The grounds to be about 750 feet long by 500 feet wide.
2. The goal posts to be twenty-four feet apart, and light enough to break if collided with.
3. For match games the height of the ponies must not exceed fourteen hands one inch. For practice games, at the discretion of the club, larger ponies may be used. No ponies showing vice to be allowed in the game.
4. In match games the regulation polo balls and mallets to be used.
5. Match games shall be for four periods of fifteen minutes each of actual play, with five minutes' rest between periods, and three minutes' rest after each goal is made.
6. Each team to choose an umpire, and if necessary, the two umpires to appoint a referee, whose decisions shall be final.
7. In all match games the number of players contending to be limited to four on a side.
8. In match games the game, in case of a tie, must be played on until one side obtains a goal.
9. The side that makes the most goals wins the game.
10. If the ball is hit above the top of the goal posts, but in the opinion of the umpire through, it shall be considered a goal.

11. Each team shall have a substitute in readiness to play when a match is on.

12. There shall be a captain for each team, who shall have the direction of positions and plays of his men.

13. No person, players, umpires and referee excepted, shall, under any circumstances, be allowed upon the ground during the progress of the game.

14. It is forbidden to touch an adversary, his pony or his mallet with the hand or mallet during play, or to strike the ball when dismounted.

15. A player shall not put his stick over his adversary's pony, either in front or behind. In riding off or hustling, a player shall not strike with his arm or elbow.

16. A player may hustle or ride out an antagonist, or interpose his pony before his antagonist, so as to prevent the latter reaching the ball; but he may not cross another player in possession of the ball, excepting at such a distance as to avoid all risk of a collision.

17. If two players are riding from different directions to hit the ball, and a collision appears probable, then the player in possession of the ball (i. e., he who last hit the ball, or who is coming in the direction from which the ball was last hit) must be given way to.

18. Foul riding is careless and dangerous horsemanship, and lack of consideration for the safety of others.

19. In case of a foul (viz: infringement of Rules 14, 15, 16, 17 and 18), the umpire shall stop the game, and the side that has been fouled may claim either of the following penalties:

(a) That the umpire award the side fouled a half goal.

(b) A free hit for the side fouled, from where the ball was when the foul took place, none of the opposing side to be within ten yards of the ball.

(c) That the side which caused the foul take the ball back, and hit it off from behind their own goal line.

20. Whenever a player, either accidentally or intentionally, knocks the ball behind the line at the end at which the goal defended by his side is situated, it shall be deemed a safety knock-out, and shall score one-fourth of one goal against such player's side. When the ball is caromed out, or kicked out by a pony, it shall not score as above.

21. The game to begin when the ball is thrown between the contestants, who shall be in line facing each other in the middle of the field, unless it is agreed between the captains to charge: the charge is to be from a line thirty feet in front of the goal posts. When the signal to charge has been given by the referee, the first and second players must keep to the left of the ball until it has been hit.

22. In case of an accident to a player or a pony, or for any other reasonable cause, the referee may stop the game, and the time so lost shall not be counted. When the game is resumed, the ball shall

be thrown between the players, who shall be lined up at the point at which the ball stopped: but if the game is stopped on account of a foul, the ball is to be thrown in at the place at which the foul occurred.

23. When the limit of time has expired, the game must continue until the ball goes out of bounds, or a goal is made, and such overtime shall not be counted.

24. When the ball goes out of bounds at the sides, it must be thrown in from the place at which it went out by the referee, between the two sides, which shall be drawn up in line facing each other. When the ball goes out ends, the side defending that goal is entitled to a knock-out from the point at which it crossed the line. When the player having the knock-out causes unnecessary delay, the umpire may throw a ball on the field and call play. No opponent shall come within fifty feet of a player having the knock-out until the ball has been hit.

25. Ends shall be changed after every goal, or if no goal has attained, after half time. The ball must go over or clear of the line to be out, or to score a goal. If the ball is damaged, the umpire must stop the game, and throw in a new ball at the place where it was broken, and at right angles to the length of the ground.

26. Should a player's stick be broken, he must ride to the place where sticks are kept, and take one. On no account is a stick to be brought to him.

27. In the event of a stick being dropped, the player must pick it up himself.

LIEUTENANT S. L. PATERSON, Royal Dublin Fusiliers, recently met with a fatal accident while playing polo at Quetta. His pony fell and rolled on him as the result of a collision with another pony, and the young officer received such serious injuries as to cause his death soon after being removed to the hospital.

APROPOS of the intense love that cavalry horses have for music, a correspondent writes that when the Sixth Dragoons recently changed their quarters from Manchester to Edinburgh, a detachment was billeted for the night at Thirsk, where a mare belonging to one of the troopers was taken so ill as to be unable to proceed on the journey the following morning. Two days later, another detachment of the same regiment, accompanied by the band, arrived. The sick mare was in a loose box, but hearing the martial strains, kicked a hole through the side of her box, and making her way through the shop of a tradesman, took her place in the troop before she was secured and brought back to the stable. But the excitement had proved too great, and the subsequent exhaustion proved fatal.—*Admiralty and Horse Guards Gazette*.

LIEUTENANT-GENERAL KEITH FRASER, C. M. G., Inspector-General of the British Cavalry, died July 31st.

BOOK NOTICES AND EXCHANGES.

RIDERS OF MANY LANDS. By Lieutenant Theodore Ayrault Dodge.
New York. Harper & Bros.

Somewhere the author expresses a fear that his title has been given amiss,—that it should have been "Yarns of a Globe-Trotter and Incidentally Horse Flesh." Such a summing up helps us to get an idea of the plan of the book, although it is not entirely just. Colonel Dodge adopts the novel plan of visiting nearly every country in the world for facts, and whenever he sees the rider of anything, from a bike to a bullock, he gives his impressions in a very entertaining way. And then, for fear that you may tire, he adds many bright excursions into other fields,—from after dinner speeches of Boucicault, to the dancing of Geisha girls and the virtues of old maids. In this way much space is taken up by matters somewhat foreign to the subject of the book, but the reader never regrets it, because it adds a good hearty seasoning to the whole.

This book will surprise a few of those who have a mania for foreign ideas. As an instance, it gives the judgment of a perfectly competent critic as to the relative value of our own and other types of cavalry. His conclusion is, that although we may not be so perfect in drill and in the maneuvering of masses as some others, we are away and ahead of them all in distance riding and in the ability to do heavy work without losing our horses. As this last element of education is the "daily bread" of cavalry, and as the cavalry battle is the most uncommon incident of modern war, we may conclude that the traditions of our short sixty years of American cavalry history are well worth preserving. Colonel Dodge has gathered a few, a very few of the performances of our troopers in border warfare. Such as they are, and they do not seem to be the most notable examples, they easily stand ahead of similar efforts in other services. Let us rake up more of the reports of scouts and raids in our own country, and we will find them full of the very best kind of work.

Upon an English style of riding the author has some wise reflections. It is true that John Bull has an easy eminence in polo playing, in tent-pegging, in fox hunting and in racing, and this probably explains the fact that he has fastened some of his cavalry

notions on most of the armies of the world. Many people lose sight of the fact that the riding of polo players, jockeys or fox hunters is not good form for cavalry, nor for any man who rides for pleasure, or with the purpose of covering a long distance on a single mount. Thus the cow-boy may be good at rough riding, but he is strictly a poor horseman, and consequently may not be a model for cavalry.

It will surprise some people to be told that an Englishman does not know a saddle horse. This animal is an American production. He is the most perfect creature born without a soul, and thrives where men are brave and women are divine. This animal is the product of the bad roads, the fine stock, and the sport-loving propensities of the land where he lives. The Southern gentleman rider, on an easy-gaited horse, with a rather long stirrup, is the best picture of man and horse combined that can be found in any land. As a model for cavalry, or for those who ride for pleasure, his style is best suited and more easily adopted than any other.

The English standard, which excludes the rack from the saddle gaits, and calls it "artificial," is shown to be wrong. The rack, amble and running walk are natural to three-fourths of all animals used for saddle purposes in the world, but only in our Southern States are these gaits studied, improved and bred from. Furthermore, no race of natural riders on earth rides at the trot, but where ever ease, handiness and ability are asked, these so-called artificial gaits are used. Not that we would exclude the trot—but read the book.

Further notice would perhaps trespass too much on ground which the author should reserve to himself. The whole book is bright and instructive.

E. S.

PROCEEDINGS OF THE BUFORD MEMORIAL ASSOCIATION.

This pamphlet contains the oration and several brief sketches in the shape of personal recollections of that most distinguished soldier, Major-General John Buford. Through the kindness of General Wilson, the Cavalry Association was furnished with a copy of the oration, and it appears in this issue of the JOURNAL. A portrait of General Buford appeared in the first volume of the CAVALRY JOURNAL, with an article from the pen of the distinguished President of the Association, Major-General Wesley Merritt.

The pamphlet is very handsomely printed and contains four excellent illustrations. It reflects great credit upon the taste of General Rodenbough, the Secretary, upon whom the preparation of the pamphlet devolved.

No young officer can read this little book without a feeling of patriotic pride. The history of Buford's cavalry at Gettysburg furnishes one of the most thorough proofs that it is to the Civil War young cavalrymen must look for models, and not to the grand maneuvers of Europe, where the shock of charging divisions will ever be of the first consideration in cavalry training.

W. H. C.

"THE LOVE-LETTERS OF A PORTUGUESE NUN." Cassell Publishing Company. New York.

This little book contains five letters written by a young Portuguese nun to a French officer belonging to the troops which had been sent by Louis XIV to aid in the war against Spain in 1668, after his return to Paris. This seems a long time ago, but the letters have been preserved and have appeared in many editions in France, where they have been regarded as almost unrivaled. An incident related in the Swabey diary, relating to an occurrence over a hundred years later in the Peninsula War, of somewhat similar character, shows to what extremes the warm-hearted maidens of the Peninsula went in welcoming their foreign allies. It is a tale of dispelled illusions, broken enchantments, and bitter reality.

HORSES, SADDLES AND BRIDLES.

The following notice of Captain Carter's "Horses, Saddles and Bridles" appeared recently in the *Journal of the Royal United Service Institution* (British):

This work, though primarily adapted to the needs of the American service, contains much which will be welcomed by British cavalry officers, for within a comparatively small number of pages the author has brought together all the essential facts connected with saddlery and bitting throughout the world—facts which otherwise are only to be obtained by prolonged research and comparison in many different languages and works.

The cavalry of the United States may be numerically weak, but there can be no question as to the very high degree of excellence they have attained, having due regard to the special conditions of their employment; and since our own cavalry are frequently at work under very similar ones, a careful study of the means by which their efficiency is obtained cannot be too strongly recommended. At the same time the book requires to be read with caution, for as the Americans are essentially a practical race, less attention is paid by them to the breaking and schooling of young horses than is advisable in cavalries where absolute precision in maneuver and cohesion in the charge form the chief reason for their existence.

In the chapter on the selection of remounts, the following excellent common-sense remark should be noticed: "Some horses apparently sound and without vice or fault, will still be far from desirable cavalry horses; a rough animal passed into the ranks will cause more discontent than he is worth."

Under the heading, "Age of Horses," some interesting facts are recorded. The oldest horse of which the author had personal knowledge is "Belle Mosby," who went through the whole Civil War, and is still living at the age of thirty-five. A Mexican army mule, which died in 1863, could be traced back over forty years.

The chapter on the "Endurance of Horses" is of exceptional interest, giving many details of the waste of horses during the Civil War, and the steps taken to remount the army during its continuance; the organization of the "Cavalry Bureau," on which this duty fell, should be carefully studied. The daily waste of horses throughout the year 1863-4 was 500, i. e., the rate was approximately .5 per cent.; this is heavy, but compares very favorably with many European experiences, notably with the French Grand Army in the march to Moscow.

Seats, saddles and bits are all treated with clearness and practical knowledge. Though the author's remarks contain nothing which in principle, at least, is not embodied in our own regulations, his views are stated in such a manner that the reason "why" is in all cases made sufficiently clear. This

is a point in which "regulations" necessarily fail, and hence in the absence of properly qualified teachers, bad habits are apt to arise, which appear to be in accordance with the letter of the regulation, but are in reality entirely opposed to its spirit. To detect these mistakes and correct a long-established practice is often the most difficult task for a young officer thrown on his own resources; and a more valuable guide to enable him to train his judgment to act on his own responsibility in these circumstances, it would be very difficult to discover.

THE UNITED SERVICE

July, 1895: 1. A Plea for Bimetallism, by Lieutenant McBlain. 2. A Sicilian Brigand, by T. H. Farnham. 3. Commodore Conner, by B. S. P. Conner. 4. Chronicles of Carter Barracks, by Colonel H. W. Closson. 5. Another Forgotten General, by Edward Shippen, U. S. N. August, 1895: 1. A Reminiscence, by Captain H. R. Brinkerhoff. 2. International Law in the War Between Japan and China, by T. E. Holland. 3. Colonel Graham's Reconnaissance, by D. G. Adee. 4. Recollections of Reconstruction, by Captain Chester. 5. The Bosen's Song, by Casper Schenck, U. S. N. 6. Public Schools and Army Competitive Examinations, by Henry Knollys, September, 1895: 1. The Army of the Khedive and the Present Military Situation in Egypt, by O. G. Villard. 2. Moral Tactics, by W. E. Montague. 3. The Napoleonic Revival, by Wilder Graham. 4. A Literary Venture, by T. H. Farnham. 5. The Demonetization of Silver, by Lieutenant Campbell. 6. In the United States Navy Fifty Years Ago, by D. G. Adee.

JOURNAL OF THE UNITED SERVICE INSTITUTION OF INDIA. June, 1895.

1. A Military Museum for Simla, by Captain A. Wallace. Twenty-seventh Punjab Infantry. 2. Malaya as a Possible Recruiting Ground for the Indian Army, by Colonel M. J. King-Harmon. 3. Visual Signaling, by Lieutenant F. H. Pigon, First Infantry, Hyderabad Contingent. 4. Notes on Tactics and Organization of Artillery Masses, by Major E. N. Hebriguez, Royal Artillery. 5. Rajputs—A Brief Account of their Origin, Religious Customs and History, with Notes Regarding their Fitness for Modern Military Service, by Lieutenant A. H. Bingley, Adjutant VII B. L. 6. Swordsmanship, by Lieutenants E. Stenson Cooke and F. H. Whitton, London Rifle Brigade. 7. Sword and Pistol, by Colonel M. J. King-Harmon. 8. A Brief Description of Madagascar, by Captain F. C. Colomb, Forty-second Gurkha Rifles. 9. An Attack Scheme, by Major A. W. T. Radcliffe, Fourteenth Sikhs. 10. The Peace Establishment of the German Army, by Lieutenant R. G. Burton, First Infantry, Hyderabad Contingent.

JOURNAL OF THE MILITARY SERVICE INSTITUTION.

July, 1895: 1. Discipline (first honorable mention), by Lieutenant Steele. 2. An Antiquated Artillery Organization, by Captain Wagner. 3. Martial Law and Social Order, by Captain Chester. 4. Recruiting and Training of the Company, by Lieutenant Miller.

5. Our Artillery in the Mexican War, by Lieutenant Van Deusen. 6. A Technical Criticism, by Lieutenant Brooks. September, 1895: 1. The Army and the Civil Power, by Lieutenant Wallace. 2. The Story of a Rescue, by Colonel Carpenter. 3. Sea Coast Artillery, by Captain Reilly. 4. Fortifications and Field Operations, by Colonel Egbert. 5. Our Present Artillery Armament, by Lieutenant Berkheimer. 6. The Man Behind the Gun, by Captain Walker. 7. The Bicycle as a Military Machine, by Lieutenant Hill. 8. Martial Law in Ceylon, by Lieutenant Carbaugh. 9. Recruiting and Training of the Company, by Lieutenant Miller.

JOURNAL OF THE ROYAL ARTILLERY INSTITUTION.

July, 1895: 1. Abstract of the Proceedings of the Fifty-eighth Annual General Meeting of the Royal Artillery Institution. 2. The Training Together in Peace Time the Garrison Artillery Forces, etc., by Captain E. G. Incalls, R. A. (commended essay, 1895). 3. Same by Lieutenant-Colonel O. W. White, R. A. (commended essay, 1895). August, 1895: 1. Instruments for Looking Through Thick Walls With Small Apertures, by Captain A. H. Russell, Ordnance Department U. S. Army. 2. An Account of the Relief of Chitral Fort from Gilgit and the Siege of Chitral, by Lieutenant C. G. Stewart, R. A. 3. Diary of Lieutenant W. Swabey, R. H. A., in the Peninsula, (continued).

THE PENNSYLVANIA MAGAZINE OF HISTORY AND BIOGRAPHY.

1. John Betchtel: His Contributions to Literature, etc., by John W. Jordan. 2. Journal Kept On Board the United States Frigate "Constitution," 1812, by Amos A. Evans, Surgeon U. S. Navy, by A. W. Evans. 3. Washington After the Revolution, 1784-1799, by William S. Boker. 4. Extracts From the Journal of Lieutenant John Bell Tilden, Second Pennsylvania Line, 1781-1782, by John Bell Tilden Phelps. 5. Defenses of Philadelphia in 1777, by Worthington Chauncey Ford. 6. A Register of Baptisms, Marriages and Deaths, 1772-1822, by Rev. William Rogers, D. D. 7. John Roberts, of Menon. 8. Recollections of Philadelphia Near Seventy Years Ago, by Benjamin Kite.

JOURNAL OF THE UNITED STATES ARTILLERY. July, 1895.

1. Experiments with a New Polarizing Photo-Chronograph, by A. C. Chrehore and George O. Squire, First Lieutenant Third Artillery. 2. The Development of a Naval Militia, by Commander Jacob W. Miller. 3. Extracts from the Journal of Second Lieutenant John Wilkinson, Sixth Artillery. 4. A Proposed Modification of the Field Gun Sight, by Lieutenant Elwood E. Gayle, Second Artillery. 5. Coast Artillery Fire Instruction, by Lieutenant John A. Lundeen, Fourth Artillery. 6. Light Artillery Target Practice, by Lieutenant Ernest Hinds, Fourth Artillery. 7. German Foot Artillery with Horsed Guns (translation), by Lieutenant T. Bentley Mott.

PROCEEDINGS OF THE UNITED STATES NAVAL INSTITUTE. Whole No. 74.

1. Prize Essay, 1895. Tactical Problems in Naval Warfare, by Lieutenant-Commander Richard Wainwright, U. S. A. 2. Water Motors as Marine Dynamo Drives, by Lieutenant F. J. Hoessler, U. S. A. 3. The Growth of U. S. Naval Cadets, by Henry G. Boyer, M. D., Surgeon U. S. A. 4. The Training Service, by Lieutenant George R. Clark, U. S. A. 5. The Problem of Torpedo Discharge, by Lieutenant Albert Gleaves, U. S. A. 6. Honorable Mention, 1895: A Summary of the Situation and Outlook in Europe, by Richmond Pearson Hobson, Assistant Naval Constructor, U. S. A.

THE MAINE BUGLE. July, 1895.

1. An Episode of the Wilson Raid, by Lieutenant Coburn, First Maine Cavalry. 2. A Terrible Night on the Picket Line, by Sergeant Ellis, Second U. S. Cavalry. 3. A Sailor's Service, by F. E. Aylward. 4. An Incident of Confederate Service in Front of Petersburg, by G. S. Bernard. 5. Fifth New York Cavalry at Fairfax, by Captain F. S. Dickinson. 6. A Maine Poet, by W. H. Jones. 7. With Sheridan in Lee's Last Campaign, by Colonel F. C. Newhall. 8. The Cavalry Society of the Armies of the United States.

DOCUMENTARY HISTORY RELATING TO THE HISTORY OF IOWA. Nos. 1 and 2. 1895.

Acquisition of Louisiana by the United States. The President Authorized to Take Possession of Louisiana. Proclamation and Address of Governor Claiborne. Louisiana Divided Into Two Territories. The Territory of Louisiana. The Territory of Missouri. The Common Law Adopted as a Rule of Decision. The Missouri Compromise.

THE AUTUMN MANEUVERS OF 1894. AUSTRIA-HUNGARY, FRANCE AND GERMANY. No. 6. Publications of Military Information Division, War Department.

THE IOWA HISTORICAL RECORD. July, 1895.

The Sioux Indian War. National Songs. The Indians of Tama County.

STANDING ORDERS FIRST CORPS OF CADETS, MASSACHUSETTS VOLUNTEER MILITIA. 1895.

REVUE DU CERCLE MILITAIRE.

REVUE MILITAIRE SUISSE.

THE RIDER AND DRIVER.

MILITAER WOCHENBLATT.



GENERAL HENRY LEAVENWORTH

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GENERAL HENRY LEAVENWORTH.

BY MAJOR GEORGE B. DAVIS, U. S. ARMY.

IT is a striking evidence of the rapid march of events—rather than years—in the United States, that an officer of the army, who died but little more than sixty years ago, after a career of unusual achievement, should have been so absolutely forgotten that the mention of his name calls to mind a military post, itself so long established as to have a history and traditions of its own, but gives no suggestion of the life history of the distinguished soldier whose name it bears. Not only is this the fact, but I have been unable to find, after considerable inquiry, that there is a single officer now living who knew General LEAVENWORTH, or who even remembers him as an officer of prominence in the army at the time of his entry into the military service.

Uncivilized races, more tenacious than ourselves of the memory of their great men, hand down from generation to generation the names and deeds of those whose endeavors in behalf of their fellows have been deemed worthy of remembrance. It shall be my purpose, therefore, within the narrow limits of this paper, to attempt a similar service in behalf of an officer who, in his day, contributed not a little to fix the character and determine the traditions of the

army, and whose career is well worth a more extensive and elaborate study.

General HENRY LEAVENWORTH was born in Connecticut in 1783—the year of the treaty of Paris. While still a lad he removed to Vermont and, before the fate of the disputed territory had been settled, again moved to Delaware county, New York, where he grew to manhood, and acquired such education as was possible in a new and unsettled country just emerging from a long and exhausting war, and as yet unprovided with the most elementary institutions of learning. But little is known of the circumstances of his boyhood and youth. His choice of the law as a profession gives some indication, not only of the bent of his mind, but of his thoroughness and steadfastness of purpose, and of a desire for solid attainment which could have been satisfied in no other way, in the new and undeveloped country in which his youth and early manhood were passed.

Immediately after being called to the bar he formed a law partnership with his preceptor, General ROOR, and entered upon the general practice of his profession at Delhi, in Delaware county. At the outbreak of the second war with England, he had not only built up what was regarded, at the time, as an extensive and successful practice, but had acquired such consideration in the community as to be selected to command the company of infantry that was raised for the war in Delaware county, in the winter of 1812 and 1813.

Captain LEAVENWORTH's company was assigned to the Ninth Regiment of Infantry and attached to the brigade commanded by General WINFIELD SCOTT. He took an active part in the campaign of 1813 in northern New York, and was promoted to the grade of major in time to participate, as a regimental commander, in the invasion of Canada from the Niagara frontier. He was engaged in the battles of Chippewa and Lundy's Lane, and greatly distinguished himself on both occasions—so greatly, indeed, as to have received the brevets of lieutenant-colonel and colonel in the army for gallantry and good conduct as a regimental commander.

At the close of the war Colonel LEAVENWORTH obtained leave of absence and served for a time as a member of the Legislature of New York. At the first reduction of the army he was assigned to the Second Infantry as a major and stationed at Sackett's Harbor. In 1818 he was promoted lieutenant-colonel of the Fifth Infantry, which he joined at Detroit and conducted to the Falls of St. Anthony, where he established a military post at the site of the present Fort Snelling. On the reduction of 1821 he was transferred to the Sixth

Infantry—under the circumstances almost the equivalent of a promotion—and assigned to the command of the troops stationed at the Council Bluffs, on the St. Peter's River, in Iowa. From this point during the summer of 1823 he conducted an expedition against a band of hostile Arickaree Indians, who, in an engagement lasting from August 9th to 13th, were so severely handled as to be willing to make an enduring treaty of peace. For these services Colonel LEAVENWORTH was specially mentioned by General GAINES in his report as the commander of the Western Department; his action was also commended by Secretary CALHOUN, and by President MONROE in his annual message.

We now approach a period in his career which makes the selection of Fort Leavenworth as a home for the Infantry and Cavalry School one of peculiar fitness and significance. On March 4, 1826, the Commanding General of the Western Department, in conjunction with General ATKINSON, was directed to select a point on the west bank of the Mississippi River within twenty miles of its confluence with the Missouri, which, in their judgment, was best suited for the establishment of an infantry school of instruction. The place selected was the site of the present Jefferson Barracks, and here Colonel LEAVENWORTH, who, in 1825, had been promoted to the colonelcy of the Third Infantry, set up the first American school for practice for infantry. Colonel LEAVENWORTH, who, on his promotion in 1825, had joined his new command at Green Bay, in Wisconsin, conducted a detachment of his regiment to St. Louis and addressed himself to the task of building a post and a school at the same time. The school was not destined to be long lived, and when it died, partly from inanition and partly from want of official encouragement and support, it was not destined to have a successor for more than fifty years. It will be profitable to pause for a moment over this early experiment in military education.

From an examination of such meager references to the establishment as can be found in the letter and order books of the period, it is apparent that the school was neither begun nor maintained upon a scale of wasteful extravagance. After some correspondence with the Department, Colonel LEAVENWORTH was informed, under date of April 21, 1827, that each company of his regiment was to be provided with a copy of "L'Allemand's Artillery." It is probable that the companies stationed at the school were also supplied with copies of "Scott's Tactics" and the General Regulations of the Army, and that some sort of instruction in drill and regulations was carried on, but not for long, as the letter announcing the shipment of

the text books in Artillery bears date April 21st, nearly a month subsequent to the date of the order transferring the garrison of Jefferson Barracks to the Upper Missouri. And so passed, after a life so short as to have deprived the undertaking of anything like an epoch-making character, the first attempt to set on foot a school for the practical instruction of officers, not only in the United States, but, in all probability, upon the Western Continent as well.

The orders of the day for March 7, 1827, directed Colonel LEAVENWORTH, with four companies of his regiment, to ascend the Missouri River and, upon reaching a point on its left bank, near the mouth of the Little Platte, to select such a point within a range of twenty miles below its confluence as, in his judgment was best calculated for the site of a permanent cantonment. The geography of the department was less good than the judgment of Colonel LEAVENWORTH for, after a reasonable search he wrote the Department, under date of May 8th, that he had made the location on the right bank of the river, and had commenced the erection of a cantonment there in accordance with his orders. The Little Platte enters the Missouri from a narrow valley about ten miles east of Fort Leavenworth. Its neighborhood presents no special advantages as the site of a military post, and contains but two towns of considerable size, one, Weston, noted as a center of pro-slavery operations during the Free Soil disturbances in Kansas between 1855 and 1860; the other, Platte City, became famous as a vantage ground for the operations of Jayhawkers during the period of the Civil War. Indeed, the east bank of the Missouri was wisely abandoned at an early stage of the search, as it was found to be subject to overflow, and otherwise less eligible than the commanding situation on the right bank of the river, where Cantonment Leavenworth was finally established. This was in April, 1827, and the post with which the army has been more closely identified than any other stands upon the site chosen for it by its distinguished founder nearly seventy years ago.*

On the 19th of September, 1827, the commanding general of the Western Department was informed that the site selected by Colonel LEAVENWORTH for a permanent cantonment on the "right" instead of the "left" bank of the Missouri was deemed to be judicious, and was therefore approved. The post was definitely designated "Cantonment Leavenworth," in accordance with orders from the Adjutant-General's Office, dated November 8, 1827.

*The post returns do not show what troops had occupied the post prior to August, 1827; but at this date its garrison consisted of Companies "B," "D," "E" and "H," Third Infantry, under the command of Captain W. G. BELKNAP, of same regiment, the father of a recent secretary of War.

At first the post was found very unhealthy, a large number of the command being prostrated by malarial fevers, which, in many cases, were fatal.

A little less than two years later, on May 26, 1829, the garrison of Cantonment Leavenworth was withdrawn to Jefferson Barracks, and it is not easy to fix, with precision, the date of its return. It was again established at some time prior to August of the same year, as a return bearing date August 12, 1829, gives the composition and strength of the garrison, which consisted, at that date, of detachments from Companies "A," "B," "F," "H" and "I," of the Sixth Infantry, numbering fifty-six men, under the command of Captain ZALMON C. PALMER, of same regiment. The Secretary having directed that all cantonments should be called forts, the designation of the post was changed to Fort Leavenworth by Orders No. 11, of the Adjutant-General's Office, bearing date February 8, 1832.*

In February, 1834, Colonel LEAVENWORTH was assigned to the command of the Southwestern frontier, and in that capacity conducted a campaign against the Pawnee Indians. These operations were carried on with such skill and address that one of the most formidable tribes in the Southwest was not only subjugated, but induced to enter into permanent treaty regulation with the United States, without a single hostile collision. On July 25, 1834, Colonel LEAVENWORTH was brevetted a brigadier general, having on that day completed ten years of faithful service in the grade of brevet colonel in the army. On July 21st, four days before his well deserved promotion, and while still engaged in the prosecution of operations against the Southwestern Indians, General LEAVENWORTH died, after a brief illness, at the Cross Timbers, near the mouth of the False Washita River, in the Indian Territory. His remains were interred at Delhi, N. Y., in May of the following year. The resolutions passed by the officers of his regiment, which, in great part, constituted the expedition which the General was conducting at the instant of his untimely death, evince profound sorrow, and convey a deep sense of personal loss at the passing of an officer who was far more to them than a mere regimental commander. It will serve to mark the interval of time which has passed to say that one of the junior signers of the resolutions, Lieutenant GEORGE WRIGHT, was lost at sea thirty years later, he being then the senior colonel in

*I am indebted for a number of important facts in relation to the establishment of Fort Leavenworth and its early history to the thoughtful and painstaking endeavors of Major GEORGE W. DAVIS, Eleventh Infantry, now the President of the War Records Commission in Washington.

the army, and en route to assume command of the Department of the Columbia, the territorial limits of which it would have been impossible to define, so little was known of that region at the date of General LEAVENWORTH's death in 1834.

The general esteem in which he was held in the army is shown by the following extract from a short notice of his life and services, which appeared in the *Military and Naval Magazine of the United States* for October, 1834:

"General LEAVENWORTH's reputation belongs to the country, and he has left her a rich legacy. He was not a mere soldier. Viewing the various questions which came before him in their true elements and just relations, he was no less clear in judgment than energetic in action. He never shrank from a responsibility which his situation devolved upon him, but, with the delicacy and difficulty of the task, seemed to rise the irrepressible energies of his spirit. He escaped, too, the great danger of men accustomed always to command, and knew how to care for the rights and feelings of others. To no better hands could have been confided the sometimes conflicting interests of a regiment, for he entered into the feelings of all and, a thorough soldier himself, knew how to interpose and reconcile all. He always commanded his regiment, and they who composed it learned to appreciate, in the order and harmony which prevailed, an efficient head."

General LEAVENWORTH seems to have exercised a profound influence upon the development of the standards of duty and discipline in the army of the United States during its formative period, between the reduction of 1821 and the occupation of the valley of the Lower Missouri, which was completed in 1845. He was one of the first, as he was certainly one of the most active and intelligent of the small number of regimental commanders upon whom devolved the duty of adapting European methods of drill, discipline and administration to the peculiar needs of our own military service. How well this task was performed was seen, a little more than ten years later, in the splendid behavior of the regular regiments in the war with Mexico. He was a man of broad and varied culture, keenly alive to the needs of the time, and fully impressed with a sense of the importance of the part which the army was to play in the development of the great empire beyond the Mississippi, which had but recently been acquired, and the very boundaries of which, to say nothing of its vast resources and possibilities, were then practically unknown. That the settlement of the valleys of the upper courses of the Mississippi and Missouri Rivers, comprising the States of Missouri, Kansas, Iowa, Minnesota, Nebraska and the two Dakotas, was effected peacefully and without serious friction, is due largely to

his foresight in preventing hostile collision, and to his rare tact and skill in dealing with the tribes whose territories were being encroached upon by the advancing settlements. And it was while engaged upon the execution of a similar scheme of pacification, with reference to the tribes occupying the plain region of the Trans-Missouri—a duty of the highest importance, which had been entrusted to him as the one best fitted, by character and capacity, for its adequate performance—that death put a term to his useful and productive labors.

SOME CAVALRY LESSONS FROM THE CIVIL WAR.

BY SECOND LIEUTENANT J. P. RYAN, THIRD CAVALRY.

WHILE it is not at all probable that the United States will ever again be called upon to fight for its existence in a struggle as stupendous as that which shook our continent from the spring of 1861 to April of 1865, yet the uncertainty of continued peace has frequently been demonstrated, and no nation dare discard the military precautions on which its safety may at any moment depend.

The principles of our government and temperament of our people forbid the maintenance of large standing armies of trained troops in time of peace, and preparation with us cannot be along that line. In a war of any magnitude to which the United States may be a party, our dependence must again be placed on the volunteer soldier, and no better preparation can be made for such an emergency than a careful study and preservation of the lessons taught by the Rebellion, whereby we may avoid the countless errors and mistakes in organizing and handling untrained troops which characterized the early period of that struggle.

The outbreak of the Civil War found the North poorly prepared at all points to accomplish the task before it. Fortunately, men and material were abundant, and the general intelligence of the men who responded to the first call for volunteers enabled them readily to assume the duties of infantry and artillery soldiers, and the spring of the following year found magnificent bodies of these arms in the field. This cannot, however, be said of the cavalry, and the failure of those in authority to recognize the necessity and true functions of this arm, resulted in a loss of its valuable services for almost two years. Good cavalry cannot be made by order, and it is here more than in any other arm that the experiences of the late war can with benefit be treasured as a guide for the future.

Probably the first and most important cavalry lesson taught by

our war was the necessity of a large body of mounted troops to a vigorous and successful prosecution of military operations. It was originally proposed to confine the cavalry of the Federal army to the regular establishment of six regiments, and this decision seemed justified at the time by many and good reasons. General SCOTT had announced the opinion that owing to the wooded and broken character of the field of operations and the improvements in rifle fire-arms, the role of the cavalry in the approaching contest would be of an unimportant and secondary nature. Again, it would require at least one year of training to produce an efficient mounted soldier, and it was confidently expected that the rebellion would be suppressed within that period. Another reason urged against the creation of a large mounted force was the question of expense. Cavalry is a very expensive arm, and later statistics show that it cost \$300,000 to provide the equipments for a single regiment.

The first battle of Bull Run proved a conclusive argument against these reasons. The eyes of the North were opened to the magnitude of the struggle before them. The operations of the Black Horse Cavalry of Virginia made it evident that only cavalry could successfully oppose them. All questions of expense were thereupon disregarded, and Congress authorized the President to accept the services of volunteer cavalry. Now, as to the manner in which this force was to be organized and prepared for the field, we find the Congressional enactment above referred to (August 4, 1861), provided, among other things, that "each company officer, non-commissioned officer, private, musician, and artificer of cavalry shall furnish his own horse and horse equipments." This was in accord with the orders issued by the War Department on the 4th day of March preceding, for the organization of the single regiment of cavalry called for by the President.

But the Congressional enactments went further, and added a second proviso, that "such of the companies of cavalry as may require it may be furnished with horses and horse equipments in the same manner as in the United States army."

This second proviso was a saving clause; without it, it is doubtful if the government could ever have maintained an efficient cavalry force. The Confederate States adopted the policy of requiring the troops to provide their own mounts, and although the evils of this system early became apparent, it was blindly persisted in to the end, and was undoubtedly one of the chief causes of the rapid decline of the Southern cavalry in the last two years of the war. The method proposed, of keeping himself supplied with a serviceable horse in

consideration of a per diem compensation of forty cents, seems never to have found favor with the Northern trooper; and the Third Indiana and First Iowa, and possibly a few other regiments, were the only ones which availed themselves of the offer for the entire period of the war.

While the evils of this system unquestionably condemned it as a means of keeping the cavalry mounted, yet in the event of another war it seems that it might with advantage be resorted to in first placing the troops in the field. The difficulty of obtaining a sufficient number of horses to mount the newly organized regiments at the outbreak of the war, resulted in many regiments taking the field without any mounted training, while others actually served more than a year as foot troops while awaiting a supply of horses. The government could purchase at a fair valuation and after inspection, the horses offered by the volunteer, and this would give the Quartermaster's Department sufficient time to establish its regular purchasing depots by which the troops are to be remounted.

To a better understanding of some of the causes which contributed to the inferiority of the Northern cavalrymen in the first year of the war, we must look to the manner in which they were enlisted and trained. Under the Congressional authority to enlist volunteers, the Secretary of War granted permission to influential men throughout the country to organize cavalry regiments. Recruiting stations were opened in various parts of the States, and applicants were enrolled until the complement of the company was obtained.

The company then appeared before an officer of the regular army and after an inspection of men for physical fitness was duly mustered into the service of the United States. The new organization then repaired to the regimental rendezvous, where it was supposed to receive a course of military training.

In the execution of the details of this apparently simple and satisfactory scheme, we find that men were enlisted without regard to size, weight, knowledge of horses or riding, and many of them were entirely unsuited to mounted service, and never became even passable cavalrymen. As the greater part of the work of the cavalry in future wars will be detached service, scouting, reconnaissance, etc., individual horsemanship and skill in the use of arms will be more important than ever before, and men should not be enlisted who show marked unfitness for mounted service. Of course, even with the greatest care in selection and subsequent training, some

men will turn out very poor riders, and provision should be made for the transfer of such men to other arms of service.

The training which the regiments were to receive at the rendezvous very often amounted to nothing: no proper drill masters were provided, and the troops loitered around in idleness and discontent for months, awaiting the arrival of horses and equipments, which, in numerous instances, never came. In the history of the Tenth New York Cavalry, it appears that the officers employed a retired Prussian officer to drill the regiment. Further, we read: "Had the regiment been under the command and instruction of a regular army officer from the beginning, it would have been a great advantage." Again, in the history of the First Rhode Island Cavalry, we read: "Invaluable to us at this time would have been such a volume, giving the structure, duties, drills and field experiences of a regiment of horse."

In the history of the Fourth Iowa Cavalry the efforts of the newly appointed officers to drill the troops is referred to as "the blind leading the blind." This state of affairs existed very generally throughout the country, and the condition in which cavalry regiments frequently took the field is graphically set forth by Captain VANDERBILT, of the Tenth New York Cavalry, in describing the first service of his company on escort duty. He says: "Please remember that my company had been mustered into the service only about six weeks before, and had received horses less than a month prior to this march. * * * Some of the boys had a pile in front of their saddles, and one in rear so high and heavy that it took two men to saddle one horse, and two men to help the fellow into his place. * * * As soon as I could get my breath I shouted 'Gallop, march!' and away we went over the hard frozen ground toward Fredericksburg. In less than ten minutes Tenth New York men might have been seen on every hill for two miles rearward."

After reading many accounts of a similar nature to Captain VANDERBILT'S, it is not difficult to understand why entire squadrons sometimes surrendered to the enemy from sheer helplessness in the early years of the war, and why the cavalrymen inspired more ridicule than awe.

In support of this practice of pushing raw levies to the front without previous training, it has been argued that there is no better training school than the camp and battlefield, yet it is equally true that much will be gained by a careful selection of men and a little preliminary instruction properly directed. It was by enlisting only

men accustomed to riding and the care of horses that the Confederate cavalry was enabled to attain its high state of efficiency in a very short time.

ARMS AND EQUIPMENT.

The experience of our cavalry confirmed the value of the carbine, saber and pistol, and these weapons continue to be the armament of our regular cavalry troops. A large proportion of the European cavalry is armed with the lance instead of the saber, and there are many arguments in favor of it as a charging weapon. The lance was issued to and carried by the Sixth Pennsylvania Cavalry (Rush's Lancers) from the time it took the field, December, 1861, until its return from STONEMAN'S raid in May, 1863, when it was discarded as unsuited to service. It is unfortunate that no opportunity was offered this regiment to use the lance in the charge, as the men placed great confidence in the weapon, and results with it would have been valuable in reaching a determination as to its relative merit.

There has been much controversy over the comparative value of the pistol and saber, in the charge, but the testimony of the war seems strongly in favor of the saber, and it is repeatedly recorded by many of the participants that the pistol never drove the saber. The pistol was the favorite weapon of the Confederate cavalry in the earlier part of the war, but it is a significant fact that the cavalry combat on the right flank at Gettysburg was fought with the saber almost entirely, and these were the same troops that fought at Brandy Station, Aldie, and Upperville, and must have known the most effective weapon.

The saber would be a much more formidable weapon if ground to a cutting edge, and there seems no good reason why it should not be. The practice of sharpening the sabers was frequently resorted to during the war, and at one time was the occasion of a complaint by the Confederates that our troops were violating the rules of war. The result of the rebel protest was a general order in the Army of the Cumberland authorizing the use of sharpened sabers.

Many defects in the cavalry equipment which became apparent during the hard service and rough usage of the war have since been remedied. The McClellan saddle, issued then with only a rawhide covering, caused great discomfort to the rider after it had been rain-soaked, and the stitching giving way exposed edges of the hide, which became harsh and stiff and cut like a knife. This has since been corrected by the use of a leather cover over the rawhide, and the McClellan saddle as used to-day is probably the best

military saddle in use in the world. The saddlebags, small leather pockets scarcely large enough to carry a pair of horseshoes, were invariably thrown away to make room for a canvas bag, sack, or other contrivance better suited to carrying the innumerable small articles that form part of the equipment. The present saddlebags are a vast improvement over the old ones, and would probably prove satisfactory in active service.

A grain sack should be provided in which to carry the three days' forage which every cavalry command found it necessary to take when operating independently and away from the trains. Without the sack, the trooper usually solved the difficulty by spreading the grain in the shelter half and rolling it into a cylindrical bundle, which he strapped behind the cante. This method distributed the weight, and bundle could be made symmetrically smaller as contents were used.

The picket rope and pin, so necessary and useful in the service of our regular cavalry on the Western plains, loses its function when large bodies of cavalry are operating together, and being an added weight and incumbrance, it was almost invariably thrown away at the beginning of a campaign.

It would favor the secrecy so necessary in operations of scouting, reconnaissance, etc., to substitute a hard leather scabbard for the saber in place of the noisy and conspicuous metal one now in use.

OFFICERS.

Much of the inefficiency of our cavalry in the early part of the war may be attributed to the lack of military education and general unfitness of the officers, and this in turn may be explained by the method of selection. Until 1863 the company officers were elected by the privates and appointed by the State government upon the recommendation of the colonel. The field officers were elected by the company officers.

This system of selection was eminently vicious; it was the cause of much jealousy and ill-feeling, with the attendant evil results on discipline, and the class of officers furnished by it was decidedly inferior. Popularity with the enlisted men was often in inverse proportion to education, correct military ideas and other qualities which serve to make a good officer. The policy of promotion from the ranks for bravery and merit was adopted in our service in 1863 and continued to the end of the war. The change met with much opposition from the enlisted men, who were jealous of their supposed right of selection, but its beneficial effects were soon apparent

in securing better officers, and moreover, the hope of promotion proved an incentive to better conduct on the part of the men.

The course of military instruction, which is now a feature of many of our most prominent educational institutions, will place a large number of intelligent and well educated men at the disposal of the government, who, in view of their previous training, will only need a little experience to make them good officers; and these are the men that should be appointed.

MAINTENANCE OF TROOPS IN THE FIELD.

Having organized the troops into regiments and sent them to the front, provision must be made to continue their efficiency by filling up the ranks as they become depleted from losses in men and horses. This leads to a consideration of the methods of recruitment and providing remounts. There are two general systems of recruiting an army that have been resorted to in time of war: 1st. By organizing new regiments; and, 2d. By replacing losses in old regiments by recruits sent from regimental depots.

The first method was the one adopted by our government during the war, and resulted in doing incalculable harm to our armies. The well trained and disciplined regiments became inefficient from numerical weakness, often being reduced to less than 300 men, while the new regiments, from lack of training, experience or proper officers to lead them, were almost useless.

Another objectionable feature of this system was that newly appointed officers were often, by seniority of rank, placed in responsible positions, and in command of older officers of far greater knowledge and experience, and this naturally caused discontent and bitterness of feeling, and often led to a lack of earnest and mutual support.

The evils of this system were such as to condemn it for all time. It did not possess a single redeeming feature, and its use in our service can only be explained on the ground that it favored recruitment by providing commissions for many new officers, and to secure these appointments private individuals made strenuous efforts to organize companies. This reason had greater weight toward the end of the war, when men were not so readily obtained as in the earlier period.

The advantages of the second method are that by sending the recruit to the old regiment he falls under the care of experienced officers, and is thrown among old and disciplined soldiers from whom he readily learns many of the duties that help to make him an efficient soldier.

Almost all European armies organize their regiments with four or more squadrons, one of which is retained at the depot. This squadron is kept at maximum strength by constant recruitments, and after a period of training, men are sent to the front as they are needed by the regiment. There is no reason why this method should not be attended with good results in recruiting for our large volunteer armies, and it is almost safe to say that in a future emergency it would be adopted.

REMOUNTS.

The efficiency of a cavalry regiment on active service depends as much on a continuous supply of horses as on men, and the records of our war show that the question of remounts was a most difficult problem to solve.

In all wars of any magnitude, the losses of horses by death, from wounds and disease, capture and abandonment, will be great, even with regular troops; with raw, untrained levies, it will be enormous, and there must be some system by which such losses can be rapidly made good.

During the first two years of the war the Quartermaster-General reports that there were 284,000 horses furnished to the army; and at no time during this period were there more than 60,000 cavalry in the field. These figures are greatly in excess of what might have been legitimately expected from a state of war, and resulted from several causes.

In the haste and excitement of mounting the newly organized regiments little attention was paid to careful selection of horses with respect to their adaptability for cavalry purposes, or even condition, and many horses gave out after short service, while thousands died before reaching the front.

Again, the great majority of our volunteer cavalrymen were totally unacquainted with the subject of proper care and treatment of horses, and this ignorance and indifference was responsible for many epidemics, which a little skill and foresight might have prevented or checked. This is particularly true of the disease known as "scratches," a condition of the horse's heels very similar to chapped hands in the human subject. This trouble was caused usually by exposure to cold, rain and mud, and when it occurred on a long march many horses became too lame to travel, and had to be abandoned. While this disease is difficult to cure, it can always be prevented by keeping the pasterns and heels well greased during inclement weather, and wrapping the legs from the knee down with

strips of blanket or other woollen cloth. In the fall of 1863 an epidemic of scratches raged in the Armies of the Potomac and Northern Virginia, and rendered the cavalry almost useless.

Again, thousands of horses died from overwork and exposure due to constant and excessive picket duty. Many army commanders knew no other use for their cavalry during this time, nor did they know how to properly use it in this service.

The continued and frequent complaint from the Quartermaster-General of the difficulty and great expense of keeping the cavalry mounted, finally convinced the government that vigorous measures must be taken to check the useless and extravagant waste of horseflesh. In July, 1863, the Cavalry Bureau was organized for the purpose, among other things, of providing mounts or remounts. Large horse depots were established at suitable points throughout the country for the collection and training of horses and for the care of sick, wounded and worn-out horses sent to the rear. The efforts of this bureau caused a marked decrease in the loss of horses, but it required the greatest exertions to keep the troops effectively mounted, and it appears that this was not always successfully accomplished. General SHERIDAN, in his "Memoirs," states that only nineteen hundred horses were furnished the cavalry corps of the Army of the Potomac from April 6th to August 4th, and that this number was not near enough to mount the whole command, and the men who could not be supplied were disposed of in a dismounted camp.

While great destruction of horseflesh will always attend energetic cavalry operations, the proportion of losses in the war could be materially reduced and the government enabled to keep its cavalry force mounted, and this with an increase of efficiency and a saving of millions of dollars, if its experience in this important subject serves to correct abuses and mistakes on future occasions.

If, as has already been suggested, only such men be selected for the cavalry as are accustomed to the care of horses, and if these men be required to furnish their original mounts, the Cavalry Bureau will have ample time to establish its depots for the reception of new horses, and for the care of those rendered temporarily unserviceable by wounds, disease or exhaustion. Officers of known ability should be established at the chief purchasing centers and should make careful personal inspection of all horses proposed for purchase by the Quartermaster's Department, instead of delegating this duty to irresponsible parties whose interests were often advanced by collusion with dishonest horse dealers.

USE OF CAVALRY.

While the Civil War marks the origin and development of many features of modern infantry and artillery tactics, it went much further with the cavalry and practically revolutionized the art of handling mounted troops. Cavalry, which for many centuries had been regarded as an auxiliary arm in the extreme sense of that term, capable only of offensive action, developed in our war an independence of character which enabled it to carry through successfully the great raids which were such an important feature of the operations of the last two years, and in the conduct of which it was often called upon to defend itself against equal or superior numbers of infantry, artillery and cavalry combined—as in the attack on SHERIDAN'S raiding column within the defensive lines of Richmond—or to assail and carry fortified places strongly defended, as instanced by the capture of Selma by WILSON'S raiding column in the spring of 1865.

The distinctive feature of the American cavalry, and the one which conferred on it its great power of resistance, was dismounted fire action. This radical departure in the use of cavalry resulted from several causes. The wooded and broken terrain in which most of the operations were conducted often forbade the mounted charge, and our troopers, frequently finding themselves subjected to a fire from infantry behind barricades, naturally did what seemed to them most proper, dismounted to obtain shelter and to make the best use of the firearm with which they were provided. This method of action was the more readily assumed, as our cavalry, without previous history, was not bound by any traditions or false theories as to the limited sphere of the employment of cavalry. This new power of defense and offense was promptly appreciated by the cavalry leaders and grew in use and favor throughout the war, enabling the cavalry to perform duties of such a varied and diverse nature as to almost justify KILPATRICK'S remark, "that cavalry could fight anywhere but at sea."

The service of the Federal cavalry divides itself naturally into two periods. The first, extending from the outbreak of the war to the spring of 1863, may be called the period of inefficiency and misuse; the second period, embracing the last two years, marks its sudden rise to power and career of almost uninterrupted success.

The failure of the Union cavalry to accomplish anything commensurate with the enormous expense of its maintenance during the first two years of the war is to be attributed primarily to "bad management." Instead of being organized into a formidable body

capable of opposing the enemy's cavalry and undertaking independent operations, it was divided into detachments and used principally for escort duty to general officers, to furnish orderlies, guard wagon trains, and do picket duty around infantry camps.

The brilliant work of the Confederate cavalry during this same period proved a lesson to our leaders and made known the possibilities of this arm, and efforts were made to secure recognition and better treatment for this neglected corps.

The first step in the right direction was taken early in December, 1862, when General ROSECRANS organized all his cavalry into one corps and placed it under the command of General STANLEY. This move in the Western army was followed by similar action in the Army of the Potomac, and in the spring of 1863 General HOOKER combined his twenty-seven regiments of cavalry into one corps and gave the command to General STONEMAN. Two months later (June, 1863) occurred the first great cavalry combat of the war. This was fought at Brandy Station and is noted as the turning point in the fortunes of the Union cavalry. The numbers on each side were about equal (10,000), and after a vigorous battle continuing all day, in which there were numerous instances of charges and counter-charges with saber and pistol, by squadrons, regiments and brigades, the hitherto invincible Confederate cavalry was forced to seek the protection of its infantry and guns, while the Union cavalry withdrew unmolested across the Rappahannock.

McCLELLAN (writing of STUART's cavalry) says that this battle made the Union cavalry, and it can not be better expressed. Our cavalry entered the fight doubting their untried strength and skill, while the Confederates, with their unbeaten record, had only contempt for their foe. The close of the day found our troops confident in their power and the ability of their leaders, and they never again showed anything but the greatest eagerness to meet the Southern horsemen.

From this time to the close of the war we find the Union cavalry occupying its true relation to the other arms, and every important battle, campaign or military operation affords numerous instances of its service.

In the advance of the Union and Confederate armies to Gettysburg, we find the cavalry scattered well out to the front and flanks, and performing for the first time properly, the duties of screening and reconnoitering. When HOOKER was in doubt as to LEE's movements, he called upon the cavalry for information; and our cavalry, hurling itself upon the Confederate screen, fought the heavy battles

of Aldie and Upperville, drove the enemy through the mountains at Ashby's Gap, while the cavalry scouts looked down from the Blue Ridge on LEE's army moving down the valley toward Williamsport. This use of cavalry as a screen to conceal the movements of the army and to maintain contact with the enemy by means of reconnoitering bodies, charged with the duty of obtaining information of his movements, did not originate with our cavalry, but was revived by it. NAPOLEON used his cavalry very effectively in this service, but in the later wars of the present century it was very generally neglected. Its value on this duty made it one of the most important services performed by the mounted troops, and they became very efficient in its execution. If POPE had made a similar use of his cavalry in his campaign in 1862, JACKSON would never have appeared unexpectedly in his rear.

On the battlefield the cavalry was usually held on the flanks, and its purpose there is well illustrated by the battle of Gettysburg. On the 3d of July, STUART, in command of the Confederate cavalry, was directed to strike the rear of the Union line and create a panic there in conjunction with PICKETT's assault in front. STUART endeavored to pass around the right of the Union line unobserved, but his approach was reported, and the Union cavalry was on hand to check and finally to repel him.

The battle of Chancellorsville records a service that cavalry may at any moment of the battle be called upon to perform. When JACKSON struck the right rear of the Eleventh Corps and the panic of the troops threatened disaster to the entire army, it was the Eighth Pennsylvania Cavalry, three hundred strong, that by a reckless charge checked the Confederate advance long enough to enable General PLEASANTON to gather together twenty guns and hold the enemy until the arrival of reinforcements enabled a new line to be established. We find a similar instance in the heroic charge of the Fifth Regular Cavalry at Gaines Mill. This service frequently entails a sacrifice of the cavalry engaged in it, but the results obtained usually warrant it.

It was PLEASANTON's cavalry, thrown out eight or ten miles in advance of the army, that seized and held the advantageous position near Gettysburg, which later enabled MEADE's army to check and throw back LEE's triumphant advance. The advance cavalry under BUFORD held the position for four hours against the determined assaults of HILL's entire infantry division until relieved by the arrival of REYNOLDS' and HOWARD's corps. Another example of this use of cavalry is found in the seizure of Cold Harbor in the

Wilderness campaign. SHERIDAN realized the practical importance of this point to both armies, and although it was occupied by the enemy's infantry, while his (SHERIDAN) nearest support was nine miles distant, he boldly attacked and carried it after a stubborn fight. Ordered by GRANT to hold it at all hazards, he entrenched and remained in position all night, and repulsed an attack made by KERSHAW's brigade in the morning. At 9 o'clock he was relieved by WRIGHT's corps, which marched all night to reach him.

The battle of Winchester gives a good illustration of the use of cavalry in turning movements. SHERIDAN's plan was to engage EARLY's entire line with his infantry, while one division and one brigade of cavalry, commanded by TORBERT, was to operate as a turning force against the left flank. The movement was successful, and the cavalry coming unexpectedly on the Confederate left, decided the battle.

The dismounted fire action of our cavalry enabled it to be used on the battlefield in reinforcing heavily pressed points, as instanced in the battle of Gettysburg, when BUFORD's cavalry, dismounted and thrown forward in support of DOUBLEDAY's infantry, checked the advance of the enemy's lines. In the battle of Five Forks the cavalry, dismounted, fought by the side of the infantry, occupying a part of the general front, while two brigades were held mounted on the left flank to guard that flank against the desperate attacks of FITZ HUGH LEE's cavalry.

The duty of protecting our armies in retreat was one which often fell to the lot of the Union cavalry, and the manner in which it was performed is exemplified in MEADE's retreat from the Rappahannock to Centreville from the 12th to the 16th of October, 1863. The Second Cavalry Division formed the rear guard during the movement, and when hard pressed by the enemy's advance, it retired by echelon of regiments, the horse batteries being in the intervals between regiments. Although the armies were in actual contact during the entire retreat, the Union army did not lose a single wagon or gun.

In the pursuit of a beaten foe there is no parallel in history to the brilliant conduct of SHERIDAN's cavalry in cutting off EWELL's entire corps and compelling its surrender, and then following along on LEE's flank, delaying his march by constantly harassing him by the fire of dismounted men, and finally heading his columns and compelling his surrender by holding him at bay until the arrival of the pursuing infantry.

The use of cavalry to create a diversion in favor of the main

army is well illustrated by the clever manner in which KILPATRICK, in February, 1865, maneuvered his troops so as to deceive BEAUREGARD, and keep his forces massed to defend Charlottesville while SHERMAN's army effected the crossing of the Pedee. Of a similar nature to diversions were the feints made by KILPATRICK's cavalry against Macon, and the more noted one against Augusta, Georgia. SHERMAN's real object was Columbia, but by sending his cavalry toward Augusta, he deceived the Confederate General WHEELER, who uncovered Columbia, and marched to the support of Augusta. He was held here for two days, skirmishing with the cavalry, and meanwhile, SHERMAN succeeded in crossing the Edisto and was well on the road to Columbia, which later fell without a struggle.

In conveying wagon trains the cavalry was indispensable, and the war furnishes many instances of the efficient performance of this arduous and lack of glory duty. A noted instance was the transfer of a number of trains of the Army of the Potomac under the protection of the cavalry corps in June, 1864, from White House, on the Pamunkey, across the peninsula to the James River. This move was made in the vicinity of the enemy, and desperate efforts were made by the Confederate cavalry to capture the train, but not a wagon was lost.

RAIDS.

Another important use of cavalry, and one which reached its highest development in our war, was the cavalry raid. These were independent operations of a strategical nature, characterized principally by secrecy and great rapidity of movement, which precluded the enemy from concentrating on any line to oppose them. The strength of the column varied from several regiments to an entire corps; it moved without wagon trains and was usually accompanied by a proportion of horse batteries.

Raids were undertaken for many different purposes and the examples of our war illustrate a variety of objectives.

The first important raid made by the Union cavalry occurred in the latter part of April, 1863. This was a small force of less than two thousand men, commanded by Colonel GRIERSON, and had for its object the destruction of property. Incidentally, it became a diversion in favor of GRANT's operations around Vicksburg. STONE-MAN's raid, just previous to the battle of Chancellorsville, was for the purpose of destroying LEE's communications and cutting off his retreat in case of his defeat. KILPATRICK's raid to Richmond in March, 1864, was to effect the release of Union prisoners confined

there. The raids of STONEMAN, MCCOOK and KILPATRICK around Atlanta were directed against the railroads which supplied Hood's army.

SHERIDAN's raid during the Wilderness campaign was intended principally to draw off the Confederate cavalry and thus facilitate the difficult movements of the troops and trains of the Army of the Potomac. It was also directed against LEE's communications with Richmond and the destruction of Confederate property.

WILSON's great raid in the spring of 1865 was the most extensive operation of this kind undertaken during the war. His force consisted of 13,000 men, and his object was the devastation of a large area of Southern territory and the capture of Selma, one of the most important depots of military supplies in the South.

The raids of STUART's cavalry furnish examples of other objectives; as for instance, his raid around the Union army in front of Richmond to obtain information of the strength, dispositions, intentions and communications of the Federal forces—and again, STUART's raid around the Union army, after Antietam, was intended to draw off the Federal cavalry from the pursuit of LEE, and thus enable the Confederate army to withdraw unmolested and reorganize its shattered forces.

The development of the cavalry raid is a sequel to the use of dismounted fire action. While mounted troops depended on the lance, saber and pistol, they could never venture far from their supporting-infantry, and were easily checked by a comparatively small number of dismounted men strongly posted. Now, an army composed of cavalry alone, such as WILSON's column, may go anywhere in the theater of operations, for it contains within itself a power of both offensive and defensive action.

The use of dismounted fire action may be considered the great cavalry lesson of our war, and while many European writers refer, slightly, to the American cavalry as mounted infantry, other nations must in time adopt our methods if their cavalry is to have a future career of usefulness. It is true that our troopers were mounted infantry; but they were true cavalymen also, as was shown on many a battlefield, and it was this combination of functions which developed the ideal soldier, or the man who fought effectively both on foot and on horseback.

CONVERSATIONS ON CAVALRY: BY PRINCE KRAFT ZU HOHENLOHE INGELFINGEN.

TRANSLATED FROM THE GERMAN.
BY LIEUTENANT CARL REICHMANN, NINTH INFANTRY, U. S. ARMY.

THIRTEENTH CONVERSATION—(Continued).

H. I cannot refrain from reverting to that portion of the second part of the riding instructions which treats of the inspection, and gives illustration of the manner of conducting an inspection. It is expressly stated there that side paces in squads are to be ridden by command, and likewise shortened paces, in squads.

S. I know very well that these illustrations have done much harm where, in conformity thereto, the instructors go through the program in a perfunctory manner throughout the year, or, at any rate, during the last few months or weeks. That is neither the intention nor the sense of the riding instructions. The illustrations are expressly stated to be given as illustrations, not as rigid patterns. They are also given with reference to one point alone, not to many points. It is nowhere stated that practice should be conducted in that manner. On the contrary, all precepts of the riding instructions which have reference to the exercises, *i. e.*, gymnastics by means of which man and horse are to be trained, assume that the rider is riding by himself. Again and again, you find a caution, "much individual riding."

H. How do you expect a squad at inspection to ride side paces on the double trail, with distances and the shortened paces, if they are not practiced in them?

S. I assure you they will do much better at the inspection, even in squads with distances, when these paces have never been practiced with distances, and always during individual riding. Any inspector who is an expert rider will prefer to see these paces on each horse separately. In case, however, he has not the time to do

so, and merely wishes to get a general idea, side paces will go better when not previously drilled. I will admit that each rider will make more mistakes and that each horse will go worse than in individual riding; still it will not be as bad as if they had been drilled *en bloc*. That is very natural. For in such exercises of higher paces with distances by command, the rider will sometimes commit an error of riding for the sake of keeping distances: he will give an aid which is wrong in itself and unintelligible to the horse. The horse remembers it, and next day indicates it by wrong response to the proper aid, by obstinacy which may be slight at first. Daily repetition of riding of such exercises with distances in squads increases the evil. Every riding instructor will have the experience, that when passing to the side paces in squads after they have been taught singly, they go better during the first than during subsequent days. If he fails to revert at once to individual riding, he becomes stubborn and desperate, simply because he does not realize that it is all his own fault. If, at the inspection, he desires to show off as perfectly as possible the illustrations given in the riding instructions, he should practice these paces in individual riding exclusively. Many commit the error of continuing the riding of these paces too long at a time. In the beginning it is beneficial to all horses to be content with two or three steps, and of many no more than this should be required. But practicing the same in the squad is apt to mislead the instructor to continue them too long, to the detriment of the horses. In the end it will provoke obstinacy, for when he has once given the order, he wishes to observe each pupil, one after the other, and by the time he has done so, the pace will have been continued too long even for the very best horses.

H. I will now suppose that the inspector requires the presentation of the squad according to the illustrations in the riding instructions, and that, according to your principle, each rider rides the side pace in accord with the conformation and degree of training of the horse, *i. e.*, one will ride the perfect side pace, the other the incomplete side pace, another a higher degree of position, another the one-sixteenth side pace with one-half foot distance between trails instead of a short pace. The inspector will then find fault and refer you to the riding instructions where the exact distance between trails is laid down.

S. He will not; for he is a man who understands the art of riding. He will commend the rider who fails to ride the side pace on command, if the horse's conformation prevents it; he will com-

mend the rider for taking less position and less distance between trails because the horse is not sufficiently advanced to comply with the full measure of the regulations. He will be pleased to see that there is "individualizing," for he is well aware that the precepts of the riding instructions aim at the highest perfection of training, which is unattainable with defectively formed or developed horses. He will approve this restriction to a less degree, provided that the pace be ridden thoroughly well, for he knows that faulty riding of the highest forms of these exercises will injure the horse. All that the inspecting superior knows very well, because he is an experienced rider. We should be founding the principles of our training on very insecure grounds were we to presume, and act accordingly, that the inspector knows nothing about riding.

A. In the three other squads of the second riding class which we designated as Nos. 9, 10 and 11, you would not, I suppose, permit side paces on the double trail?

S. Why not? Everything in its proper place! It depends on the capability of the horse and the degree of the man's training. In Squads 9 and 10 these non-commissioned officers will probably ride who cannot ride remounts, and therefore do not belong in Squads 1 to 4. It is very possible that a non-commissioned officer may acquire the necessary skill in riding at a later date, particularly if his training has been interrupted by details as clerk, etc.; and if it becomes certain that he has talent, his skill will be promoted by riding in Squads 9 and 10. Similarly it will be with some four-year volunteers and three-year men whose talents do not become apparent before the second year, and whom, it is hoped, it will be possible to class among the trainers.

H. Will suitable horses be found in these squads since you have taken the best horses for the recruits?

S. Many good horses will still be available. One may be too high-spirited for the recruit, another too lazy. One has too high paces and bumps the rider too much. The action of another may not be sufficiently fresh. All these horses may be perfectly built and sufficiently advanced in their training to mount unfinished riders and give them an idea of the higher lessons and their purposes.

H. In Squad No. 11, the horses of which will chiefly consist of candidates for the next condemnation, and which squad consists of more horses than men, because the men do not ride daily, you will probably not expect the higher lessons at all?

S. Not at all. Among the candidates for condemnation might

and should be the best ridden horses, and which are to be condemned solely because they begin to get old and are not expected to remain fit for service for any length of time. The same will, no doubt, be the case with those which suffered in bone and sinew and are to be condemned on that account. Among them should be the best ridden horses. It is not a good indication of the riding of the squadron if it has horses condemned as "unfit for riding." The suspicion is bound to arise that the squadron has them condemned because it cannot manage them, and retains instead old and numb horses which are no longer equal to the strains of a campaign. As regards the riders in this squad, there may be men of talent among them. The causes interfering with their services have nothing to do with riding. Why should not among the tailors and shoemakers present with the arm, be some men who have talent for riding, though the well-known proverb points out that it is not the rule? Nor can I understand why in Squad No. 8, composed of such of last year's recruits as have lagged behind and are to undergo a second course of training, there should not be some riders who make progress in the art of riding. One may have lagged behind owing to sickness during his first year of service, and yet he may be well fitted for riding.

H. The riding instructions lay down the limits within which the first riding class is to be kept. If any man is to be advanced beyond, he should be removed from the first riding class.

S. That obtains for the winter when the art of riding as such is chiefly cultivated. During the summer such men of the first class may well be advanced further in individual riding, just as the riding instructions state that the recruits designated as future remount riders should, during the summer, be taught the aids of the second part on well trained horses. On the whole, you would make the experience that if the training of the horses has been conducted in this manner for four years before they are expected to train the rider, if, for the rest, the riding service has been managed practically, if the men be given full freedom in individual riding only, if the renewed *Aniebeln* and systematic retraining of all squads be omitted, and if higher lessons be taken up at a late date, then, I say, the art of riding will be much better promoted in the squad, and that among the old horses of the squadron there would be a great many more capable of going the higher lessons thoroughly well than under the system now in vogue. Here BAUCHER's excellent words: "*Plus vous allez lent, plus vous irez vite,*" would be confirmed. It would preserve the horse's strength. A

squadron which manages the instruction in riding on these lines during ten normal years of peace should come to such a point that the old contingent of horses, when condemned, would, with a few exceptions, contain all horses originally belonging to it and that all would be splendidly trained horses. They would still be so serviceable that it will make the squadron commander's heart bleed to have them condemned, and that other troops would be glad to retain them for one or two years more.

H. I have often heard it said that it is good for any horse to be thoroughly bent anew and worked over again in the fall and winter of each year, because it loses during the summer exercises. SCHMIDT expressly demands it from all riding classes.

S. I acknowledge that I find it difficult to answer you, because I would like to say yes and no at the same time. If the horse has deteriorated through the great summer exercises and maneuvers, i. e., lost in balance and position, it should be retrained correspondingly. The horse should not deteriorate, however. If every rider exercises his horse individually and daily during the summer under the instructor's eyes, excepting days of regimental, brigade and divisional drill, and days of maneuver, whatever may have been lost will be quickly regained; a stage is then gradually reached when the position is not, and is not permitted to be, impaired by drill. In the fall and winter every horse will certainly be bent over again; the only question is by what means. If the gait is properly increased and diminished so that the high hand is brought under, a good deal of bending will be accomplished. Still more, if the horse is given the second position. The correct medium trot does much bending; most of all, the correct, sustained drill gallop. I must admit that SCHMIDT makes the demand you mention. He adds expressly, however, that it is not to be understood as a repetition of the training, but that man and horse should advance in their training from year to year, and that the manner of training the older horse subsequently to the maneuvers should correspond precisely to the degree of training of the horse at the time of its return from the maneuvers. If he meant thereby that every horse should be tormented anew with a *schultherherein*, *renvers* and *travers*, whether it be necessary or not, I say "no!"

H. You said just now that the horses of the last squad, candidates for condemnation, could go the higher lessons well because they ought to be the best horses. Don't you think that these animals will forget the higher lessons altogether and become stiff when they have been recruit horses for four or six years?

S. A horse will never unlearn what it has once learned well while in the state of bodily development, and what it had perfected by the time it possessed its full strength. Exercise will keep it in practice, and the higher lessons are merely salutary gymnastics. The horse will no more forget these things than will the author forget how to write though he may be unable to recite the rules from memory. Nor will the horse lose the capacity for the gymnastics of the higher lessons, for the motions, turnings and jumps occurring in ordinary service will keep the muscles in training. It is possible that the remembrance of the aids used for putting these lessons in operation may sometimes become impaired. Rational treatment will soon recall them to the horse. One thing I would ask you to keep strictly in view: No training, no *kniebeln* are to be permitted in those squads of the present second riding class which are not specifically charged with training. They are the squads designated by you as Nos. 9, 10 and 11. If the rider improves so that he can and may be permitted to ride higher paces on a well trained horse, it should be done for the benefit of his training, not that of the horse. The progressive training of the horse, training and retraining, should be done in these squads only which contain the most perfect riders, *i. e.*, in those which you have designated as Nos. 1, 2, 3 and 4. It should ever be kept in view that the horses are not to be taught the higher lessons, that these lessons are merely gymnastics, means to the end of making the horse obedient and efficient for war. That end attained, training ceases. The horse will need these lessons no longer. If some horse in Squads Nos. 9, 10 and 11 is to go through these lessons, it is for the sake of the man's training. That accomplished, it should likewise cease.

H. I believe I am now sufficiently informed how you would like to have the riding service handled during the winter, and I simply wish to ask you now whether you approve of our present manner of passing from the period of riding to that of spring drill. From our previous exchange of views I conclude that you approve, with a few exceptions, of taking May 1st, as the day on which the recruits are placed in ranks, and drill by troop, platoon and squadron is commenced?

S. Not at all. You mentioned May 1st, and I accepted it as a date equally good as April 1st, May 15th, or some other date, without sanctioning the particular date.

H. And what date would you designate?

S. None. I mean this: In the spring, when the weather permits the recruits to go into the open riding ground and to eschew

the hall, they are to practice individually or in the square under their instructors, while the squadron commander drills the old men on old horses, by troop, platoon or squadron more frequently, and finally every day. The squadron commander selects each day those men who, when the squadron is formed, may participate in a half hour drill. I spoke of that the last time. The number gradually increases, so that finally four platoons of eleven files (with some blank files) may be formed. From now on he lays more stress on drill by troop, platoon and squadron, but never so much as to use up the horse's strength, or have no time left for dividing up the squadron daily—not only all the recruits, but also the old men on old horses—among their instructors for individual riding under supervision, or, sometimes, within the square. When the squadron commander will be able to drill for the first time with four platoons will chiefly depend on the time when winter ceases. More and more recruits will gradually take part in the drill of the squadron, which will finally drill daily with 109 horses (110, counting in one one year volunteer), provided no horse is absent on account of sickness or detail. When, however, the first recruit may take part in the drill, when the squadron can be formed in four platoons, when the last recruit will ride in ranks, can neither be predicted nor can a definite day be fixed, since, in the latter case, the training would be conducted with undue haste. Variations of as much as four weeks should be allowed for. In all squads, however, individual riding, *tummeln*, riding within the square, should go hand in hand with drill at all times, even throughout the summer.

H. When all recruits are in ranks and no horses absent, sick or on detail, you can turn out at the most with 110 horses, after deducting twenty-six remounts of both contingents. In the most favorable case you would be unable to comply with SCHMIDT's demand to turn out with four platoons of twelve files each, among them one blank file at the most, for you have to mount fifteen non-commissioned officers and four trumpeters.

S. I told you once before that I consider this demand of SCHMIDT's excessive, because it will compel us to take the old remounts along every time, and at a period when most of them are not completely developed and cannot have finished their training, and would therefore surely be spoiled by taking part in drill during the second year of their presence with the squadron. The old remounts may be turned out for parade, but I would excuse them from fatiguing drills throughout the year if practicable. We would always have some horses on the sick list or on detail and turn out

with eleven complete files at best. To that number let us adhere and fill further details, by making additional blank files. During the war we were fortunate when we could turn out with nine or ten files on account of much detached service. A few blank files more or less in peace time make no appreciable difference.

H. I understand what you say. I also think that it would be a good preparation for the fatiguing period of squadron drill.

S. The period of squadron drill should not at all be more fatiguing than the previous period of riding in the open. Permit me again to make an approximate calculation. Assuming that during one month of the winter frost prevents us from using the drill ground, there remain five months—from October 1st to April 1st—or twenty-one weeks, during which the old riders drill half an hour twice per week by troop, platoon or squadron. Assuming the winter (as in the present year) does not permit the use of the drill ground before April 1st, the squadron from then on rides daily half an hour in this manner, *i. e.*, twenty-five times and, toward the last, with a number of recruits in the ranks. That makes sixty-seven half, thirty-three whole hours of exercise, or sixteen drill days at the least, or an entire drill period preceding the time when troop, platoon and squadron drill used to commence. It thus becomes plain that drill in May would not entail unusual fatigue.

H. It would be a great gain for the shedding period, during which we like to spare the horses or, at least, dislike to get them warm and then let them cool off in the open air.

S. Certainly. But they must be taken into the open every day in spite of, and because of, that period. Consider further the advantage offered by this method of training now when it has been decreed from above that regimental drill is to begin each year in June. The training of the squadron need, nevertheless, not be hurried if the matter is managed in the manner pointed out.

H. I would like to express a doubt. Don't you think that the last recruits with their horses, who perhaps do not participate in the squadron drill until the first ten days in May, will spoil the order in the squadron because they are not sufficiently practiced?

S. Much less so than if they ride poorly, and take part in drill before acquiring sufficient skill in riding.

H. Don't you also think that the horses of the last recruits if placed in ranks in the midst of the drill period will not yet have sufficient wind for drill?

S. The recruit should ride as much drill gallop in individual riding as he would in drill, and during individual riding in April

the squadron should be in as good trim as during drill in May. The recruit's horse is therefore in training whether it participates in drill or not.

H. Will the horses bear this uninterrupted training winter and summer?

S. Better than the exertions now and then required of them under our present system. I desire that they may be given healthy and salutary exercise and work throughout the year, and that they be never overworked or driven to death. At present they are being driven to death twice each year, once in the period of spring drill, once in the great summer and fall exercises, to which they are all the more unequal as they enter upon that period in a heavy condition, with hay-bellies and fat lungs. The efforts I mean to require of them during the period of spring drill are not to exceed the work to which they were accustomed the whole year round, and less than the efforts heretofore demanded of them during this period. The exertions during the great drill and maneuver exercises will remain the same as heretofore, but the horses will stand them better because used to constant work. In your letters on cavalry you demanded still more. I cannot deny that the other arms must demand such exertions from the cavalry if the latter is to serve its purpose. But it can be equal to those demands only if prepared during summer and winter in the manner pointed out by me. If treated as I would like to have them treated, the horses will never be fattened and thick-bellied, but will possess strong muscles, remain fresh in their legs, and go in confident harmony with the rider, nor will they ever run down so and look as miserable as may nowadays be sometimes observed after the great cavalry exercises. More than once, as I have told you, I saw riders who had to dismount and drag their dead-tired animals painfully along by the reins to reach their quarters after the exercises.

H. Some years ago the war office added a half a pound to the ration of oats. This is now being saved as a rule in order to give the horses an additional daily allowance of a pound or more during the time of great fatigue. Do you consider the present ration sufficient to keep the horses in working trim throughout the year?

S. According to all I have told you it will be more so. I will not deny that I would prefer a more ample ration. Better quality, however, would be preferable to greater quantity. According to present practice the "intendance" lets the supply of oats to the lowest bidder. The contractor, of course, furnishes the least nourishing oats, which gives little strength. During the war our horses

stood more in France than in Germany during peace, because the French oats were excellent.

H. I cannot refrain from pointing out to you, that, according to our principles of training, not all horses are kept so much in wind as seems desirable to you, but only the seventy older horses under the older riders. The sixty-six remounts and recruit horses which are relegated to the hall during the winter will be all the less in shape for fast gaits as you require much individual riding in the hall while the greater portions of the squads are comparatively resting.

S. The new riding halls are all very spacious, and since they are used by remounts and recruits only, these horses can get sufficient exercise in them. I cannot deny, however, that where such large halls do not exist, it is an evil I should like to remedy if it were possible. For that reason I would have the squads mentioned ride in the hall so long only as the necessities of the weather make it unavoidable. As soon in the spring as possible we must go into the open and there accustom the horses gradually to more and more sustained fast gaits, and put them in good wind.

H. Do you not fear that your principles of training conflict with existing regulations?

S. Where and when? Did I not prove to you, point for point, that I am complying with the regulations, that I want the work conducted strictly in accordance with the riding instructions? All I want is to banish a certain perfunctoriness.

H. And existing old traditions.

S. On the contrary. I am recalling the good old traditions of the flourishing time of cavalry under the Great King. Any troop commander may conduct the training of recruits on my principles without having to fear disapproval from his superiors.

H. Your principles culminate in this, that you do not want final riding inspections. The squadron chief cannot abolish them. He is the one to be inspected. The superior will come and hold snaffle inspection, final riding inspection, etc. What is the squadron chief to do?

S. He obeys, of course. He must submit to inspection if the superior wills it, and the latter may inspect when, what and how he pleases. In his mind, however, the squadron chief should not consider it a final riding inspection, should not coach for it, should not drill exhibitions for it.

H. Then he will fall short of the other squadrons, and to compete with them he must manage the service as they do.

S. Not at all. He does not fall short; he will be ahead of them. Though the superior may, for instance, have the men ride in squads only, with distances in the square or hall (which is improbable, since the individual riding is also habitually inspected). I have previously shown to you that riding within the square with distances will go better if the chief weight is placed on individual riding than if you simply keep on coaching in this formation alone. Anyway, all the squads have sufficient practice in riding in the square with distances, if, as I have pointed out, they make the proof of the example at the right time, toward the end, every day. The only thing I don't want practiced by squads, with distances and by command, are the higher lessons (side paces on the double trail and paces with correctly shortened gaits). I have also explicitly stated that, if asked for, they will go better by squads by command when they have not been taught that way than if they had been drilled. In this I am not developing a theory. No, I assure you, I speak from many years' experience, for the experiment has been made for several consecutive years.

H. From what you have stated at various times, I can, in the main, tell pretty well how you wish the regimental commander to make his inspection. I merely meant to ask you to remove some doubts occurring to me. You wish, in the first place, that the regimental commander do not fix any day for inspection, but be present at the instruction.

S. As often as possible, and always unexpected. In this he should be as thorough as possible; should therefore not inspect everything on one day, but only part of the squadron, so as to invariably inspect with fresh, unabated attention. He should do it according to a prearranged plan. For instance: He proposes, beginning with fall, to look on five times a week at the service of the squadron. He will go once every week to each squadron. In this squadron he looks on once at the drill of the older men on the older horses, the individual riding, and the riding in the square; another time at the training of both remount squads; a third time at mounted recruit drill. Allowing for interruptions, he may be present once each month at the training of each riding squad of the regiment, and see for himself whether the service is conducted rationally, and apply timely remedies to faults discovered in the course of training. The daily drill schedules enable him to always arrive unannounced and unexpected. When he knows his regiment once, he will soon be able to lighten his task by appearing less frequently in the squadron which works correctly according to his

notions, and perhaps more frequently where his advice seems more necessary.

H. This is practicable with the regiments which are united in one garrison. Nearly half of the German cavalry regiments are more or less scattered over several garrisons. The War Department grants the regimental commander travel allowances for a limited number of travels for inspecting outlying squadrons.

S. What of travel, of expense, of allowances? The commander rides over to the other squadrons, inspects the service, and rides home again. He ought to be glad to mount his horse frequently and make long distance rides. It will keep him fresh and habituated to being on horseback.

H. In any kind of weather also?

S. Has he not to be on his horse in all kinds of winter weather in war? The man who can't do it in peace cannot command a regiment in war. This daily habit of remaining long on horseback preserves the cavalryman as such, and averts pain in the spinal column which a single great exertion in war may bring on.

H. I believe your demands on the commander are too severe, as he will have attained a certain age before reaching that grade. Not every regimental commander can remain so fresh as to ride bareback in the chase as those two generals last fall at Hanover. If every regimental commander incapable of this feat were declared unfit for service, our regimental commanders would eventually be too young to bring to the position the requisite experience in the details of training, and we should lose many a commander who, on account of his experience in matters of riding, is of inestimable value. You said yourself that one never learned all there is to riding, and that a good rider and instructor needs years of experience.

S. In a long peace it would likewise be impracticable, and too much of a draft on the pension appropriations, to have none but young regimental commanders. The management of service and inspection should therefore be so arranged that all officers are confirmed in the habit of remaining long in the saddle. At present our peace service is not suited to produce enterprising commanders. At a certain age (forty to fifty) the officers confine themselves to the most indispensable requirements of the riding service. The indispensable is not sufficient to keep them in practice. How many officers stand dismounted in the hall for six months? When the habit of riding is relaxed, the delight in riding relaxes; also the dash and delight in fighting; and when at the outbreak of a war

such a leader has to ride, it is an exertion for him: he has pain in the back, and takes no delight in war. If the service were managed as I wish, all officers would have to ride daily, rain or shine; the superior also would have to inspect in all kinds of weather. As long as they remain in the service they would remain in practice, and would not become prematurely old in body as well as in the manner of thought and action. The study with its desk is not sufficient for the soldier, least of all for the cavalry leader. He belongs on horseback. But in our days even the lieutenants become disused to riding by their duties as dismounted instructors, by driving condemned horses, and by the vicinity of railroads to the garrisons. The excursions of former days, for visits in the neighborhood and the return at night, had much that was instructive and practical for cavalry officers. No particular interest in that direction exists to-day.

H. There is interest, but no opportunity. That there is interest you may see from the distance rides.

S. This substitute is unfortunately indulged in by the young man alone. The *par force chase* would have to be made obligatory. It would be in the interest of the older and highest officers, as it would keep them vigorous. They are a splendid preparatory school for cavalry leaders to learn how to find their way in the terrain and form their resolutions quickly. In the presence of the enemy you cannot rely solely on scouts, patrols, adjutants sent to the front, you must ride forward yourself and inspect the terrain if you wish to profit by it. The officer who learns how to orient himself in the *par force chase* will be a reliable leader to his troops in the terrain. That should not be underestimated. At any rate, it will raise the confidence in one's own power and enterprise; and the regimental commander who has ridden in the chase in the fall will not find the detached squadrons too distant to visit them on horseback though there be a railroad.

H. Many garrisons of single squadrons lie so far apart that it is absolutely impossible to visit them as often as indicated by you. Pless, for instance, is two days distant from regimental headquarters.

S. In that case it only remains to take the cars to these garrisons to inspect them. Still, if the commander is imbued with zeal and interest for his position, he will not refrain from visiting those garrisons at his own expense oftener than the government grants allowances.

H. Certainly, if he has means of his own. Our officers are

accustomed to spend their private means on the service. Not every regimental commander has private means, but most of them have families. You would not make the qualification of a regimental commander for his position dependent on his private means?

S. Well, if it is impracticable for the regimental commander to visit some of his squadrons frequently to witness the individual training, he must apply the method of frequent inspection suggested by me to those squadrons alone which are at regimental headquarters or in close vicinity. The more distant squadrons he would only visit as often as he is granted allowances for. In that case he should remain for some time with each squadron, and inspect the individual riding in this manner that no exhibition be made for his sake, and that he simply witness the instruction and never witness more in any one day than he is able to observe closely with full and fresh attention.

H. How do you wish the brigade commander to inspect?

S. The regulations make the regimental commander responsible for the individual training of the regiment, as you reminded me yourself some time ago. Hence, the brigade commander would never during the winter course of training have anything to do with the details of the riding. According to regulations he inspects the formed squadrons. On that occasion he may take some riding squad and have it perform anything he chooses, down to individual riding of the men of different contingencies. I do not, however, wish the brigade commander debarred from witnessing the individual training of the squadron. Any body of troops ought to be glad of, and see an honor in, the interest manifested by general officers in the most minute details of their service. If, in doing so, the brigade commander desires to get a correct insight in the individual training, and exercises beneficial influence, he should be present with the regimental commander when the latter witnesses the individual training of one of his squadrons. He will then perceive whether the regimental commander's action is in the right direction, and will have sufficient opportunity to equalize differences of opinion. If he sees that the regimental commander's method is correct, he need make no further inspection of detail in that regiment.

H. Take now the division commander.

S. The division commander who is interested in the details of training may do like the brigade commander. He will probably have to limit himself to witnessing the individual riding of the squadron of each regiment of his division per year. His other

duties will hardly leave him time for more. Nor is more required. He will get along with less, if he except those regiments whose commanders, by their methods, have previously gained his unqualified approval. If, however, the division commander comes from another branch of the service, as is the case in many mixed divisions, his inspections of details of riding have no value for the troops but that of the honor done them by his presence.

H. I was from another branch of the service: still, as often as I could, I was present at the detailed riding inspections of the cavalry regiments of the division commanded by me: I did it for the sake of seeing and learning.

S. Then, it is true, the troops will have another, indirect benefit from it.

PROFESSIONAL NOTES.

AMERICAN HORSES FOR FRENCH REMOUNTS.

[Regimental Standard.]

During a recent visit to Indianapolis, Ind., I heard, by a fortunate coincidence, that there was in that city a commission of French officers engaged in the purchase of horses for the various mounted branches of their military service. Not wishing to lose such a valuable opportunity, I quickly sought their acquaintance, and was very courteously received.

The commission consisted of three field officers, representing the artillery, cavalry and veterinary staff, respectively. My confrere, fortunately for me, spoke English fairly well and acted as interpreter, in addition to his professional duties, which were onerous in the extreme. His advice and opinions were decisive, not only on the subject of soundness, but on the horse generally; conformation, gaits, action, etc., etc.

If any one member of the commission objected to a horse, it was immediately rejected, and before being led away a slight vertical line of hair was removed from the near side of the neck by a snip of the scissors, so that it could not be again presented, for some time at least. Everything was done methodically and quietly. My confrere informed me that the method of examination and purchasing were minutely laid down in the French Army Regulations.

Although the purchase money allowed by their government was about \$150.00 for each horse, the commission was allowed much latitude, for I saw horses purchased for from \$110.00 up to \$225.00. In fact, they did not let a good, desirable horse go away from them if it was possible to get him.

The horses purchased, being for various branches of the service, ranged from fifteen to sixteen hands high, and from 900 to 1,150 pounds in weight. The small horses being for light cavalry, as hussars, whilst the larger ones were intended for heavy cavalry and the artillery.

They were extremely particular as to the anatomical soundness and freedom from blemishes and wire cuts. They also objected to

brands of any kind, although they did occasionally purchase a branded horse, provided it was a very desirable animal and had only a very small brand, not larger than three inches, and not conspicuous.

They bought stallions, mares and geldings, but preferred mares for many reasons: 1st. Greater powers of endurance; 2d. Live longer; 3d. Can perform more work on less keep; 4th. Withstand more hardships than horses; 5th. They bring a better price when condemned; 6th. Are said to be more intelligent; 7th. More amenable to instructions and drill; 8th. Can endure the climatic extremes better; and 9th. Less liable to disease.

They were particular that the head should be small and nicely set upon the neck. If the head of the horse could not be flexed on its neck, the animal was immediately rejected. Excoriated mouths, lips and ears, injuries from curb-straps and bits, formed a frequent source of rejection, as animals thus affected invariably resent all attempts at any gymnastic instructions which involve their mouths, as suppling their neck, altering their center of gravity and base of support, etc., etc., so necessary to the trained cavalry charger.

The commission purchased in all two hundred horses, shipping direct to France, via Baltimore, their immediate destination being the cavalry school at Saumur, where they are to undergo a course of training previous to being distributed to regiments.

In making a purchase, the price of the horse having been agreed upon by the commission, it was offered, and no hope of a further advance of this was ever entertained, such a course being strictly forbidden by their army regulations; a very wise arrangement, in my opinion, saving both time and trouble. Each animal accepted must measure at least sixty-nine inches chest circumference at the eighth rib.

The commission selected Indiana as their base of operations, after visiting many other States, owing to the superiority and great variety of well-bred horses to be found in the "Hoosier" State. It was a clear case of "putting the parson in the center of his parish," for, although the rejections were probably eight or ten to every one accepted, the average horses of the former category would have been gladly accepted for the American cavalry service — notwithstanding recent official statements to the contrary. Particular attention was paid to the gait, the walk, trot and gallop insisted upon, no other gait accepted. Horses with vertical shoulders and short pasterns, and sway backs were rejected on sight.

The modus operandi of examination was as follows, as per French army regulations:

All harness was removed and a halter substituted for the bridle, the horses being placed on a perfectly flat, level plot of ground. Then all the members of the board, each acting independently, proceeded to examine the animal with regard to his conformation, one prominent fault being mentioned, as straight shoulders, short pasterns, crooked limbs, ewe neck, big head, short neck, high withers, hollow back of the shoulder blades, sway back, weak loins, badly

ribbed back, round chest, excessive angle to the ribs, oblique croup, or limbs malplacé, formed an immediate cause of rejection. But if this examination was satisfactory, he was then led about at a walk and trot. Here lameness, oscillations of the shoulders or croup, narrow chest, wide chest, calf knees, knock knees, paddling, interfering, speedy cuts, narrow hips, too wide hips, small feet, excessively large feet, weak hocks, too near or far apart, brushing, etc., and low action were quickly detected. If this part of the examination should prove satisfactory, the horse was turned over for professional examination, and they were extremely particular in this respect and took no chances whatever. If finally accepted, he was branded and paid for.

The animals purchased were very well selected, being clean limbed, small headed, compact, short backed, very strongly bound, well muscled horses. Coming, as they all did, from small farms, they were in splendid condition and gentle, and, in this respect, forming a favorable contrast to our military, prairie fed "bronchos." They were all of a kind, intelligent disposition, evidently having been well treated from their colthood. The attendants walked about them fearlessly, handling their limbs and hind parts with impunity. The veterinarian personally examined and handled each limb, and each foot had to be raised and tapped with the hammer, as if being shod, a feat which would be performed at the risk of life and limb if ever our equine military candidates were subjected to it.

The entire performance struck me as being very prompt, business like and systematic in every way. Each member of the commission evidently understood his business, and knew exactly what he was sent to purchase. There were no words wasted nor an unnecessary one spoken. Horses were purchased in open market direct from the owners, thus saving the sum which would go to the contractor, or middle man, as in our antiquated method of buying from the contractors.

I have no hesitation in stating that it would be an impossibility to select on our Western frontier, at any price, a bunch of horses that would in any respect approach those which I saw purchased in our own markets for the French army, an examination of which disclosed careful selection, keen, educated judgment, and "horse sense" generally, on the part of the purchasers, which could rarely be met with. These qualities were exercised under extremely favorable surroundings, for, in the matter of well-bred horses, Indiana ranks second to none. In 1894 the same commission visited Indiana and purchased a large bunch of horses. These created such a favorable impression, upon their arrival in France, that the authorities there made immediate arrangements for an annual supply from the same source.

I was informed that all the French government stud farms were being discontinued; that all the equine reproducers must be professionally examined and rejected as such, if affected with hereditary disease or unsoundness. All stallions must be registered and ex-

amined annually. The produce of stallions, owned by the French government, from mares, the property of citizens, are purchased at stated prices when three years old, if fit for military service. In France horse breeding is directly encouraged by the government offering annually enormous sums as prizes.

The beneficial results of a course of instruction on equine conformation, etc., etc., which every mounted officer of the French service undergoes, was apparent at a glance. At a word or sign a rejected horse was removed by the attendant (a French soldier). The usual expostulations, praises, etc., of the would-be horse trader were conspicuous by their absence, and even when indulged in, did not receive the slightest attention from the commission.

The horses intended for the French service are bought by special committees under instructions from the Minister of War. Army horses are divided into three classes: 1st. Horses de carriere, for the equestrian schools; 2d. Staff horses for officers; and 3d. Troop horses, the latter being divided into reserve, line, light cavalry and artillery (saddle and harness), and are distinguished according to their qualities as very good, good or passable. The schedule price is neither minimum nor maximum, but is looked upon as representing the value of a good horse in each category. It is understood that a sufficiently large margin is left to the officers of the remount depots for the practice of economy, either by encouraging the production of good horses by paying more for them, and in order to give a proper value to animals that are difficult to obtain, and which might be in private demand.

Staff horses are classed as follows: 1st. Ordinary—regular conformation, medium neck, sufficient power and speed, large head, white color, washed mane, tail or coat, and slight blemishes are included; 2d. Good—sufficient breeding, a good neck, regular conformation, strong body and members, good gait; 3d. Very good—good breeding, good conformation, fine, expressive head, a beautiful chest, strength, good members, prominent tendons, brilliant gait. The price of an ordinary horse is seventy-five to 150 francs less than a good horse, and the value of a very good horse 100, 150 to 200 francs more than the average. The price of a grey horse is one-eighth less than his class. These data convey nothing absolute, and are only points of reference.

Troop horses: 1st. Passable—medium conformation, defects of equilibrium, want of chest measurement or blemishes; 2d. Good—enough neck, strong body and members, sufficient weight, harmonious conformation, good action, fair physiognomy, solid coat and energy; 3d. Very good—a good physiognomy, neck well attached, good body, beautiful chest, good members, fine coat, power, long gaits. The passable horse, of which a limited number should be bought, commands one-fifth less than schedule price, and the good horse fifty to sixty francs less than the schedule price, while the very good horse is seventy-five to one hundred francs more than average. The grey horse is one-eighth less than his class, and the purchasing of this color should not be encouraged, being unsuitable

for war service. Any horse one-fifth less in value than the average should be rejected. It is important to make marked difference in prices according to quality, so as not to be always confined to the average prices for very good and passable horses. The sellers should be convinced that the committee judges impartially and as accurately as possible, and that they pay the military value of a horse. A horse may, in fact, have considerable commercial value, and still be unsuitable for military service. The hollow back depreciates the horse for saddle, renders it unfit for service. It must not be forgotten that a slightly hollow back, with narrow chest, at four years old, will be strong and broad at six. A proper consideration is not always given to the difference existing between the four, five and six-year-old horse. With the four-year-old everything is clumsily bulged up; his future conformation must be guessed at—he will certainly gain. The six-year-old, on the contrary, will remain about the same. Still the horse, and especially the mare grass-fed until six years old resembles the grain-fed horse at four. Only the horse which is really worthy of the name should be classed as an officer's horse. We should not yield to any apparent qualities which are not backed by strength and endurance. Reasoning thus, it would very often happen that the officers' horses would actually be inferior to the troop horses.

M. J. TREACY,
Veterinarian Eighth Cavalry.

CAVALRY EQUIPMENTS.

Indian campaigning has ceased to be the daily employment of the army, and this leads to the question as to whether the cavalry equipments which proved their worth by flood and field in days gone by, are still adapted to the present and prospective requirements of the service.

From time to time many suggestions have been made, but no general interest has manifested itself sufficiently to cause any consideration to be given to the subject. It must be remembered that mere change is not improvement, and that what is now provided is generally the result of practical experience.

It is questionable whether any future necessity will demand that each trooper should carry a larial and iron picket pin. Ropes are most useful during scouts and raids, but could be provided without having each horse carry the present weight. If a volunteer regiment, with untrained mounts, should go into camp and be misled into picketing out their horses, half of the animals would be ruined with rope burns in a couple of hours. None of the ills to which cavalry horses are subject is more annoying, or requires so much time to heal, as a bad rope burn below the fetlock joint.

After two years use, it is generally conceded that the dimensions of the new bit are not exactly correct. It serves its purpose with all the quiet, well trained horses, but does not answer with those inclined to be fractious, or which are hard mouthed. It is believed

that a little alteration and experiment as to proportions will correct the difficulty.

The opinion prevails amongst thoughtful officers that civilized warfare of the future will call for much rapid work from cavalry. In this case the loads must be reduced, and the first thing which attracts the attention is the size and weight of the saddlebags. The large size of the bags is a temptation to soldiers to overload them with unnecessary articles.

It has been discovered that the blue cartridge belts issued with the new magazine rifles do not hold their color. Inasmuch as these belts are for full dress as well as field use, it should be insisted upon that the dye used should not only be of absolutely uniform color, but that it should be so fixed that no fading will take place. Some men use their belts constantly for drills, parades, etc., while others are on such duties that they only turn out occasionally. The result of poor dyeing will be to exhibit great lack of uniformity at all inspections and other duties requiring the presence of all the men in ranks. It is believed that a little experimental work by the Ordnance Department now will save much complaint later on when the new belts have been issued to all regiments.

It would not be extravagance to provide a dark blue saddle cloth, to be worn over the grey blanket at full dress ceremonies, especially at such posts as Forts Myer, Ethan Allen, Sheridan, Leavenworth, The Presidio and Jefferson Barracks. If this cannot be brought about it would be a good idea to try a few dark blue blankets to test them for appearance and durability, in comparison with the grey blankets. The Ordnance Department is usually willing to make any experiments or changes which any arm of the service unites in recommending as likely to produce good results, provided appropriations admit of it. Instead of asking for a board to consider such things, cavalry officers would do well to make individual experiments upon the various parts of the equipment and uniform, and communicate the results to the service for consideration.

W. H. C.

GERMAN AND FRENCH CAVALRY MANEUVERS.

In "The Autumn Maneuvers of 1894," from the Military Information Division, there occurs the following observations of the German cavalry movements September 11th:

"Early in the day there was a severe rain, and all the troops were wet through, but the weather made no difference with the maneuver. In the charge of Cavalry Division 'A' against the right of the Thirty-Fifth Division, on part of the ground the fences had not been removed; and dismounted men were sent forward to clear the way. One was a three-barred fence, and it took some time to remove the two top bars. As it was in sight and range of the enemy's infantry this would have been difficult, if not impossible, in war. Five horses in one brigade were killed here. One fell into a ditch and broke his back. Four were impaled on the bars of a fence, which, lying on uneven ground, when trodden on by the front rank, were thrown up so as to take the rear rank horses in the breast or belly. Another brigade charged

over some fallen timber and stumps, where several accidents occurred to both officers and men. Their double ranks and lances make manœuvring in such ground difficult and dangerous. But the good training and great gentleness of their horses enables them to get through such ordeals wonderfully well."

The following description of the President's review of French cavalry occurs in the same report:

"After the passing of these auxiliary services, and when they had completely cleared the ground, came the cavalry at a gallop, each brigade headed by its trumpeters consolidated and sounding a charge; these did not leave the column. The formation was in columns of brigades closed in mass, each of these divisions followed by its two-horse batteries in line, also at a gallop, and preserving splendid alignments. The front rank of all the dragoon squadrons carried lances with small pennant; hitherto during manœuvres the pennants had not been used. It could not be seen that any material gain or loss in distances or intervals occurred among the subdivisions of either infantry, artillery or cavalry during the march past.

"Having all passed the reviewing officer, the cavalry column was headed toward the left and again formed into a double line of masses, with the center opposite to and about 1,200 yards from the President's stand.

"The cavalry alignments were rapidly perfected and the horse batteries grouped on either flank of the combined divisions in line. The seventeen regiments and six batteries then advanced at progressive gaits, headed by General DE GALLIFFET, all with sabers drawn, until at about 600 yards from the President, when all took the charge and moved on to within sixty yards of the stand, when they halted by one grand, simultaneous movement at the signals of the officers leading them, bringing all sabers to a present arms. The alignments, intervals, and distances had been exceedingly well preserved.

"There were five regiments of cuirassiers, five of dragoons, six of chasseurs, and one of hussars in that mass. This ended the review and the manœuvres."

THE CAVALRY MANEUVERS.

The cavalry has been coming in lately for a good deal of notice. We have now before us the criticisms on the cavalry drills held recently at Aldershot under Major-General Luck. There is no denying that in the past the cavalry has suffered considerably from a want of friends. It is a service which requires to be well in evidence. The more it asserts itself the better will it be respected and cared for, and it is gratifying to see that the public is beginning to comprehend the conditions under which it exists, and to take a more intelligent interest in its welfare. The critic of the *Times* sums up the wants of the cavalry in these words: "Stronger squadrons, drill grounds to train squadrons before coming to the manœuvres, annual manœuvres," and he adds, "a determined and practical Inspector-General." The last we have got, and the others should not be difficult to obtain.

But this brings us back to the truth, which the authorities seem rather slow to recognize, that not only trained men and horses are requisite if manœuvres are to be profitable, but a full complement of both. That is, however, what we do not possess. As soon as we have an available force capable of carrying out an annual manœuver

with advantage to itself, the arrangement should be made permanent, but as has been repeatedly pointed out in these columns, the first requisite is a perfect and complete force of men and horses. It is useless to advocate annual manœuvres, essential as they are to cavalry training, until we have troops capable of being manœvered. The concentration of more regiments at Aldershot each summer would at least partially and temporarily neutralize the evil of insufficient drill ground, from which in so many stations our cavalry regiments suffer, but it cannot be too strongly insisted on that the first step toward improvement is to increase the establishment of regiments. Without this no other measures will be of any value.

A depot squadron would seem to be an absolute necessity. There are in every regiment so many men and horses that are from one cause or another unable or unready to go on active service that to include them in the ranks is to introduce an element of weakness, and to court failure. The depot squadron, on the other hand, is an element of strength, as it withdraws from the fighting body everything that is unfit, and gradually prepares the immature for active work. Another matter for reform, closely connected with the foregoing, is the absurd proportion of dismounted men. It is a mistake to suppose that dismounted men are a necessity; their place can and should be supplied by reserve men.

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In point of fact all the best opinion appears to be gravitating towards the idea that a distinct corps of orderlies should be formed, and that horse soldiers should thus be relieved of all but their proper military duty. While the efficiency and readiness of the rank and file would in this way be promoted, there ought to be some special training for the officers. Whether it is to be obtained by means of a separate establishment like Saumur, or by forming a special class at Sandhurst, it may be premature to say, but there certainly should be some distinction between the preparation of an infantry cadet and that of one intended for the cavalry.

Another point which has been brought prominently forward of late is the enormous advantage conferred on cavalry by the superior speed and staying power of the horses. It will, therefore, be necessary in the near future to find ways and means of improving our cavalry horses in breeding and style, while at the same time their load must be somewhat reduced. A word may be said in conclusion on the unmeasured condemnation pronounced on this arm by certainly not the most accomplished military critics in the press. We are very liable to go to extremes when once we have begun to find fault, and the spirit which gives rise to that kind of writing should be sternly discouraged. As a corrective nothing could be better than Baron SALVI's friendly remarks, which we reproduced last week. The truth is that, individually, our men and horses are unrivaled, but there are too few of them. Our duty is, while maintaining our riding drill and individual smartness at their present high standard, to provide for the collective training by which alone this arm can make itself felt on any important occasion.—*Army and Navy Gazette*.

OUR CAVALRY.

* * * It has been frequently urged that we should copy Germany in the administration of our mounted forces. No doubt, since the Franco-Prussian War, the German cavalry has been raised to a high pitch of efficiency, but as far as management of the stable, manège, or barrack routine is concerned, the Teutonic model offers no particular advantages. The German system, however, of training recruits in batches of about forty men, under the supervision of one officer and three specially selected non-commissioned officers, will put to shame our negligent method of "off-handed" instruction rendered by any drill sergeant who may happen to be available. Many of the duties which fall to the lot of our senior sergeant or corporal are performed by the German officer, and this causes him to take a deep and intelligent interest in the drill of his squadrons; moreover, he is proud to note the progress of the men under his charge. We have much to learn from their system of "silent drill" (which was commendably eulogized by the late Colonel BURNABY), for unnecessary shouting and continued galloping up of adjutants, coupled with the harsh notes of the bugle, and hoarse adjurgations of the colonel, are practices unknown in the German army. The English adjutant, moreover, we maintain, is allowed far too much power as compared with the squadron officers, and it has also been not inaptly stated that in many cavalry corps the sergeant major is permitted to exercise very nearly as much authority as a captain. In our opinion, the captain should be allowed more latitude and responsibility of action, not only in the training of men and horses, but also in promotion, reward and punishment. Of course, the foregoing must not be taken as the type of all regiments, for there are colonels who do concede this privilege, and a sensible captain who is up in his work will certainly not brook undue interference. As far as subalterns are concerned, we feel tolerably certain that there are few who cannot give points to and beat their Rhineland brothers-in-arms in all that appertains to outpost duties, patrolling, topography and reconnaissance, and we need have no fear on this score as long as our cavalry regiments are officered by those to whom field sports are as second nature.—*Admiralty and Horse Guards Gazette.*

THE GERMAN AND FRENCH MANEUVER ARMIES
COMPARED.

* * * The French took also less pains to screen their guns from sight, while the Germans, if time allowed, would run up a little embrasure, cover the front with grass or straw, according to the crop, and not let a man show his head over the parapet. The same rule applied to the German infantry. In an instant the spades were at work, a trench thrown up, and the work concealed by every imaginable device, while any individual failing to squat quite low down out of sight was certain of prompt and severe reprimand. On the other hand, German troops are not encouraged in advancing to

the attack to seek cover separately; that is the business of captains and commanders of sections. The object aimed at is rapid and continuous advance, the reserve going forward to beat of drum in close order and sometimes in that "parade march," which in the matter of muscle exercise is so highly valued. The French system of attack is not dissimilar—always on the move, line pushing forward line, but much looser. One of the more remarkable things about the Germans would appear to be the extreme quietness in the ranks. Every man is so trained that he knows what to do. There is no excited shouting out to this one or that to lie down, or right incline, to close in or open out; no aides-de-camp gallop about with contradictory orders; all is method and system. The same silence is not found in the French ranks. There are, however, few words of command in extended order; the whistle does everything. The Germans have discarded volley firing. What may be saved in ammunition is lost, they think, in the desire to produce a good volley, and the nervous waiting for the command, "Fire," after the sights have been aligned with the object. Independent firing is invariable, although frequently restricted to named files, and especially to marksmen, who wear a braid badge from chest to shoulder. The French, on the other hand, fire volleys, except at point-blank range, and their fire discipline is good. Neither army will have anything to do with flag signaling. The Germans make but a very limited use of the bicycle, while the French employ it largely. Stretcher bearers were not organized in either maneuver army, but the French ambulances were excellent. Every effort is made in both services to prevent any avoidable reduction of the fighting line, which is in England so terribly attenuated by extra regimental and half independent services. There was no attempt even to provide the men with water by means of horse barrels.

As regards the cavalry, what the French gain in better horse-flesh they lose in riding and dash. The German uhlán is well known, but all descriptions of their cavalymen carry the lance, the pennon being furled while reconnoitering. The French horse soldier still wears the baggy leather overalls said to have been invented by Marshal LASALLE, and they give him a clumsy appearance both in and out of the saddle—very different to the German. The German work is almost wholly by squadrons, even in the charge, and the effect of squadron after squadron coming on has an undoubted influence upon opposing infantry. When forty squadrons charged the infantry of the Third Army Corps near Stettin it appeared terrible to one standing with the latter. German cavalry charging German cavalry go right home into the opposing line, and are ordered by the drill book to charge through infantry if it can be done with safety, and in any case only to wheel at the very last moment. There can be no doubt that both French and German horses are more highly trained and docile than ours. In the German army this may come from overwork and poor food, but with the French their horse condition was splendid.

The Germans had two captive balloons at work—one of the or-

inary type, the other of the elongated pattern—at a height of 400 metres, an officer working the telephone to the detachment. The French had one ordinary balloon. But, apart from the moral effect, the general opinion is that balloons are of comparatively little value save in the most favorable atmospheric conditions; the oscillation in the slightest wind is tremendous, and mistakes are easy unless the country is thoroughly known. We have reserved to the end the answer we have obtained to the great question of the discipline in the two armies. In the German service it is perfect—rigid, unbending. The officer lives, eats, works, and, for aught we can gather to the contrary, sleeps, tightly buttoned up, begloved, his sword on, a picture of military precision. He is forever saluting or returning salutes. He knows no ease, no relaxation—is the officer, and nothing but the officer, the twenty-four hours through. Respect for him there must be on the part of the rank and file—love is another thing—and the outward signs of it are never relaxed, omitted, or forgotten. The French officer, on the other hand, is a *bon enfant*. His sword is an instrument for parade, and he takes it off the ribment he can, unhooks it when skirmishing or if it is in his way, rarely wears it in the street, and does not trouble much about gloves. There is saluting, but it is more or less fitful, and very different to the smart and respectful attitude of the German. It is also easy to see that it is more or less grudgingly given. There is probably much more *rapprochement* on the part of the French soldier toward his officer than in the German service. The difference in social rank is less marked, but it is accompanied not infrequently by reply, observation and familiarity from the ranks. The sergeants sometimes find it very difficult to maintain their position and authority among privates, many of whom have easy means and are people of importance in their native districts. It is also open to question whether the presence of these, if of a leveling character, does not give rise to some discontent among their ordinary comrades, who think themselves placed at a disadvantage in the matter of food and duty, and to some extent the suspicion is possibly well founded.

But to the credit of the whole profession of arms it must be recorded that none of the foreign officers who attended the German maneuvers, and none of those who attended the great French assembly, witnessed any drunkenness or disorderly conduct on the part of any soldier.—*Army and Navy Gazette*.

AUSTRIAN CAVALRY.

The strength of an Austrian or Hungarian squadron of cavalry, apart from non-combatants, is nineteen officers and non-commissioned officers and 130 men—that is altogether 149 sabers. The troops engaged at this autumn's maneuvers were at their full peace strength, which is only one officer short of their strength in time of war. At the Kisczell review, therefore, there were present no fewer than

10,579 cavalry. These, with the artillery train and other services, represent fully 12,000 horses on the field. There were also present a total of 15,000 infantry, partly of the Line and partly Honveds. The engagement between the two great hostile bodies of cavalry, which it was supposed would take place at Zenta, really occurred in the neighborhood of Kisczell. A wrong report of the place of battle appears either to have been given out on purpose, or alterations were made in accordance with the marching and galloping capacity of the troops. For, to show the strictness of the system pursued, not even the name of the officer in command of the eastern force was known to that of the western half, or *vice versa*, before the actual encounter took place, the object being to prevent any conclusions being drawn as to the strength of the enemy. The fight took place half way between Kisczell and Papoz, and is described as the most brilliant affair imaginable. The battle, it was ultimately ruled by the umpires, remained undecided. The Emperor, who rode his favorite chestnut mare, Quickstep, an English thoroughbred, went over a great deal of ground, galloping from one part to another, until the "cease fire" was sounded. His Majesty expressed great gratification at the admirable condition in which he found both horses and men after a long and exhausting march. There were several innovations introduced in the operations for the first time. Thus there were trials of new quick-firing guns carried on the backs of two horses; then, again, the infantry, when quick marching, left behind them their knapsacks and greatcoats, which were brought on afterwards by light wagons; but the principal thing was the reconnoitering and rapid movements of the cavalry, and in this respect the expected result was fully obtained. After the review 2,200 horses and 5,100 men were entrained between the afternoon and 6 o'clock next morning, whilst 10,000 horsemen started to ride in different directions to their several garrisons.

The operation of throwing troops across the river at Zenta, which was performed in various ways in the presence of the Emperor FRANCIS JOSEPH, on Saturday last, afforded a spectacle of much interest, for not only were all the usual methods of crossing employed, but several new inventions were also tried. The troops thus conveyed from the left to the right bank of the Theiss consisted of two regiments of hussars, one mounted battery division with twelve guns, and one battalion of engineers. The river at the spot chosen for these experiments is about 650 feet wide, with a depth at the center of about twelve feet. An army between the Theiss and the Danube was supposed to be on the retreat to Buda-Pesth and pursued by another army marching by the Maros Valley to the river Theiss. The two regiments of hussars, with detachments of infantry and artillery, were first sent out in advance for the purpose of reconnoitering and then throwing a bridge over the river by which the approaching army might pass to the opposite bank of the stream. The other bank was supposed to be still held by small bodies of the enemy, intent upon delaying the crossing of the pursu-

ing force, all the permanent bridges being destroyed and all means of transport taken away.

Rapidity of action being the primary aim, it was resolved to bring over the two regiments of hussars, the artillery, and the rest of the force by provisional expedients, and only after the position on the right bank was secured, to lay down the bridge in the usual way. Scouts swam over from bank to bank, exposed to the hostile fire, and several spots were tried until the best was found, when the different appliances, old and new, were made use of. Light canvas boats, like those quite recently used during the German maneuvers, were employed, but no bridge was formed of them with aid of stakes and planks, as they were supposed not to be available for that purpose. Water-tight haversacks of the ordinary size were employed, which, when emptied of oats, were quickly filled with straw, hay, and so forth, and they were so bound together as to be waterproof. Four such bags were, with the help of three sabers, combined into a raft on which five men could sit in riding fashion, the first of them provided with a pole to steer, while the horses were led swimming. On each side the preparations took exactly eight minutes, and the crossing eight minutes. This, with two minutes allowed for resaddling and mounting, makes eighteen minutes for five cavalry soldiers to ride away fully equipped on the opposite bank of the river. Another batch tried the air-tight inflated bags, rather larger than the former, six of these being united into a raft. This, with planks laid over it, was steered as in the former case. Another experiment was the formation of regular boats for twelve or fourteen men with arms from the haversacks, stiffened with iron bars or by a sufficient number of cavalry swords. These boats were also formed out of eleven inflated air bags, and the guns were brought to the other side by one available pontoon hanging on a steel wire, and crossing to and fro. Another experiment was sending over horses in groups of thirty-five or forty at a time. The animals were led into the water by men swimming on the inflated air bags until deep water was reached, when the men returned to shore, and the horses, seeing others already on the opposite bank, swam over without hesitation. By all these different means the two hussar regiments, the artillery, and the infantry, were all taken to the other side within three hours. The opposite bank being now supposed to be secured, the throwing over of a real bridge was dispensed with.

The Emperor then held a review of fifteen and a half squadrons of cavalry, together with infantry and artillery. The spot where these operations were carried out was the same where in 1697 no fewer than 20,000 Turks were slain and 10,000 more driven into the Theiss and drowned, within two hours, by Field Marshal Prince EUGENE, who was then only thirty-two years of age. The Emperor and the troops had that event constantly in mind, since the throwing of a bridge over the Theiss was then as now the turning point in the operations, and as the cavalry decided the battle in the way that dismounted dragoons stormed the Turkish ramparts built for the protection of a bridge, and that the riders, swimming over the

river and making use of several sandbanks, suddenly appeared in the rear and caused a panic in the ranks of the Turks, who at that time were commanded by MUSTAPHA II. and his Grand Vizier. — *Army and Navy Gazette.*

MILITARY OFFICERS: PAST, PRESENT AND FUTURE.

We may assume it to be axiomatic that the excellence, or otherwise, of any army as a fighting machine,—its proper vocation—depends upon the excellence, or otherwise, of its officers. The very recent examples of either aspect of this question, afforded during the late Chino-Japanese War, furnish us with the most significant of illustrations. No one acquainted with the aptitudes and firmness of the rank and file of Chinese troops can doubt but that, when well commanded—being also well armed and equipped—they are calculated to give a good account of themselves. Of any intuitively great commander in whom the promptest military sagacity, or *coup d'œil*, is a gift of genius, it may certainly be said—*moles nascitur non fit*: but, between even such a born leader and the ranks—in these days of highly scientific resources, when the officers in every army worthy of the name have become so much more cultivated than heretofore, it is unquestionably indispensable that the officers of all grades should be thoroughly imbued with general knowledge, and technically trained in military science, administration and evolutions.

Now, within the last thirty-five years, the organization, exercises and general conditions of the service, in our own little army, have undergone a complete revolution. The late Prince Consort, who, no doubt, derived a good deal of inspiration from the Prussian model—at that time the best concerted in Europe and in the world—was amongst the first to point out the defects of our system, and to give an impetus to improvements, which, although they shortly afterwards came to be taken up with zeal and earnestness by one after another of the more sagacious military minds, then met with but scant encouragement, either from the profession or from the successive state administrations. But, thereupon, succeeded firstly, the lamentable spectacle of our shortcomings in the Crimea, to be shortly afterwards accentuated by the Indian Mutiny, gradually leading us up to what we may term the CARDWELL era. To the Prince Consort we had become indebted for the institution of training camps, to Lord CARDWELL for complete reconstitution of system, notably in the preparation and appointment of officers, which, of necessity, passed on to improvements in the condition and discipline of the rank and file. Preparatory, sound and complete general education, followed by competitive special examinations for the qualification of candidates for commissions, following the abolition of the purchase system and selection through influence and patronage, introduced young officers of totally different cultivation, aptitude, tastes and habits into the service; in which, moreover, they were immediately subjected to much more careful and complete technical training in

strictly military duties and exercises, whether in quarters or in the field; whilst the training camps and annual maneuvers in combined bodies—not mere regimental parades and drills—prepared them for the necessary concerted tactical action in the movements of troops in actual hostilities. It was no longer a *jeunesse dorée*, whether of rank or wealth, exclusively, that supplied our army with regimental officers, and who, many of them, treated or went through their routine duties in a sort of yea-nay, perfunctory way, rather as a bore than as a study, and every earnest occupation as irksome; but mostly young men of cultivated tastes and acquirements, with a keen relish for their professional and other intellectual and invigorating athletic exercises. Such are the men by whom our army is officered now, as compared with those by whom it was officered before the CARDWELL era; and whether or not the system be calculated to incite military genius to brilliant strategy or tactics, or both, and thus to bring about such master-strokes as Plassey, Assaye, Waterloo, Meeanee, Sobraon, Sadowa or Sedan, and so forth, it is calculated to furnish the essential components in detail of armies upon which great commanders can implicitly rely to accomplish such achievements; and what is equally important, it contains within itself all the elements of progressive improvement.

* * * * *

There is also another point deserving of consideration with reference to the higher general, as well as the more careful technical education of officers, and it is this: the progress of compulsory popular education has developed—amongst those who fill the ranks—a whole class of men themselves sufficiently instructed to be intelligent observers, if not critics, of the capacities or the incompetence of their officers—so that the due authority of the latter over their men, and the respect and esteem—promoting confidence, which is everything—which they inspire in their men, and upon which good discipline and consequent efficiency chiefly depend, can only be assured by officers whose superior qualifications are manifest. For the like reason it is that many of the antiquated evolutions, drills, regulations, and so forth, have been swept away, as not only wearisome, but even embarrassing; and the technicalities of the service throughout have been rendered more consistent with the aptitudes of officers whose keener intelligence has been exalted by better culture and more utilitarian training; whilst the habits and pursuits of officers—in proportion with a higher tone of tastes—and their devotion of leisure either to healthy sports and pastimes, or to pleasantly useful studies, have been purified of the pernicious mixture of blank, languid sloth, vicious indulgence, and other practices which used, formerly, to be resorted to for the relief of ennui—in India especially—and which too often culminated in the utter ruin of many and many a subaltern. The frightful amount of reckless gambling which used to be the prevailing recourse—to make away with weary, vacant leisure, but too frequently resulted in the most discreditable expedients or artifices to obtain money required to discharge so-called “debts of honor” arising out of “blind-hookey.”

etc.—has, to say the least, become quite exceptional. Whereas, such were the leisure pursuits, heretofore, of a large proportion amongst the subaltern officers of marching regiments and of crack corps of cavalry; that is, amongst young officers whose antecedent cultivation and associations had rendered their repertory of rational recreation a blank. Amongst officers who had worked out their positions, whether at Sandhurst or Woolwich—that is, who had acquired a taste for the study of their profession (as large numbers of officers under the new regime have done)—in the course of their antecedent education, or who had enriched their minds to qualify for the scientific branches of the service, the failings in question were rarely, if ever, noticeable; and, latterly, they have almost disappeared from messes and from officers' quarters. On the other hand, it would, we believe, be incorrect to affirm that young officers now are less extravagant in other respects than they formerly were: on the contrary, indeed, the spirit of ostentation, which is a prevailing vice throughout latter-day society, is transported with them, by young officers, into the service, in competition with each other. It may be interesting, however, to scan a more remote retrospect of our military history, because, with all one's admiration for superior culture, one cannot deny that British soldiers accomplished such great victories as those of the Netherlands, under MARLBOROUGH, when many officers were little, if at all, better educated than any illiterate country boors of fifty years ago, and when we had no standing army, and our forces consisted of a mere militia. And as our standing army dates back only to WALPOLE'S time—say, little more than a century before the CARDWELL era—and during that time we have held our own in a gradually expanding Empire, and throughout protracted wars and many a critical campaign, whereas we have had no adequate opportunity of testing the superiority and the efficiency of our new (or second) period and system of military organization and training of officers, we are not quite justified in assuming that we have actually enhanced our prospects of victory in case of serious conflict. It must be admitted that, in most cases in which our arms have been triumphant, the secret of such triumphs has to be sought in the peculiar Anglo-Saxon pluck and persistence which inspire British soldiers with a predetermined certainty of success, a characteristic which was well expressed by NAPOLEON at Waterloo, when he petulently exclaimed, “Confound those English! They don't know when they are beaten.” It is very well to instruct a young officer how to provide for all the emergencies of camp life, as well as in rifle shooting, outpost duties, reconnaissances, the construction of field works (or entrenchments); but all that will not necessarily endow him with the verve of preassured victory. The difference was laconically and forcibly put by Lord LAWRENCE when he somewhat sarcastically addressed the general in command, near Delhi, who was entrenching his camp instead of hastening to the assault, in the brief dispatch, “Clubs are trumps, not spades!” With all these reservations, however, the fact still remains that, given equality of natural intelligence, the young officer who has first been thoroughly well and

diversely instructed at school, who has next had all his technical military duties and exercises carefully inculcated after joining his regiment, and who has, lastly, been well familiarized with life and movements in the field, in a camp of instruction and periodical maneuvers of collective forces, will have acquired more of the capacity to make a good regimental officer, and, afterwards, a good commander, than one who has not had the benefit of such advantages; and now, as latterly and henceforward, it has been rendered obligatory upon every officer that he shall be familiar with all such acquirements, experiences and tests of his intelligence, practical knowledge, skill and endurance.—*Admiralty and Horse Guards Gazette.*

A RECORD OF EXPERIENCE WITH THE FIELD SKETCHING CASE AT THE INFANTRY AND CAVALRY SCHOOL.

The field or cavalry sketching case, as it is familiarly called, is a device for use mounted, whereby an intelligible sketch of a road and adjoining country may be quickly made. The original case was but an adaptation of an old style plane table with its rollers for carrying the paper; from this origin it has developed somewhat until now, as made at Frankfort arsenal, it appears nearly in the form shown in cut.*

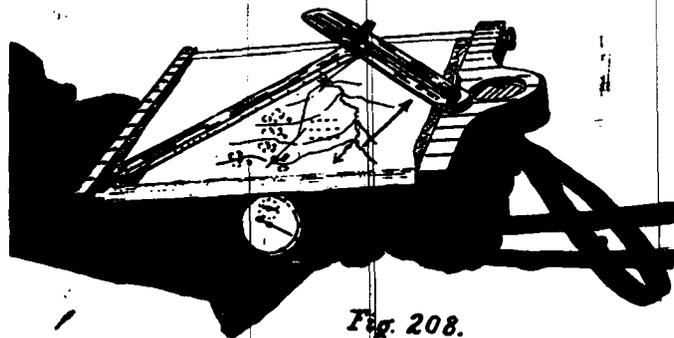


Fig. 208.

The sketching case is intended merely as an aid in certain varieties of rapid work, and is seldom used where time and more accurate means are available.

There is no question but what the exact instruments would be used in military map making if time and circumstances permitted, but in making a rapid reconnaissance with report of the route traversed it is very evident that instruments must either be entirely dispensed with or be of the simplest character. Any one, with a

*The new regulations, par. 461, require the Engineering Department (corps of engineers) to furnish sketching cases, and it is understood that bids for them are now being invited.

little technical knowledge, accurate instruments and plenty of time, can make a fairly exact survey, but the difficulties begin to multiply as soon as the time becomes shorter and instruments fewer.

To be at all successful with the sketching case one must be perfectly familiar with the construction of scales, with the principles of contouring and with plane table traversing.

To be skillful he must be a good judge of distances, slopes and heights and at the same time cultivate what is called "a good eye for country," that is, be able to see and appreciate the fact that he is passing a watershed, a valley or a good defensive position, as well as being able to take in the general features of the entire plot.

To illustrate a use of the cavalry sketching case, suppose, for example, a division of our army, say 8,000 men, is approaching Fort Leavenworth from the east, and when two days' march distant word is brought to the division commander that a slightly superior force of the enemy is approaching from the west but is still three days' march distant from the post. Our division commander knows nothing of the topography around Fort Leavenworth except what the county maps give and his orders are to hold the place at all hazards. He at once sends forward certain officers (this detail may fall to any lieutenant) to reconnoiter, sketch and report upon the country lying to the westward of Fort Leavenworth, with a view to defending the post. The command being still two days' march to the east, the officers detailed for the reconnaissance ride through in a day, so that when the work commences our army is but a day's march to the east. Arriving at the post the senior officer of the detail carefully studies such maps as he may have and obtains all other information available; he then assigns an approximately equal share of work to each so as to cover as much of the country as his judgment tells him is necessary.

To be of any avail the report must be made to the division commander on his arrival that evening, so that dispositions for defense may be made at once. The sketching case is the only practical means of solving the problem. The field work, in so far as bearings, distances and outlines are concerned, being done mounted, while the finishing of the sketches is done in colored pencils after returning to the post. Defensive positions must be located and sketched, together with all roads within a radius of six or eight miles; the usual report, whether of a road or of a defensive position, being attached to the map.

The problem outlined above was solved by a class of student officers at the Infantry and Cavalry School. It involved the sketching of three positions, each about a mile in length, and four roads, varying in length from five to ten miles. These sketches, covering fifteen square miles of country, were completed within seven hours, and most of them were sufficiently accurate to have enabled the supposed division commander to have moved intelligently on the various roads, to have placed outposts at the proper points, and to have secured the best defensive positions during the night.

Thus far the two longest road sketches completed in one day (nine hours) by a class of forty officers were of eighteen and nineteen miles respectively, the latter involving a ride of twenty-four miles. The best twelve of these latter had an average error in distance of but 210 yards, and in direction of less than three degrees.

Of 328 road sketches made with the sketching case (all in fact for which accurate data is at hand) there is found to be an average error in distance of seventy-five yards per mile, thus showing the uniformity in the gait of the average horse. The bicycle as a distance measurer, far surpasses the horse in accuracy, but it has other drawbacks to which the horse is not liable; for instance, the metal affects the compass; stopping an instant to sketch or make notes is impossible without dismounting; leaving the road to get a view from an adjacent hill is out of the question, except on foot; mud and also a frozen, lumpy road are abominations; the point of view is possibly four feet lower than from the back of a horse (not an unimportant consideration); and finally, the rider must work his own passage. A nervous, excitable horse is, however, almost useless for this work, so that there are disadvantages in both means of locomotion.

As to scale, the simplest is the walk, counting alternate steps; the most accurate has been found to be the trot, although a time scale (with stop watch) of walks or trots has been used by several with excellent results.

W. D. B.

BOOK NOTICES AND EXCHANGES.

THE DECLINE AND FALL OF NAPOLEON. By Lord Wolseley.

This book seems to have been written as a popular account of the campaigns of 1813-14-15, without the close analysis and careful attention to detail that would give it a military value, such as we would expect from one with the literary and soldierly reputation of the author.

It must be confessed that the general tone of English books on this subject is not free from prejudice. They laud the acts of Wellington and they even praise the subordinates of Napoleon whenever it is possible to make it appear that the former were right and that the master was wrong. The author accepts these statements rather sparingly, and with great candor acknowledges that it was only by good fortune that the British army saved itself from defeat at Waterloo.

Some inconsistencies might have been avoided by a more careful reading of Ropes, for although the author pays a high compliment to that writer, we are sometimes forced to suspect that he has not read the American work. For instance, it is reasonably sure that Wellington and Blucher had no mutual understanding as to the plan of campaign in 1815, as stated. It is strange that anyone who has read Ropes should expose himself to the merciless showing up that is made of those critics who speak of the Waterloo reminiscences of Wellington as full of "mistakes," while those of Napoleon are called "untruths"—the former having every chance to get correct data, and the latter a prisoner with nothing. In placing the blame for the failure of the brilliant plans of Napoleon in his last campaigns upon the physical deterioration of the man, we are given a familiar theory which those who have read the proof do not often accept. A hasty examination of Baron Larrey's Memoirs and those of the valet of Napoleon does not seem to add to our knowledge on this point. How can a military critic, with the Bertrand order before him, not to speak of Ropes' resistless logic, make such a statement as that Grouchy would have disobeyed his orders by joining Napoleon by the bridge of Monstier? The military reader, who is able to explain these views of the distinguished author by the nat-

ural excuse of a fair difference of opinion, will be still more puzzled when he finds Desaix mentioned as one of the leaders of the Russian invasion.

The book is marred by careless editing, such as the map of Waterloo reversed, incorrect spelling of proper names, as "Pirck" for "Pirche," "Fleuras" for "Fleurus," "Mouster" for "Moustier," and the odd spelling of Lewis as the name of a King of France.

Praise of Ziethen for his defense of the Sambre is somewhat weakened by the criticism that he should have destroyed the bridges before retiring. Really that achievement seems to be a poor example of the action of a delaying force, compared with the performance of many others in a later day, as for instance that of Lieutenant-Colonel von Pestel at Saarbrücken, or others during our own war.

It must be confessed that many good authorities justify the statement that the French troops at Waterloo were excellent, while those of Wellington and Blücher were poor. The proofs of these statements are not entirely satisfactory. We know that the cavalry at least was destroyed in the Russian invasion; Lord Wolseley expressly states that it was poor in 1814, and Napoleon said the same, and it is known that the greatest difficulty obtained toward the last in France in supplying horses for the army. How then could the cavalry of Napoleon blossom out in a few months so as to be called "magnificent?" In my humble opinion, the great victories of the last three years of his career were made ineffective and barren of result because of inefficient cavalry. That was why Bautzen, Dresden and Ligny were not ranked among his greatest victories, and that was why he was finally overwhelmed. E. S.

GUSTAVUS ADOLPHUS. By Lieutenant-Colonel Theodore Ayrault Dodge, U. S. A. Houghton, Mifflin & Co., Boston, 1895.

Military students will be grateful to Colonel Dodge for this excellent work. It is the fourth volume of the "Great Captains" series, and is not merely an excellent biography of the Great Swede, but is a comprehensive history of the Art of War from its revival after the Middle Ages to the close of the War of the Spanish Succession.

Among the many great military leaders who have carved their names in history, the preëminent generals who displayed a mastery of the science of war, are so few that they can almost be counted upon the fingers of a single hand. According to Colonel Dodge they are Alexander, Hannibal, Cæsar, Gustavus, Frederick, and Napoleon. It may, perhaps, be well claimed that Epaminondas, the father of generalship, is entitled to a place in the list, and that the names of Marlborough and Prince Eugene should not be omitted; but there can be no doubt as to the rightful claim of those whom Colonel Dodge selects to the title of Great Captains.

Of the great captains mentioned none, perhaps, placed the stamp of his genius so plainly on every branch and feature of military art

as Gustavus did. The infantry, which he found cumbersome and unskillful, became under him mobile, flexible, and an engine of mighty power. Instead of retaining the old "battles," thirty or forty ranks deep, he reduced his infantry to three ranks, lightened the musket so that it could be fired without a rest, introduced the paper cartridge, organized companies and regiments, and, in brief, gave the infantry an enormous advance in its two great essentials of mobility and fire action. The cavalry no longer depended upon its feeble fire action with its primitive pistols, but was taught by him to charge home with the saber, and to overthrow the enemy by the force of its shock. The artillery was lightened, its cumbersome inertia was changed to mobility, and the invention of fixed ammunition enabled it to fire eight shots where the infantry could fire but six. A corps of sappers and miners was organized, and every man of the army was trained in the construction of field fortifications. The army was clad in uniform clothing, and wonderfully disciplined. Unlike the hordes of licentious ruffians who composed the armies of his opponents, who subsisted on plunder, who converted the theater of war into a hell, and who violated every commandment of God and all the laws of man, except a few military regulations, the soldiers of Gustavus were essentially an army of good morals. Divine service was held regularly, loose women were forbidden to accompany the army, and last, though by no means least, the pay of the army, though small, was certain and regular.

It is pleasing to read of a champion coming to the relief of the unfortunate, and by the force of his valor and ability overthrowing a great enemy in the moment of his triumph. Whether it be the fabled succor of Andromeda by Perseus, the arrival of the fleet of Gylippus in the harbor of Syracuse, or the timely appearance of the Monitor in Hampton Roads, the narrative always gives a thrill of satisfaction to the reader; and nothing in history is more dramatic than the coming of Gustavus to the relief of Protestant Germany, lying bleeding and prostrate at the feet of Tilly and Wallenstein. The "Snow King," the Imperialists declared, "will soon melt away;" but Leipsic and Lützen soon showed that the melting was on the part of his foes. No general of the Imperialists was a match for the Great Swede. Tilly, a brutal, Blücher-like man, who replied to the remonstrances against the licentious crimes of his men that his soldiers were not nuns, was a good, sturdy fighter, but, as Colonel Dodge well says, "he suffered from strategic myopia." Wallenstein, the mysterious astrologer, dark, unprincipled, popularly supposed to be in league with the Devil, possessing great military merit, forceful in character, and wielding boundless influence over his army of cut-throats and blackguards, was neither the equal of Gustavus as a strategist nor as a tactician. Gustavus, in fact, was the first general of modern times to appreciate the principles of strategy, and his two great victories of Breitenfeld (Leipsic) and Lützen gave evidence of his consummate tactical skill. As a statesman he was as great as he was in arms. No general more clearly understood the influence of political considerations on military

operations, and to the censure that was passed upon him in some quarters for his failure to march to the relief of Magdeburg when that unhappy city was besieged by Tilly, Colonel Dodge well replies in the following words:

"Putting aside politics—in this case John George with his 40,000 men—the military problem could be readily solved. Three or four stout marches by way of Dessau, the destruction there of Tilly's force, the building of a bridge-head to preserve his line, and the summary attack of the enemy besieging Magdeburg, were among the possibilities. But if we assume that Gustavus' duty was merely a military one, and that he was bound to disregard all political complications, we can scarcely imagine his pushing fur into the tangled network before him. All great soldiers have succeeded because they made politics subserve their military scheme; and so did the Swedish monarch. We may imagine the bold and rapid advance which some historians have told us it was his duty to make, to redeem his pledge to Magdeburg; we may picture its success; but we shall have created a paper campaign, and a paper hero; we shall not have depicted the Gustavus who saved the Reformation in Germany, and who was the father of modern war. Gustavus was not great because he was either cautious or bold; he was great because he knew when to be cautious and when to be bold."

The great battle of Lützen brought to Gustavus both triumph and death; and in such fear was he held by his enemies that, notwithstanding the rout of the Imperialist army, the loss of its entire artillery, the possession of the field by the Swedes, and the retreat of Wallenstein into Bohemia, the result of the battle was sufficiently pleasing to the Emperor to cause him to order a Te Deum to be sung in all his churches.

As to the character of Gustavus, nothing can be more clear and satisfactory than the words of Colonel Dodge:

"To an uncommon breadth of intellect Gustavus joined the well-poised knowledge of the apt scholar and the iron will of the true soldier. Once convinced that he was right nothing could bar the execution of his project. He was of a quick, sensitive—one might say touchy—habit, coupled, as is rare, to a deep feeling for right, truth and religion. His quick temper was but superficial; at heart he was kindly, charitable and patient. His piety was honest, outwardly and inwardly, and impelled him to fair dealing and uprightness. Religion was never a cloak. He read daily and at length in his Bible, and prayed as openly and unreservedly as he spoke. He was fond of reading, well acquainted with the classics, and studied keenly the works of Hugo Grotius. He once, however, said that had Grotius himself been a commanding general he would have seen that many of his precepts could not be carried out.

"Gustavus spoke eloquently, and wrote easily, and with a certain directness, which in itself is the best style for a clear thinker. His hymns are still sung among the country folk of Sweden with the fervor in which the people shrine his memory.

"Condescending, kind and generous, Gustavus was often splendid in his rewards for bravery and merit. When, in his youth, the later Field-Marshal Ake Tott performed some act of signal gallantry, the king thanked him before the whole forces paraded under arms, ennobled him on the spot, and with his own hands hung his sword upon him. But Gustavus was equally summary and severe. Once, on complaint being made of marauding by Swedish soldiers, the king assembled all his officers and severely held them to task; then going into the camp and seeing a stolen cow in front of the tent of a petty officer, he seized the man by the hair and handed him over to the executioner. 'Come here, my son,' said he; 'better that I punish thee than that God, for thy sin, visit vengeance on me and the whole army.'

"While singularly quick tempered, Gustavus was eager to undo a wrong he might commit. 'I bear my subjects' errors with patience,' he said, 'but they too must put up with my quick speech.' He condescended often, at times too much, but no one was ever known to take advantage of his affability. Every one in his presence felt the subtle influence of greatness; his meed was the hearty respect of all who approached him.

"Except Alexander, no great captain showed the true love of battle as it burned in the breast of Gustavus Adolphus. Such was his own contempt of death that his army could not but fight. When the king was ready at any moment to lay down his life for victory, how should not the rank and file sustain him? With such a leader a defeat like Tilly's at Breitenfeld, or Wallenstein's at Lützen, was not possible. Nor was his courage a mere physical quality; his moral and intellectual courage equaled it. Hannibal's march into Italy was but one grade bolder than Gustavus' into Germany; Caesar's attack at Zela was no more reckless, if less matured, than Gustavus' at the Lech."

If space permitted, the temptation to review Colonel Dodge's description of the campaigns of Cromwell, Turenne, Conde, Marlborough, and Eugene, would be irresistible. Suffice it to say that his descriptions are accurate, his comments able, and his conclusions sound. Exception, may, perhaps, be justly taken to his estimate of the relative merits of Marlborough and Eugene, and not all military students will agree with him in the slight esteem in which he holds the great march of the former from the Low Countries to the Upper Danube, which resulted in the junction of his forces with those of Eugene and led to the decisive victory of Blenheim.

In conclusion, it must be said that Colonel Dodge's book is thoroughly good, and is worthy of a place among the best military and historical works.

ARTHUR L. WAGNER.

THE VIRGINIA CAMPAIGN OF 1862 UNDER GENERAL POPE.

This is the title of the valuable collection of papers read before the Military Historical Society of Massachusetts, relating to special phases of the Civil War indicated in the title. It comes as a gift to the Cavalry Association, from the society, whose good work in collecting and publishing such papers should be appreciated by all students of military history. It is such books as this that will guide the student and give many side lights not found in the cold but invaluable records of the Rebellion.

The work is edited by Theodore F. Dwight, and contains the following: 1. General Halleck's Administration, 1862, by General Samuel M. Quincy, U. S. V.; 2. The Campaign of General Pope in Virginia (first part), by Colonel Charles P. Horton, U. S. V.; 3. The same (second part), by John C. Ropes, Esq.; 4. The same (third part), by John C. Ropes, Esq.; 5. The Twenty-Seventh Day of August, 1862, by General George H. Gordon, U. S. V.; 6. The Battle of Chantilly, and a Visit to the Field, by General Charles F. Walcott, U. S. V.; 7. Strength of the Forces Under Pope and Lee, by Colonel William Allen, U. S. A.; 8. The Case of Fitz-John Porter, by General Stephen M. Weld, U. S. V.; 9. The Conduct of General

McClellan at Alexandria in August, 1862, by Colonel Franklin Haven, Jr.; 10. The same subject, by General Stephen M. Weld, U. S. V.; 11. Review of the Reports of Colonel Hanen and General Weld, by Colonel Theodore Lyman, U. S. V.; 12. The Conduct of Generals McClellan and Halleck in August, 1862; and the Case of Fitz-John Porter, by Colonel Thomas L. Livermore, U. S. V.; 13. The Hearing in the Case of Fitz-John Porter, by John C. Ropes, Esq.; 14. The Battle of Cedar Mountain, August 9, 1862, by General George-L. Andrews.

MILITARY LETTERS AND ESSAYS. By Captain F. N. Maude, R. E. Hudson-Kimberly Publishing Co., Kansas City, Mo.

This is the first volume of the International Series, which is edited by Captain Wagner. Captain Maude has long been justly celebrated for his descriptions of British and European troops, especially those relating to the practical work in the field. The volume now issued contains the cream of his letters and essays, and through them a fair estimate may be made of the spirit of different armies, the method of training in use in each, and the degree of efficiency they may be expected to develop on active service.

Captain Maude correctly says: "Armament and skill on the part of leaders being equal, victory, under all conditions of improvements conceivable in weapons, will ultimately remain with the best disciplined troops, and by discipline I understand that quality which is measured by the endurance of loss by troops under fire, having due regard, of course, to circumstances of time, ground, and employment under which the losses were inflicted."

In one of the essays on German Cavalry Maneuvers Captain Maude says: "Think what might we not accomplish with our very decided superiority in material, both of horse and man, if only we could condescend to step out of our shells of insular prejudice and adopt a system which is not by any means only German, but which may be said to obtain in the conduct of every civilized business throughout the world except in our army, viz: the decentralization of authority, and the giving to every man according to his rank full power to make the most of what is in him and in the men under him." To know that this opinion is very general in the regular army of the United States it is necessary only to engage any officer in conversation on the subject.

If the volumes to follow contain as much interesting and profitable reading as the first one, there can be no doubt as to the success of the International series.

CATECHISM OF OUTPOST DUTY. Wagner. Hudson-Kimberly Publishing Co., Kansas City, Mo.

The success which attended the publication of Captain Wagner's book, "The Service of Security and Information," has induced him to prepare the present little volume, which is an abridgment of the

larger book. The scheme of the Catechism, as its name indicates, is to present to the student the whole subject of outpost duty—including advance and rearguards—in the form of questions and answers. It will prove especially valuable to officers preparing for examination for promotion, and is also exceedingly well adapted for instruction of non-commissioned officers.

W. H. C.

CAPTAIN KING'S BOOKS.

The library of the Cavalry Association has received from time to time books from the pen of Captain King. They have not been reviewed in detail, perhaps, because the numerous editors have thought that King, being one of "ours," needed no encomiums at the hands of brother officers. It is not practicable, at this time, to pass in review all that has been done for the army by this author, but a few words will not come amiss in a journal devoted to the interests of the cavalry, which has borne such a prominent part in many of his books.

Criticisms are sure to follow whenever anyone attempts to write about things we are all familiar with, but from the day when the "Colonel's Daughter" appeared in our midst, till now, no one has rendered such service to the army as Captain King.

He has had the American people for his audience, and before this great court of public opinion he has made his argument. No writer before him has ever appealed so successfully, for he has laid bare the lives of the present military generation, with only such exaggeration as appeared necessary to complete his stories and cause them to be read. We can readily forgive him for introducing some characters a trifle unfamiliar to us, for no one can peruse his books without learning to love our regulars on the frontier, and to see that, above all their laughable oddities, rivalries and occasional displays of unkind traits, there rises into prominence the fact that no other life in America developed or contained more of true sentiment, manly heroism and loyal friendships than that led by our army in the West during the period of its isolation and while engaged in incessant Indian warfare.

In his stories of military life Captain King ranks second to none, and it is hard to read his books without feeling stirred by emotions which seem to rise only in the perusal of probable stories of possible human beings.

His stories are not all of the frontier, for "Cadet Days" and "Between the Lines" present West Point and the Civil War period in an unexampled way. But after all these years of successful literary work, Charley King can well feel proud of the fact that he has no cause to blush for his first efforts, "The Colonel's Daughter," "Marion's Faith," "Kitty's Conquest," and may we not add "The Trials of a Staff Officer."

That he deserves and has received the gratitude and good wishes of his old comrades for giving them the means of whiling away many otherwise monotonous hours in the perusal of his clever

stories, goes without saying. But when we speak of the load of indifference, ignorance, suspicion and malice regarding the regulars which has been cleared away from American homes through the instrumentality of his versatile pen, we may well congratulate ourselves that so accomplished a swordsman turned his knowledge of us to so successful and effective a literary account. W. H. C.

In the *JOURNAL* of September 30th the article on the Siege of Chitral, by Lieutenant C. G. Stewart, R. A., should have been credited to the *Journal of the Royal Artillery Institution*.

JOURNAL OF THE ROYAL ARTILLERY INSTITUTION.

September, 1895: 1. Diary of Lieutenant W. Swobey, R. H. A., in the Peninsula (continued). 2. Eastern and Western Views of Mountain Artillery, by Major Simpson. 3. Notes on German Maneuvers, 1894, by Colonel Turner, R. A. 4. Siege of Gibraltar, by Brevet Lieutenant-Colonel Adye, R. A. 5. On Magazine Regulations (translation). The Field Gun of the Future, by Captain Bethell, R. A. October, 1895: 1. Diary of Lieutenant Swobey (continued). 2. Terrestrial Refraction and Mirage, by Lieutenant Brown. 3. The Artillery in Chitral, by Captain Herbert. 4. Considerations on Coast Defense, by Colonel O'Callaghan. 5. New Method of Setting the Tires of Wheels, by Major Owen. 6. The Ammunition Service of a Fort, by Major Johnson. November: 1. Diary of Lieutenant Swobey (continued). 2. Casualty Returns of the German Artillery; Battles of Colomley, Mars-la-Tour and Gravelotte, by Major Stone. 3. Adjusting Clinometer Planes of Ordnance, by Captain Donohue. 4. Employment of Artillery in Cuba, by Lieutenant-Colonel Dalton. 5. Extracts from Old Order Books R. A. Sheemus, by Captain Cummings.

UNITED SERVICE.

October: 1. The Regiment of Mounted Riflemen, by Lane. 2. Chronicles of Carter Barracks, by Closson. 3. The Maryland Line, by Adea. 4. The Japanese Embroglio. 5. Our Frontier Canals, by Harman. 6. Slaving Laborers and the Hired Soldier, by Steward. November, 1895: 1. If Attacked, Could the United States Carry On An Offensive War? by Hamilton. 2. The Occupation of Fort Sumpter and Hoisting the Old Flag April 14, 1865, by Jordan. 3. Railway Batteries and Armored Trains, by Boxall. 4. A Contribution to History, 1861-65, by Truman. 5. The English Officer, by Knollup. 6. The Ebb and Flow of the Tide, by Parr.

PENNSYLVANIA MAGAZINE OF HISTORY.

1. Benjamin Furly-Lachse. 2. Washington After the Revolution, by Baker. 3. In Lundy's Land, by Garrison. 4. "Old Round Church," by Page. 5. Defenses of Philadelphia, by Ford. 6. Jour-

nal of A. A. Evans on Frigate "Constitution," by Evans. 7. Anthony Wayne, by Brooke. 8. A Philadelphia Merchant 1768-91, by Brown. 9. Indian Affairs in Eastern Pennsylvania 1756, by Schively.

JOURNAL OF THE MILITARY SERVICE INSTITUTION. November, 1895.

1. Can West Point be Made More Useful? by Birkhimer. 2. Extended Order, by Farnance. 3. Military Education for the Masses, by Kantz. 4. Artillery Organization, by Best. 5. Military Reservations, by Parke. 6. The Bicycle for Military Uses, by Whitney. 7. Ammunition Packing Boxes, by Remi. 8. The Equine Toilet, by Peary.

PROCEEDINGS OF THE UNITED STATES NAVAL INSTITUTE.

1. Increasing the Efficiency of Our New Ships, by Baxter. 2. Battle of the Yolu, by Marble. 3. The Petrol's Installation in Manchuria During the War Between China and Japan, by Sargent. 4. Pressure of Smokeless Powder Gases in the Bore of Guns, by Zabondski. 5. The Disappearing Gun Afloat, by Halison.

THE MAINE BUGLE.

1. Incidents in Virginia, etc., by Sergeant Fales. 2. With Sheridan in Lee's Last Campaign (continued), by Colonel Newhall. 3. A Pennsylvania War Incident, by Reo. 4. Stonewall Jackson, by Major Thaxter.

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MILITAER WOCHENBLATT.

THE RIDER AND DRIVER.

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