

January, 1916.

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THE CHANGED STATUS OF THE HORSE IN WAR.

BY OLAF SCHWARZKOPF, VETERINARIAN THIRD CAVALRY.

THEN the present great war broke out in all its fury, one could hear and read almost everywhere, that this was to be a contest of machines. The gasoline engine particulary was to revolutionize the old-fashioned fighting on land by speedily moving men and supplies to the front in automobiles and motor trucks. The picturesque fight in the air by aeroplanes was at once enthusiastically cheered by the excited peoples of the world, both belligerent and neutral. It seemed as if the old and beautiful martial phantoms of despairing soldiers who perceived in the skies angels with flaming sword, astride white horses, and leading hosts of armor-clad warriors against the enemy to crush him, were to be superceded by a panorama of wasp-shaped flying machines spitting fire, conveyed by infantry in armored, tomb-like cars and by artillery drawn by awkward tractors, all spreading destruction. At least such were the cartoons seen in our magazines and daily papers, and they fired the imagination of the uninitiated populace, drawing with them not a few of our less experienced friends in the army.

Reduced to its absurdity, this was to be a horseless war, almost a manless war.

Little of this phantastic idea has come true. No doubt, this war has developed mechanical combat further than ever before, just as it has reverted to methods of fighting long since obsolete. Military critics have pronounced this struggle not as an evolution of warfare, but as a revolution. Whatever truth there may be in this dictum, we may well investigate and weigh some particular topic as presented by this war, that stands out prominently to men of expert knowledge. There are enough of reports on hand, thrown here and there in our military and other professional journals, to warrant an examination of the subject matter of this article, which we shall consider under the following points:

I. The established value of the gasoline driven vehicles for army transportation and their limitations in war.

II. The horse promptly fills the gap left open by the motor car service in this war, and his value increases accordingly.

III. The combatant capacity of the horse is once more established and leads to a new status of his humane protection and economic preservation.

I. The established value of the gasoline driven vehicles for army transportation and their limitations in war.

The belligerent armies promptly introduced into this war the various gasoline driven vehicles in numbers of many thousands. The season of the year—it was still the summer of 1914—with the dry and firm condition of the roads prevailing, favored a tryout under actual conditions of war. Automobiles rapidly conveyed parties of officers, even units of infantry, engineers, etc., over long stretches in a short time, and the redeross ambulances and motor trucks were soon used to their utmost capacity, giving entire satisfaction. This fast moving of personnel and materiel acted as a revelation; but within less than two months after the opening of hostilities, the fall rains set in, rendering roads sloughy and slippery. Engine troubles promptly set in, and the increased wear and tear of the principal parts of the cars commenced to tell plainly.

When the great armies of the West were swaying back and forth in advance and retreat, the ordinary incidents of war multiplied so rapidly as to render motor car service nearly

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helpless. For instance—here a hole in the ground, made by a heavy shell, stopped a caravan of hundreds of automobiles and motor trucks until the road could be repaired; there a dynamited bridge over a mere ditch or shallow stream stalled the cars for good and their contents had to be unpacked into horse drawn wagons. The motor trucks refused to climb hills covered with snow and had to be helped along by teams of horses.

If by chance any car approached too close to the firing line, a bullet from a rifle or a splinter from a shell would not only cripple the engine, but would be liable to explode the gasoline tank and set the vehicle on fire. Great numbers of abandoned automobiles and motor cars were seen alongside of the highways.

All these incidents, and many minor facts connected with them, were vividly described by war reporters. Military observers referred to these matters only briefly, because in war all kinds of equipments are rendered unfit by exposure and rough usage; but the fact remains prominent, that the commanders of the motor transport service were openly and sharply critisized for their failure to properly move the needed supplies. It was then, that some builders of motor cars relunctantly admitted the limitations of their machines for such excessive service as that required in war. - We must omit the minute technical explanations given in the mechanical journals as reasons for the failure of the cars. Briefly, their rapid deterioration was partly traced to the fragility of the component parts, partly to the unreasonable demands made upon the machines by those in charge. The ignorance and carelessness of chauffeurs was roundly denounced, particularly in attempts to climb hills.

Whatever may be the shortcomings of the gasoline driven vehicles as observed so far, no one can doubt that they have come to stay with armies. The tendency in this war is decidedly toward the employment of mechanical power under those conditions in which it can do more effective work than can men and horses. As far as motor cars are concerned, it is claimed that a much greater number are used on the western front than are horse teams. This may be so; but while figures may indicate facts, they do not always give the truth. This seems to

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When the great armies of the West were swaying back and forth in advance and retreat, the ordinary incidents of war multiplied so rapidly as to render motor car service nearly helpless. For instance—here a hole in the ground, made by a heavy shell, stopped a caravan of hundreds of automobiles and motor trucks until the road could be repaired; there a dynamited bridge over a mere ditch or shallow stream stalled the cars for good and their contents had to be unpacked into horse drawn wagons. The motor trucks refused to climb hills covered with snow and had to be helped along by teams of horses.

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be that hereafter, each, the machine and the horse, will perform distinct services apart from the other as the most efficient tool in certain lines of work.

To summarize the first point of this article, the question of mechanical haulage in war, it is about as follows: Just as the steam engine is dependent for speed upon a prepared roadbed and steel rails, so the various gasoline driven vehicles can travel only on improved roads and highways. Automobiles, motor ambulances and motor trucks have become valuable auxiliaries in military trasnportation, because they are able to save time by shortening distances—if favorable conditions prevail. Under unfavorable conditions of weather and roads no motor car can be depended upon for reliable service. They deteriorate rapidly by the undue wear and tear demanded in war service, and they are very vulnerable to missles. Their usefulness in war, therefore, is restricted to well defined road beds, beyond which other facilities for transportation must be provided.

II. The horse promptly fills the gap left open by the motor car service, and his monetary value increases accordingly:

While we have in the foregoing impartially conceded the value of motor cars for military transportation under certain conditions and within certain limits, it can now be easily proven, that they have not supplanted the horse in war, as has been freely predicted by mechanical enthusiasts in and out of the army. Again numerous reports from the theater of war clearly state that in order to provide transportation for the endless network of country roads to supply the smaller military units with food and ammunition, the horse drawn wagons, horse carts or pack horses were found to be essential. Occasionally even men carriers had to be employed to supply the high mountain trenches.

Thus it appears as true as ever that man and horse, the two animated machines that have fought side by side since the dawn of mankind, do still supply the only safe means to draw or carry loads over muddy roads, over ploughed fields, through streams, across ditches, hedges, and up mountains. The motor car, an ingenious machine constructed of inorganic

parts and wanting sufficient suppleness, was found helpless here.

If looked upon from the purely business standpoint, the following opinion of a British officer, purchasing horses in this country, is well worth recording:

"It appears to be the concensus of opinion of the officers of transportation on the front, that motor trucks are very satisfactory on good roads and for long drives, although they deteriorate very fast. On bad roads and for short hauls, horse power is more economical and much more satisfactory. No matter what the weather is, nor how deep the mud, nor how bad the roads are cut up, the horses will always get there. but the motor may not and in fact frequently does not. As an auxiliary the motor is excellent, but as a substitute for the horse it proves a delusion. It was the novelty of the machines and not their economy that made them popular with armies at the beginning of the war. The 'hail to the gasoline car' was not entirely due to its supposed superiority over the horse but to the fact that sufficient numbers of horses were not available at home. This is the reason we are buying horses in your country."

As regards the comparative traction power of machines and horses, mechanical experts have never ceased to figure this out by mathematics. We prefer to consider this question in the light of results obtained by comparative tests. Professor Henry, University of Wisconsin, has lately made such experiments with agricultural tractors and horses and he very briefly concluded as follows:

"The energy developed by the horse in proportion to the fuel or feed consumed, ranks him very high in comparison with the best modern engines. The horse is a very flexible motor, able to work at varying speeds and to develop an extremely high power for a short time if occasion requires. The 'motor with the brains' shows a much higher rate of efficiency than the horse power developed would indicate." (Breeder's Gazette.)

Much has also been said by the favorites of the new machines about the great mortality of horses in this war; yet war

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has always killed men and horses and destroyed all kinds of equipments of the adversary because that is its purpose. The report going through some dailies that two million horses had been killed on the western front can only be judged as a wild speculation. In December, 1914, a French statistician, taking in all the figures made public during the first six months of the war, computed in the Figaro that the average life of a man in this war is six and five-sixths days, and that of a horse four and one-third days; aeroplanes and automobiles lasted three days, and motor trucks less than one day. While these data were perhaps correct for the first rush of the armies, against each other in open fields, they are undoubtedly too high and subject to revision after the termination of the war. Still, they may indicate the comparative losses of men, horses and machines as unfavorable for the lattter.

It is certain that knowledge of this kind, resulting from the daily observation and experience in the field, induced the belligerent armies to renew their trust in the horse for a large part of the work of combat. For it was in the middle of the winter of 1914-1915, when the British and French governments established stationary purchasing inspectors in this country. At first horses were purchased in New York, St. Louis and Chicago, but when these markets were drained of suitable animals. the foreign officers went further west to Des Moines, Iowa, and Oklahoma City, which are still chief centers of this trade. Prices of horses have been subject to fluctuations, being quoted for gunners \$180 to \$210, and for train horses and riding horses \$150 to \$180. According to the Breeder's Gazette, the heaviest purchases were made during the months of March, April and May, 1915. When the exports of horses to Europe reached the numbers of 40,000 to 50,000 head per month.

The inspection list of the Bureau of Animal Industry, U. S. Department of Agriculture, shows that from August 1, 1914 to June 1, 1915, the United States exported 341,823 horses and 23,463 mules. Only an insignificant number of these animals went to private purchasers abroad, the great bulk going to the French and British armies, and several thousand to the Italian army. On September 2, 1915, it was

reported that 425,000 horses and mules had been shipped to beurope, and early in November the half-million mark had been passed.

This large number of additional horses must mean much for the western armies. It was lately stated in the British Parliament that 800,000 horses had been safely shipped across the Channel, and as the number of horses of the French army is considerably larger than that of the British, the half-million of horses exported by us, must bring the total horse strength on the western Front very near the two million figure, in spite of the losses sustained thus far.

There is much rejoicing among interested parties about the exportation of so many horses to Europe. The deal is being looked upon as a good business, particularly as we are told by our government officials, that there are left today in the United States approximately 21,000,000 horses and 4,000,000 mules: but again numbers do not tell the truth as far as the interest of our army is concerned. Only a comparatively small number of the millions of animals would be found to be serviceable in case of need. About half of this number consist of immature horses and of aged horses, and the rest would show a preponderance of the heavy draught breeds in our fertile agricultural districts. Among the light and active breeds of horses great numbers are unfit and unsound, and these always glut our markets or are retained on the poorer farms and ranches. Our horse breeders believe, that the horses exported were of medium class only, and the horse dealers acclaim that prices for ordinary horses, such as the army consumes, have correspondingly increased. That is as far as breeders and dealers can see. Worst of all, from the army standpoint, little is made in our stock papers of the fact that we have now on hand over a hundred thousand horses rejected by the foreign buyers. Any officer, who has served on a horse purchasing board, knows that such rejects are utterly valueless. Yet we must retain and absorb them, and the rejected mares will produce that many more worthless horses.

Whatever may be the ultimate result of the exportation of so many horses, more or less suitable for our own army, we should remember that the United States exported only 109,839 horses and 81,524 mules during nearly three years of hostilities of the Boer War, and that ever since we have experienced difficulty in procuring suitable horses for our cavalry. That horses will price much higher is certain, and horse breeders already predict that, if the exportation of horses to Europe continue for a year or more, army horses will be worth \$250 to \$300, as they were toward the end of the Civil War.

Yet, the increasing home price of horses is nothing compared with the heavy cost of foreign governments have to bear on account of railroad transportation in this country and transportation across the Atlantic Ocean. These additional items have been variously estimated to be from \$115 to \$130 per horse. Figuring, the average amount paid for each horse to be \$170, the cost of transportation, etc., on landing in Europe raises the monetary value of the horse to from \$300 to \$315. Finally if one half-million horses were purchased at about \$80,000,000, as stock journals estimate, the additional expense of transportation, etc., being at least \$50,000,000, raises the sum total to \$130,000,000, or more, paid by the British and French governments for one item of the war account only, the replenishing of their stock of army horses.

III. The combat capacity of the horse is once more established and leads to a new status of his humane protection and economic preservation:

The toreign governments importing our horses for the need of war, may or may not have especially considered the \$130, 000,000, or more expended for this purchase. Judging from foreign press comments, however, the armies at war realized again the old value of the horse as a combatant factor, otherwise the strenuous efforts to secure sufficient numbers of serviceable horses cannot be explained. A letter by an American with the British army states:

"After making a study of horses and motor cars in this war, I am of the opinion that horses, even though erratic, may be depended upon to a greater extent than motor vehicles and have proved their worth in this war. Having seen horses in action with the Royal Field Artillery of England, it seems

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that the horses have more brains than some of the men controlling them. They stand still where their mates have been wounded or killed, while under similar circumstances men lost their heads. In rushing over a battlefield a horse will never step upon a wounded or dying man. I heard this before, but did not believe it until I saw it myself." (Our Dumb Animals, Boston.)

A German officer expressed himself to an American reporter as follows:

"The horse is absolutely necessary at the front to haul heavy ordnance into position. Our tractors are excellent, but we keep now always horses in reserve. While I have seen horses trembling from the smell of blood or the sight of other horses disemboweled and writhing in agony on the ground, those in harness keep enough will power and courage to perform the heaviest work with the utmost assistance to the men. I am not a horseman, but I have learned to respect the horse for his behavior in this war, and they are treated by us as comrades."

This old truth apparently learned anew in this war, must have been one of the reasons of the sweeping change made by all the belligerent armies, one after the other, for the preservation of horses. The great armies of Europe, well organized as they are in the smallest branches of the service, have always expended considerable effort to protect horses from the ravages of war. Yet, never before has any army adopted such painstaking methods, or applied so thoroughly practical arrangements for the care and prompt treatment of wounded horses, than in this war.

It is interesting to note how this new care of the horse in war has indirectly been brought about by the influence of the humane societies. Always present and persistent in their laudable endeavors, they promptly offered their assistance in the care of wounded horses on the battlefield. Of course, horrible tales of suffering of horses had come their knowledge. An American woman, Clara Barton, admired the world over, contributed perhaps not a little to this new work of mercy in war, for a letter written by her several years ago, was quoted abroad as follows:

"I have often said, that the shocking and heartrending scenes on the battlefield, the screams of wounded horses lingered more painfully in my ears, if possible, than the moans of wounded men. I think it is necessary that the veterinary surgeon is commissioned to follow the army and put an end to



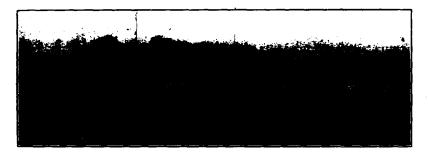
BRITISH VETERINARIAN AND FARRIER ATTENDING A WOUNDED HORSE.

(Copyrighted by Underwood and Underwood-New York.)

the agonies of the poor, wounded animals which from their great vitality and strength will live long to suffer. They die slow and hard if left to themselves, and I myself have seen the vultures hovering over and tearing at them while life yet remained." (Animals' Guardian, London.)

The British army council at first declined the offer of assistance of the S. P. C. A., stating that the army had a fully equipped veterinary corps. The French Minister of War, accepted the same offer in October, 1914, and the British army council followed the example on November 5, 1914, by expressing their approval of a "fund being started for the Royal S. P. C. A. for the purpose of additional Veterinary hospital requisites, to be under the control of the British War office, London, in order to augment the equipment and perform auxiliary veterinary service."

As now constituted, the arragement for the care of wounded horses on the British—French front, reported by English



ONE OF THE ROYAL FIELD VETERINARY HOSPITALS.

(From Our Dumb Animals—Boston.)

Veterinary Journals, is as follows: The British army maintains *Mobile Veterinary Sections* for the purpose of relieving field units of wounded and inefficient animals. One mobile section is attached to each division and to each cavalry brigade, and consists of one officer and twenty-two enlisted men of the Army Veterinary Corps, mounted and equipped for emergency treatment. This section is controlled by a senior Veterinary officer serving at Division Headquarters, and is divided into two sub-sections, each with the following duties:

Sub-section I. Collects the wounded horses from the line of battle and applies such first aid as circumstances may permit, or destroy seriously wounded horses.

Sub-section II. Conveys the unfit horses by leading or by horse ambulances to the nearest railroad station, and thence to the Advance Veterinary Hospital.

There are ten hospitals in operation, located along the lines of communication. Those nearest to the front are designated as Advance Veterinary Hospitals, and they are only fitted for about one hundred cases. Horses received here are sorted according to the severity of wounds. Those needing prolonged or special treatment are transported to one of the Base Veterinary Hospitals with a capacity for about one thousand cases. From the Base Hospital such horses as have fully recovered are discharged to the Remount Depot for reassignment to troops, while those needing further recuperation are sent to the Convalescent Horse Depot, location not given, but which is reported to cover an area of twenty miles, provided with pastures and sheltered paddocks.

The personnel of the British Army Veterinary Corps, which is performing such fruitful services at the front, is constituted as follows, according to Royal Warrant, dated October 9, 1903:

One Major General, Director Army Veterinary Corps, two Colonels, ten Lieutenant Colonels, twenty-three Majors, forty-seven Captains, sixty Lieutenants, a total of 143 Veterinary officers. There is also an enlisted force consisting of non-commissioned officers and men, graded as Staff-farrier-sergeant, farrier-quartermaster-sergeants, farrier-sergeant, shoeing-smith corporal, shoeing-smith privates. There is also an organized Territorial Army Veterinary Corps for Canada, India, Australia and Egypt, which have also sent mobile veterinary sections to the various British fronts.

The arrangements for the care of wounded horses of the French Amry are not as well known as that of the British. There appears to have been less preparation in the French Army in this respect at the beginning of the war, but this has been rectified as far as veterinary hospital accommodations are concerned, by the assistance of the Blue Cross Society, which is a branch of Our Dumb Animal League of London. A large convalescent station for about two thousand disabled horses has been established at Chantilly, from which cured and recuperated horses are returned to the fronts as needed.

The German Army originally mobilized 1,230,000 horses but owing to the gigantic scale assumed by the Russo-German campaign, this strength was raised to 1,830,000 horses. There have been great cavalry movements over the plains of the Eastern front, and the use of motor trucks on the unimproved roads in Poland are impracticable except for a brief time in summer. The use of aeroplanes is limited on account of the stationary fogs during fall, winter and spring, and cavalry scouting had to be resumed on a large scale. Each German Army Corps has 30,000 horses in war strength; a cavalry divi-



AT THE FRONT.

When horses are wounded beyond all aid they are immediately killed by means of the new needle gun.

(Copyrighted by International News Service.)

sion about 7,000 horses. The value of a cavalry horse before the war was 1,500 marks (about \$300).

According to the Berlin Veterinary Weekly, each Army Corps is provided with one horse hospital (Pferde-Lazarett) and two Horse Depots. The regulations prescribing the administration and work of these hospitals are as follows:

I. The horse-lazarett is a collecting station for wounded or unfit horses and a dressing station. It is to hold itself mobile and for this purpose is attached to the first étappe. (Gefecht-

- staffel). It is flying the red-star flag for the orientation of those needing its help.
- II. The protection of wounded horses in the regulation shelter, or evacuated and disinfected stables or barns, as circumstances may permit. (The moveable regulation shelter consists of prepared piping, screwed together by joints, with canvas roof and curtains to windward. O. S.)
- III. Horses quickly cured in the lazarett and serviceable are returned to their organizations. Seriously wounded horses in agony and incurable cases are destroyed. The corpses are burned or buried well off the lines of communication.
- IV. Wounded or sick horses requiring more than three weeks of treatment are conveyed to the Horse Depots, which serve as Veterinary Hospitals and Remount grading section combined. The housing of the Depots is to be found in evacuated army stables of occupied cities having railroad facilities if possible. Horses cured and further serviceable are reissued to the troops; those recovered but unfit for further field service are condemned and so branded. They are transported home, mares to be sold to farmers, the rest to traders.
- V. Veterinary officers in charge will make running reports to the Corps Staff Veterinarians of the number of horses treated, recovered, reissued, destroyed or transported home for sale.
- VI. Utmost diligence is enjoined to preserve the horse supply in reserve at the Depots. The assistance of the Animal Protective Societies (*Thierschutz-Vercin*) has been most liberal in furnishing moneys or supplies of woolen horse blankets for winter camps, and many kinds of medicines and dressings that could not be obtained in the occupied territories. In Jena even a hospital for invalid war dogs has been instituted, of which more than 1,500 are employed by the Hospital Corps in searching for wounded soldiers. The tendency of the military authorities is to let all this good work go on to its fullest extent

The loss of German Army horses during the first six months of the war has been 9 and 91—100 per cent. most of it traceable to the great destruction wrought by artillery fire, which has been often specially referred to in reports; yet this loss is less

than in former wars, and is explained by the painstaking professional care of wounded and unfit horses in the field hospitals, as no saving of life or horses is authorized to officers of mounted contingents while on forward marches or on the bat lefield.

The number of horses mobilized by the Austro-Hungarian army has been unofficially estimated as one million, and this number also has been considerably increased during the war by recruiting from the listed horses. From the Central Veterinary Journal Vienna, it is learned that each army corps is provided with three field horse hospitals (Feldspital für Pferde.) One of these is an advance section, following the battle lines, the other two are of a more stationary character. Several large convalescent depots are located in the plains of Hungary, where over 10,000 horses were kept for recuperation during the summer of 1915.

The Animal Protective Societies of Vienna and Budapest have been very active in collecting and forwarding warm horse covers, flannel bandages and other horse protecting equipments to the front in endeavoring to mitigate the suffering of horses in winter camps.

As regards the care of wounded horses of the other armies at war, nothing definite has come to our notice.

It is a pity, that beside the exalted example of the volunteer work of Humane Societies for the rescue of horses wounded on the battlefield, stands the regretable fact, that there has been misuse of horses in this war.

One of the brightest and well known captains of the mounted service of our army, recently said to the writer:

"If we take the report as correct that the cavalry on the Western theater of war was practically dismounted within a month, some hard criticism will be heard at the end of this war of the useless attempt to overrun the enemies country with cavalry patrols that lost connection and were bound to be captured; and on the other hand of the adherence to the ancient ethics of dashing charges against unshattered infantry and artillery. If the horses killed by such misuse would have been saved for dismounted cavalry action, the scene on the Western front might look differently."

Extreme hardship to horses is also produced by changed methods of marching. The cavalry is ordered off the road and has to ride over ploughed fields to give precedence to the endless caravans of automobiles, motor trucks, ambulances, field artillery batteries, signal corps units, pioneer companies and aeroplane sections.

Continued night marches particularly have resulted in heavy losses from breakdowns. It is reported by authentic sources that on arrival in camp in the morning, horses were seen to fall asleep so hard that they could not be aroused, a condition of extreme fatigue termed by soldiers sleeping sickness. Night marching is also extremely injurious to the hoofs and legs of horses. Artillery horses have been reported as having been from seventy-two hours in harness, the batteries only making enough stops to feed the horses from nose bags. Cavalry horses have been kept under saddle for three days or more to guard against an attack by surprise. It apppears that the armies at war are more or less guilty of some form of sinful waste of horses, but for reasons of expediency we omit further details.

We must also omit the discussion of the peculiar injuries and diseases of horses observed in this war, as this subject does not properly come under the scope of this article. It may be briefly mentioned, however, as of general interest, that British Veterinary officers report great trouble with gangrenous wounds caused by the entrance of dirt from certain soils in France. particularly of the Valley of the Aisne. Shrapnel wounds are often fatal on account of tearing of tissue with consequent infection or from the tedious operation of dissecting out large numbers of fragments, as many as forty splinters having been found in a single horse. The greatest trouble to German Army horses on the eastern front are the indigenous lice of Poland, which once contracted are never gotten rid of during a campaign. Numerous outbreaks of glanders have been reported as suppressed from nearly all the fronts, and great vigilance is necessary to prevent the development of an epidemic of this most insidious disease of the horse in war. Anaesthetics are administered in all painful operations in the hospitals,

most of the drugs for this purpose being donated by Humane Societies.

In summarizing the second and third points of this article, which explained the reasons for the increased demand of the



AT THE FRONT.

Veterinary Surgeons removing shrapnel spli

(Copyrighted by International News Serv

horse at the front and his changed status in war, the salient features appear to be as follows:

The horse was found to be essential in properly supplying the military units which are disconnected with railroad stations and great highways; horse wagons, horse carts and pack horses remain the surest and most economic means of transportation available on country roads, in hilly sections, and during the seasons of fall, winter and spring. The need of artillery horses, train horses, riding horses and pack mules became so urgent after a few months of hostilities, that British and French government agents purchased in this country half a million horses and mules at a cost to the foreign governments of approximately \$130,000,000, which took away from us a large number of horses more or less fit for our own army.

The combatant capacity of the horse, revealed once more by his willing conduct under fire, leads to a methodical veterinary care of those wounded and unfit, with results appreciated as humane and economic. The saving of lives of horses is accomplished by emergency care performed by mounted veterinary sections following the battle lines; by mobile veterinary field hospitals and by stationary convalescent horse depots. The Animal Protection Societies of the various belligerent countries have received governmental permission to collect funds and supplies for the care of wounded and unfit army horses, and their assistance is now appreciated by army authorities.

In conclusion it may be stated that the results obtained in this highly methodical care of wounded horses in war, appears to be fully appreciated by the foreign governments concerned, if public utterances of high officials are accepted as testimony. For instance, Lord Lonsdale, after visiting the front on a tour of inspection expressed himself on this subject, as follows:

"I think it is only due to all those in the Veterinary Department and the Remount Department to express the extraordinary energy, the love of the animal, the time, hard work, and forethought displayed by all those connected with these two departments. It certainly was a surprise to me, and I went into every detail, and had every facility granted me, and saw every horse, and I do think that we should be not only satisfied, but most greatful to all officers cocerned." (Animals Guardian, London.)

This and other similar reports have had the result of lessening the fear and horror of sympathetic people about the reported suffering of horses in war, and they have also lead to a

due realization of the value of the saving of the great numbers of trained and valuable horses that otherwise would have been lost to the armies.

Impartial reflection, however, must convince our officers to whom such methodical care of disabled horses is novel, that it depends upon a properly functioning Veterinary Service. Such we never had ourselves owing to inadequate support from the army and Congress. We cannot plead for the extension of such efficient professional care of disabled horses to our army,



THE AMBULANCE DOG AT WORK (From Our Dumb Animals—Boston.)

unless we obtain an expert Veterinary Branch, that is permitted to work seriously and fulfill its beneficient mission. This is by right humane in its tendency and economic in its effect, as has been exemplified by the new status bestowed upon the horse in this latest and greatest of conflicts, which is rocking the civilized world to its very foundation, spreading unspeakable pain, but also producing sublime fortitude and lofty acts towards men and animals.

WHAT DO YOU SEE WHEN YOU LOOK AT A HORSE?

BY HARRY L. SIMONDS, LATE CORPORAL TROOP "K" SECOND CAVALRY.

THE great body of men who are the bone and sinew of a mighty nation, those who are upright, God loving men, those who love their neighbor, their country, peace, justice and their fellow creatures, see, when they look at a horse, something, to be cared for and cherished as a choice possession, a being of life that is next to man in the scale of life, and the horses of such men, while they cannot speak, unmistakeably proclaim what sort of man their keeper is. More can be told of a man's true character, after looking at his horse five minutes, than he can say himself in a week.

The "Sports" and gamblers see nothing but a gambling machine, a means for gratifying their mania for betting. The old cavalryman who has served in the desert places of the West sees one of Gods noblest creatures, a fellow and companion to be cared for at all times. The new cavalry recruit, who was born and has always lived in a city sees, in an experienced cavalry horse, a monster untamable that is capable of doing numberless things to injure and terrify a young man; later, he learns that this supposedly diabolical fiend is really his best friend and companion and he learns to resent an insult to his horse quicker than one to himself, he learns to "speak to his horse as he would to his sweetheart."

The conscienceless dealer, or trader, sees only profit, he sees only an article of merchandise such as a keg of nails or a pile of pig-iron, something out of which he can make money. The gilded city youth sees, or has seen, only a "red hot time," he now sees these times by machinery and goes to outer darkness via the "turned turtle," "jumped off a bridge" and "collided with a telegraph pole" routes, greatly to the relief of the horses

who formerly suffered great misery from such sources. The average farmer, who should be more intelligent, sees only a source of power to be neglected, poorly fed, half taken care of and worked to the limit. The good M. D. V., who is himself disabled, sees in a horse needing attention a way to alleviate suffering, and promptly does his best. He sees a great deal when he looks at a horse, so much more than I that I will not attempt to tell anything that passes in his view.

When I look at a horse I see ages of time and their happenings pass in review before me. At first they march by in stately array rendering honor to whom honor is due; soon the gait quickens and they pass at the trot; then as thoughts multiply, the gallop is taken up and the charm of many ages is seen in a moment. I see, away back when man was not on earth, a small five toed animal, the original horse, who, while small, had to contend with or escape from the mighty reptiles that held sway in those days. This small horse gives way to the larger three toed one, and he, in turn to his still larger single toed or hoofed descendent and now the real, interesting things begin to be seen. Man is on earth, and horses, who are wild, have to contend with savage man in addition to their other troubles in contending with ferocious beasts that prey on them. Man finally brings the horses into semi-subjection and they become useful to him though even the savage is more than half afraid of his wild steeds. What fierce things horses must have been in those days! To the pagan he was a monster breathing fire and smoke, and to the Hebrews he was terror personified; they fled from the "cohorts all gleaming with purple and gold." The Egyptian armies that were swallowed up in the Red Sea received just retribution but I have always wished that their horses could have escaped. It was then as now horses and men were so inseparably connected that disaster to one spelled death to the other. I seem to hear, as it was spoken from the whirlwind, by Gods own voice, that remarkable tribute:

"Hast thou given the horse strength?
Hast thou clothed his neck with thunder?
Canst thou make him afraid as a grasshopper?

The glory of his nostrils is terrible.

He paweth in the valley and rejoiceth in his strength
He goeth on to meet the armed men.
He mocketh at fear and is not affrighted;
Neither turneth he back from the sword.
The quiver rattleth against him,
The glittering spear and the shield.
He swalloweth the ground with fierceness and rage
Neither believeth he that is the sound of the trumpet.
He sayeth among the trumpets Ha! Ha!
And he smelleth the battle afar off,
The thunder of the captains and the shouting."

Ages have since passed but no finer tribute to the horses has been written or spoken than is found in the Book of Job 39:19-25.

As thoughts multiply Roman cohorts, with their plumed centurions, Mohammedan fanatics, Saracen bands, the hosts of Attila, "the scourge of God," Charlemagne's armies, all depending on their horses, are seen. The winged Pegasus flits fancifully about and calls forth a wish that he were real, now on earth and in my keeping. Whether in peace or war, raid or battle, song or story, the history of horse and man are so interwoven that they cannot be separated and the love of horses is so ingrained in the nature of most men that centuries of time cannot eradicate it. Spaniards battling for eight hundred years to expel the Moors from their country appreciated horses but were cruel to them, not as cruel, however, in many ways, as another nation that is popularly believed to be lovers of horses.

I see the condition of the world, when to own a horse was equivalent to being a gentleman, as witness the Spanish word for gentleman, "caballero," literally, "horseman." In those days the possession of a horse so distinguished its owner that he was a gentleman and the distinction survives in the word. I see "Knights of Plantagenet, horsemen of Saladin," haughty Crusader, Emperors, Kings, Potentates, Princes, armored and followed by retainers, all riding horses and dependent on them. No king so powerful that much of his power did not depend

on horses. Fierce hand to hand battles where "horse and man together fall" are seen.

Then a pious band leave all that is near and dear to them. strike out across an almost unknown ocean to find peace for their conscience in the wilderness of a new world, and they take their horses with them. Who can get along without horses? Those hardy pious pioneers builded better than they knew and soon it became necessary for them to free themselves from the oppression that followed them across thousands of miles of the ocean they crossed to escape. Almost the first thing it was a horse and his patriot rider that "gave the alarm through every Middlesex village and farm," with the result that a new nation arose, destined to be the first to be founded on the rights of man. This originally small nation grows very fast, it becomes a young and hardy giant in a few years. Soon it becomes necessary to put sin away from among them and a great war commences. Now I see great misery among the horses: they are maimed on every battlefield; one becomes immortal by carrying his rider a long way and bringing him up in season to win victory from defeat.

Horses aid numberless way in winning victory for the right. Is food scarce in camp, soldiers go out on horses to search for more. Is a sudden move against the enemy necessary, it is the cavalry that does it. Is it necessary to lay waste a fruitful valley so a crow flying over it must carry his provisions with him it is a fiery cavalry leader that does it and he is followed by his fiery troopers and their faithful horses. Is there a message of life or death to be carried, a mounted man rides furiously and arrives in season to save a man about to be executed, but the horse falls dead, he gave his life that a man might live as thousands of other horses have done throughout the world. All this and much more was done by the horses, still there are those that say "it is only a horse!"

After the sin is put out from among them, the young giant nation grows by leaps and bounds. It is said to be necessary to subdue the rightful possessor of the land, and it is done in a ruthless manner, but the rightful possessor also has horses and inflicts much damage on the robbers before they

overcome him. After wiping out years of wrong and insult in one carnival of slaughter a horse only is found alive where the paleface corpses lay very thick.

Instead of wild horses and savage man I now see a mighty nation at peace, men, their savagery covered by a thin veneer of civilization which slowly, Oh! so slowly, thickens, and horses. their fierce wild nature subdued by generations of captivity have become gentle but are still courageous, and with the men. are working out the destiny that God has set for them. Of the horses of all ages, who has seen better than the gentle giants who do the work of the nation? Who has seen a more handsome sight than a well cared for troop of cavalry horses? Their neck is still clothed with thunder, they still rejoice in their strength; the glory of their nostrils is still terrible and they still have the courage to go on to meet the armed men, neither turneth they back from the sword. No greater disaster could overtake man than for all the horses to be suddenly taken from among them. All this and much more I see when I look at a horse. "He that hath eyes to see let him see."



SHOULD OFFICERS BE ALLOWED TO BRING BACK MOUNTS FROM THE PHILIPPINE ISLANDS?

BY SECOND LIEUTENANT STEPHEN M. WALMSLEY, SEVENTH CAVALRY.

S the ruling forbidding the return of officers' mounts from the Philippine Islands a just one, or is an unnecessary hardship to the individual officers and a detriment to the service at large, being worked by the policy?

Are the continued refusals to applications for a change in ruling the result of careful study of the changing conditions or are they merely the evidence of a "Stand Pat" policy?

These questions are being continually asked by officers on duty in the Philippine Islands, and conditions as seen by men who are actually on the ground and able to observe at close range, generally lead to a belief that sufficient investigation and determination of the relative values of arguments for and against a change in policy, have not been indulged in.

The entire discussion simmers down to the question as to whether or not the loss of the horses to the individual officers and to the service at large, is outweighed by the danger of introducing surra into the United States, and it is that discussion which this article will take up.

The original ruling was made during the early occupation of the Philippines by our troops, and at the time it was made, was eminently just and desirable. At that time surra was common everywhere. Every troop commander had to be continually on the watch for new cases, and our veterinarians knew comparatively little about the disease. No supervision or quarantine was exercised over native animals, and our horses died by the hundreds. Since that time conditions have materially changed. Although much surra still exists among the native animals, and occasionally breaks out among the

mules of pack trains on duty in the outlying provinces where sanitary regulations are not well enforced, it is hardly putting it too strongly to say that it has disappeared from among the cavalry horses. The records of the Seventh Cavalry show that there has not been a case of surra among its horses for the past three years. The records of the Eighth Cavalry are available for the past two years only, but during that time they show a similar absence of the disease.

Careful research work has segregated the parasite, and by microscopical examination of the blood at short intervals for a period of a month, together with inoculation of guinea pigs, which could be easily accomplished at either of the large posts for mounted troops in the Philippines, it has become possible to determine whether or not the disease exists in an active or infectious form; that is, whether or not the animal is actively suffering from the disease or is capable of acting as a carrier.

The means of transmitting the disease have become fairly well known and the means necessary to prevent its transmission are no longer a matter of conjecture.

Twice during the past three years have pack trains come in from field service bringing with them surra. In both cases the disease was promptly discovered and the exposed animals quarantined. The spread of the disease was checked and the disease stamped out with the loss of comparatively few animals. In the case of the Manila train, although there were sixty five animals in the train, only three died, and the quarantine was continued but thirty days after the last case appeared. In neither case did the disease spread beyond the animals of the exposed trains, although both trains came back into large corrals, one at Manila and the other at Fort William McKinley, the latter post being garrisoned at that time by a regiment of cavalry.

The argument generally advanced by those opposed to allowing the return of horses to the United States, is that the period of incubation of the disease, that is, the time elapsing between exposure and infection of the animal, and the appearance of the trypanosomate, as the parasite is called, in the blood, together with the outward symptoms, is not definitely

known. In other words, it is feared that a horse, apparently free from surra at the time of leaving the Philippine Islands, may develop the disease from previous infection after reaching the United States.

To declare such a condition impossible and to prove its impossibility, is beyond our power, since no conditions have existed making possible its proof or non-proof. Investigations made here in the Philippine Islands, however, do not seem to strengthen or bear out the long incubation period story.

There are two well defined and understood methods by which surra is transmitted. There may be others but if so they have not come to be well understood. The first of these is the laboratory method by direct blood transmission, where the blood of an animal suffering from the disease is injected in the veins of the healthy animal. The second is through the agency of the Philippine horsefly, Tabanus striatus Fabricus, which feeds first on the diseased animal, and then, according to Mitzmain, who has done the latest and best experimental work, within three minutes, on the healthy animal. Infection merely by intimate association between diseased and healthy animals, is not possible.

In cases of infection by one or both of these methods, the incubation period has been short, always under a month, and in the cases, the history of which are given, much less.

In the experiments made by the Philippine Bureau of Science and recorded in the Philippine Journal of Science (Vol. VIII, Sec. B, No. 3, and Vol. V, No. 1) animals infected by the first method showed positive symptoms in from four to eight days, and by the second in from six to ten days. The experiments at that time were not extended to any other methods. Wherever outbreaks of surra have occurred the disease has appeared within three weeks after the introduction of the diseased animal into the midst of the healthy ones. Pathology and Therapeutics of the Disease of Domestic Animals (Vol. I), states: "The disease (surra) commences after an incubation period of four to thirteen days."

Why then is it reasonable to expect the disease to stray far from its normal course in individual cases and to require a period of two, three, or even more months for its incubation? True, there are cases, but almost entirely among cattle, of surra carriers, that is, animals chronically affected with surra, but these may be eliminated from the discussion because microscopical examination of the blood determines there the presence of the parasite, and so guards against them.

But let us waive evidence to the contrary and admit that occasionally the unforseen would happen and a horse infected with surra might leave the Philippine Islands. It would still have a month aboard ship in which to show the symptoms of the disease, and with any proper system of observation, as surely would obtain aboard a government horse transport, the disease would almost immediately be discovered and steps taken to stamp it out. Even such radical measures as the destruction of all the animals aboard, considering the comparatively small number that would be shipped each trip, would undoubtedly be agreed to by the officers shipping for the possibility of the disease breaking out would be extremely small, if indeed it existed at all.

Even supposing the infected horse reached the United States, would the results be so disastrous? At no time, except possibly for the few days while the horse was enroute from its point of disembarkation to its new station, would it be away from expert observation, and in the case of a horse returning from the Philippine Islands, this observation would be especially close. Why should we assume that the disease would get beyond the infected animal? In the two cases cited in this article, surra was promptly stamped out in pack trains here in the Philippine Islands where conditions favorable to the disease exist, and in pack trains the animals feed and herd together, making infection easy. The officer's mount would be more or less segregated at all times, even after reaching its stable. It would probably not be shipped in a car with other animals nor would it run loose in a corral with other animals.

The Hawaiian Islands where importation of animals from surra infected countries is permitted, has been kept free from disease by requiring a three months quarantine. In Java, where the disease was at one time very prevalent, it has been entirely eradicated by careful quarantine. Nor is the fact that the United States is free from the disease due entirely to nonexposure. Pathology and Therapeutics of Domestic Animals (Vol I, p. 812) states: "In 1906 the disease (surra) was brought to New York with an importation of cattle from India, but was suppressed by the slaughter of the infected animals and the prolonged quarantine of the others." The disease never extended beyond the one shipment and has never reappeared.

Does the danger of the disease gaining a foothold seem to be a reasonable one? Will not careful examination over a period of weeks or months previous to shipping, with such precautions perhaps as screened stalls and loading the horses at night, careful observation at sea, and observation with or without quarantine after landing, reduce the danger of infection to such a minimum that it can be disregarded?

Were shipments numerous and large, conditions would be different, but the exportation of horses as a commercial venture need not be considered. The Philippine Islands are not, and probably never will be a horse raising country, and laxness which might result in commercial transactions would not arise in the case of government mounts.

Our government has done practically nothing towards arriving at the facts which would determine whether or not the exclusion is justified. A few army veterinarians have attacked the problem on their own initiative, but hampered by their duties and by lack of funds and opportunity for observation, have not been able to arrive at complete results. The Civil Government of the Philippines has been left to do the work. But their work has been along other lines. Although it has, and still does, occupy much of their attention, their work has been towards the discovery of a specific and the prevention of the spread of the disease and not with a view to determining extreme lengths of incubation periods, or other facts more pertinent to our problem. The following is a quotation from a letter by a veterinarian who was for a number of years in charge of the largest government experimental station in the Philippines. He wrote concerning investigation of the above matter by the United States Government. "It does not present any

great difficulties. The Insular Government, not having any interest in the matter will, scarcely bother with it. Indeed, they have no men to do the work."

Are the officers, and the service at large to suffer then, because of such a lack of knowledge which might be easily gained?

Let us now consider the economic side of the question. What is the loss in dollars and cents to the individual officers and to the service at large?

There are now on duty in the Philippines about two hundred officers, not including medical officers, although many of the latter own mounts. Under the two year rule one half of these, or about one hundred officers go back to the United States each year. They are confronted with the problem of disposing of their mounts before leaving the Philippines and of remounting themselves after reaching the United States. Added to these are the one hundred mounted officers ordered to the Philippines yearly, who must dispose of their mounts before leaving, unless they wish to bring their mounts to the Islands. In other words, of the one thousand officers, more or less, of our mounted services, one-fifth are yearly confronted with the problem of remounting themselves, due to Philippine service alone. Were these officers able to get together and arrange the transfer of mounts among themselves, much loss and inconvenience would be avoided, but that is manifestly impossible. In the general the officer must dispose of his mount or provide himself with new ones in the immediate vicinity of his station, and probably on short notice. The result in the Philippine Islands is that officers mounts have become a drug on the market. No one is willing to put more than the lowest possible price in a horse, contenting himself with almost anything that will pass as a first mount. The horses brought over by officers are generally inferior and only help to swell the already large number of mediocre mounts. It is true that there are still some excellent mounts, brought over some years ago, when the market was better than now, but they are disappearing rapidly and probably will not be replaced. How long under the present policy will officers in the Philippines be even moderately well mounted'?

And even the officers owning inexpensive mounts are generally subjected to a loss in trying to dispose of them when ordered home. In June of this year, when the order, later suspended, was issued to send home the two regiments of cavalry now on duty in the Philippines, there were one hundred and twenty private mounts in the regiments. To replace these mounts in the United States would cost anywhere from fifteen to thirty thousand dollars; to sell them here would be almost impossible. Shortly after the order was issued, two civilian buyers came to Camp Stotsenburg and bought a number of first and second mounts at prices ranging from thirty-five to seventy-five dollars. These were not old worn out horses but mounts that had been steadily doing duty and had been passed by an inspector less than six months before. Many officers who refused the absurd prices offered by the buyers, will be forced to accept them later or leave their mounts unsold.

Not only are such sales a loss to the officers concerned, but to the service at large, for these mounts are separated from the service entirely.

Can the government afford to lose the services of such animals at this time when the country is being drained of cavalry mounts for the European war?

And not only is our service suffering directly from the loss of the mounts, but also indirectly by closing against our officers the Australian markets, undoubtedly some of the best in the world today. One has only to compare the Australian mounts, both of officers and civilians, with most of the American horses here to realize the truth of this statement. Excellent thoroughbreds and half or three-quarter breds may be obtained from Australia at prices ranging from one to two hundred dollars. Transportation to the Philippines is cheap and the supply to choose from is enormous. Were it possible to take the horses back to the United States, an officer might return from Philippine service with mounts superior to anything he could buy at home for anything but exorbitant prices. Especially is this true in the case of small thoroughbreds so desirable as polo ponies. Practically every first class polo pony in the

Islands is Australian bred, and could these ponies be taken home, it would be but a short time until the army teams could hold their own against civilians in the matter of ponies.

Is the government justified in denying these privileges, especially when the War Department is apparently so desirous and insistent that officers be mounted in a manner that will reflect credit upon the service? If it is not justified is it not time for a change in policy.



EXTRACTS FROM A REGIMENTAL SCRAP BOOK.*

BY SEV. H. MIDDAGH.

THOSE who comment adversely upon Spanish administration of justice, assert that their rule was one of great rigor. The principal reliance in preserving order had been the Guardia Civil and the Orden Publico, purely military organizations composed of the pick of the army, the former serving in the rural districts and the latter in seven of the principal towns. The Guardia Civil, numbering 31 officers and 737 enlisted men (of which 261 were mounted), was under a colonel, while a major commanded the Orden Publico, consisting of 16 officers and 211 men. Detachments of these organizations were stationed at one hundred and four posts scattered throughout the island, patrolling every road and trail. With the collateral force stationed in the cities, it had been practically inpossible for the inhabitants to do anything out of the ordinary without the facts being known by these guards.

Of their efficiency there can be little doubt if the statements of natives who were the victims of their rigorous cruelty can be accepted. The accounts, although undoubtedly somewhat exaggerated, portrayed a condition that is scarcely conceivable, still, the island was more peaceful and crime less prevalent than for some time after their withdrawal. Peace and good order had been maintained the same as within the walls of a prison where all save the guards are criminals.

With the departure of Spanish rule, came a swing of the pendulum in the opposite direction. The pressure was released and society exploded, the vengeance of the unchained masses, who had grievances against the local authorities were turned loose upon those who had been in sympathy with the Spaniards. The criminal classes would generally som in those raids and

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^{*}Continued from page 253 of the CAVALRY JOURNAL for October, 1915.

there would follow a saturnalia of crime; friend and foe suffered alike, by the forced contributions, out and out robbery, burnings, assassinations, violence to women and the theft and destruction of property. The people could not conceive of a government not maintained by force.

We must not lose sight of the fact that one-half of the population was continually on the verge of starvation or pinched by hunger. Labor when employed was remunerated only to the extent of twenty to thirty-five cents a day, while thousands were unable to secure work at any rate. Only ten to fifteen per cent. could read and write. The ordinary standards of public morality were largely ignored; half of the children were illegitimate, and as a whole, the people had no knowledge of any duty or obligation but to obey the orders of the governing classes and consequently murder was not unknown while pilfering, stealing and plundering were common.

It is needless to state that the difficulties encountered by our army in stopping these outrages were great. For the task, the island was divided into military districts with regiments, companies or detachments stationed throughout the island patrolling the roads and trails and pursuing the marauders. All was strange to our officers and men, the country, the people, the laws, and the language. Murderers or robbers would take refuge in the remote parts where there were no roads or trails, and it was sometimes impossible for the troops to follow the marauders to their haunts, making it difficult to apprehend criminals. Enlisted men, detached from their organizations, detailed as sheriffs, would penetrate these remote sections and apprehend the criminals. Many of these men afterwards left the service and entered that of the civil government. We left many of the Fifth there where they are still serving in the various departments. Sergeant Terence Hamil, who went to the island as First Sergenat of Troop "L," held the office of chief of police with rank of colonel to the time of his death some years after the departure of the regiment from its Porto Rican service.

The government as found by the Americans, was the outgrowth of centuries of experience of a highly intelligent people.

However well it might have suited the Latin race, it is self evident that Anglo-saxons would find it impracticable. The Porto Ricans were satisfied with their local laws, and few of the more enlightened natives and none of the Spanish commercial class openly commented upon the requirements that their laws be changed by a foreign commission. In their hearts, however, they resented the suggestion that they, unaided by Americans, were not perfectly competent to revise and adopt their own codes, if the new conditions demanded it.

While they welcomed the Americans, in the train of whose army they saw the American markets, self government and wealth; they felt that Porto Rican laws were satisfactory to Porto Ricans, and if they were not they could change them and that they would refuse to accept willingly any revision of their codes save their own. Section 40 of the Congressional enactment, however, seemed to say, "You are annexed, but we will make your laws for you," while foreign states have always said in substance: "You are annexed, but you will retain your laws."

The Commanding General on taking control at once exercised his power of legislation and heavy inroads were made upon the tax resources, resulting in loss of income. Later there were a few changes resulting in an increase of revenue for the municipalities, whose resources had never been so heavily depleted, and who were in a nearly prostrate condition.

At the transfer of the sovereignty, the island was left without a supreme court. There were eleven jails and one penitentiary with three thousand inmates. The inadequate system of prison administration, and the miserable and inhuman treatment demanded immediate attention. Of the prisoners of both sexes many had been held for long periods, many for years, on petty or trifling charges or none at all.

A board of prison control was appointed of which an army officer was secretary and disbursing agent and a United States provisional court installed. This court, composed of one law judge and other necessary officials, was assisted by two officers of the regiment, Majors Dimmick and Thomas, who served as associate judges, while many of our enlisted men were on de-

tached service as deputy marshals, etc. The result was that expenses were greatly reduced, the jails cleaned and made decent and useless employees discharged. Many prisoners confined without charges or for light offenses were released; the courts were enjoined to clear their dockets and the prisoners confined in the island were reduced from three thousand to nine hundred and the jails from eleven to five.

During the latter part of 1899, municipal elections were ordered held in all the towns and municipal officers installed who were the choice of the people. These officers were nominally responsible for the highways, yet none were built save with insular funds. They were responsible for primary instruction of youth, still no more than eight per cent. of the children of school age were ever inside a school house. They were supposed to be hospitals and asylums but save in a few towns there were no such institutions. The cemeteries were scarcely more than heaps of human remains and the local police were incompetent, or untrustworthy.

The elections ordered were to correct this unsatisfactory condition and as it fell to the army to conduct them, we find during that period that our officers acted as presidents of boards of registration, while the presidents of all boards of supervisions were officers or non-commissioned officers.

The first election was held at Adjuntas, the station of Troop "B," Fifth Cavalry, in July, 1899, conducted by Captain Watts, assisted by Lieutenant Forsyth and the non-commissioned officers of that troop.

The municipality had a population of about nineteen thousand, although the pueblo principal, or town itself, numbered less than two thousand, the remainder of the population being scattered over some seventy square miles of high mountain slopes and intervening gorges. The only productions were coffee, tobacco and a few cattle. Nine-tenths of the people were peons. More than one-third of all land consisted of unimproved mountain slopes too precipitous for any use. The census of 1897 showed that less than ten per cent. of the inhabitants could read and write; there were six schools with a capacity of three hundred pupils, whereas there were six thousand children of school age. Employees were unpaid; teachers

were without the barest subsistence; the police were abandoning their posts, in fact, of organized society in Adjuntas there was none, the community having dissolved into its individual elements, acting without concert or control.

On July 20th, Captain Watts was ordered to take charge of all municipal affairs, suppress the mob, call the council and hold an election for councilmen on the 25th. The election took place as ordered, both parties striving to secure a full registration. The number who established their eligibility, out of the population of nineteen thousand, was nine hundred and six, or four and seven-tenths per cent. of the inhabitants. By reason of minor irregularities in the balloting, the losing party managers protested and a new election was ordered which took place on August 22d. The outcome was about the same as before, the number of votes polled being eight hundred and eighty-seven. The alcalde and councilmen-elect were duly installed and the military officer who had been acting alcalde retired. This was the first fair and square election ever held in Porto Rico to fill a public office.

Many objections and protests naturally were made by the losing parties, all of which were carefully investigated by the canvassing board or by the commanding general. The officers who conducted the elections were assisted by intelligent and faithful non-commissioned officers and the Army has reason to be proud of the record made for impartiality and efficiency. There was no well-founded complaint filed or suggested against any officer or non-commissioned officer for neglect of duty, or bias or prejudice in favor of or against either political party or candidate.

The work of reorganization, was progressing most satisfactorily, when, on August 8, 1899, the task was interrupted by the hurricane and flood. The year ending had been one of extreme uncertainity but not lacking in prosperity; the invasion, instead of having been followed by the devastation of war, had produced an influx of millions of dollars disbursed

for and by the thousands of soldiers. Although business had not as yet adjusted itself to the new conditions and doubt and apprehension existed among the capitalists, prosperity was becoming more and more in evidence every day, when, within twenty-four hours all was changed for distress, poverty, want and starvation with death standing where on the previous day was comparative comfort.

The first indication of the storm made its appearance on the 7th of August, when the sky assumed an extremely hazy appearance, while clouds were observed moving rapidly from the northeast with every indication pointing to a hurricane. At 5:00 A. M., on the 8th it was raining and blowing furiously, both increasing until between 8:00 and 9:00 A. M., when the hurricane was at its worst. The wind attained a velocity of one hundred miles an hour, and by noon the island had been devastated by the tempest and flood. No other storm, with the exception of that of August 2, 1837, had the severity of that of August 8, 1899, although the island has a record of thirty-six hurricanes since 1515.

San Juan, near the northern margin of the storm, escaped it severity, while Humacao, Ponce and Mayaguez were the most affected of the coast towns. What happened in the hills is beyond description. The center of the storm traversed the island from east, south-east to west, north-west, passed over Arroyo on the southern coast between 7:30 and 8:30 A. M., August 8th, reaching Aguadilla between noon and 1:00 P. M., having traveled in that time the entire length of the island leaving behind a track of death and desolation.

If you draw a line from Humacao on the east to Arecibon the west and from Arroyo to Anasco, you will have the path of the hurricane well defined, while a line from Yabucoa to Aguadilla locates its center.

For the purpose of ascertaining the exact conditions resulting from the hurricane, the island was divided into twelve inspection divisions, corresponding to the twelve military posts. The commanders of each were apointed inspectors of the divisions and were directed to send out at once an officer, a non-commissioned officer, or intelligent private, into each municipality

to ascertain the extent of damage to houses and crops, the number of destitute, the probable amount of food in the district and the places which commanded immediate attention.

Eight of the twelve division were assigned to the regiment, which consisted of the following stations and substations:

Troop "A," Arecibo, Utuado, Hatillo, Quebradillas, Camuy and Barceloneta.

Troops "B" and "I:" Ponce; ("I") Adjuntas. ("B"); Juana-Diaz, Jayuya, Yuca, Penuelas and Guayanilla.

Troop "C:" Humacao, Patillas, Naguabo, Maunabo, Piedras, Yabucoa and Playa.

Troops "D," "E" and "H:" Mayaguez, Maricao, Hormigueros and Anasco.

Troop "K:" Manati; Verga-Alta, Toà-Alta, Naranjito and Morovis.

Troop "L:" San German; Cabo-Rojo, Sabana Grande and Lajas.

Troop "M:" Cayey; Salinas, San Lorenzo, Caguas, Guayama and Gurabo.

A glance at the map will show how well the troops of the regiment were distributed for the work demanded of the men from the moment they awoke on the morning of August 9th, tired, hungry and inquisitive, after a day and night of untold labor, excitement and danger, and with no knowledge of the existing conditions other than that in their immediate vicinity.

Our men were scattered throughout the island and the reports of our inspectors must have covered nearly every foot of inhabited land. It is needless to state that no organization, military or civil, was in position to render a more intelligent account concerning the conditions existing from the date of the hurricane to the end of the relief work than the Fifth Cavalry. But the reports were rendered to the Board of Charities from the different posts and the information is lost to the regiment.

On the eastern coast was Troop "C," at Humacao, while a hundred miles west were headquarters and Troops "E," "D" and "H," at Mayaguez; Troop "I," was at Ponce on the southern coast and Troop "A," at Arecibo, to the north, all in the flood districts. From these and other stations as shown above,

our troops and detachments were to be found distributed within the chain of mountains with its dense population. The reports of the inspectors sent out from these stations showed an indescribable condition existing within their field of labor.

Between Auguas Buenas on the east to Lares on the west and from Adjuntas on the south to Arecibo on the north there lays one of the most beautiful, thickly populated and inaccessible regions in the world. It covered a space of about fifty miles long and twenty miles wide, embracing seventeen municipalities, with a population of about two hundred and fifty thousand, without a wagon road in any direction over which supplies could be delivered, except by pack animals. Yet it was found by the inspectors that two hundred thousand of the population would have to be fed or starve.

At Arecibo, the station of Troop "A," under Captain Macomb, the Rio Grande submerged all the lowlands south of the town to the mountains, some five miles away, and extending east thirteen miles to Barceloneta covered sixty-five square miles. The water had surrounded the houses in a moment cutting off all means of escape and sweeping away entire families. Forty-three bodies were recovered and burried as the flood subsided and two hundred families were left destitute of homes, clothing and food. Four hundred and three lives were lost in this district.

Captain Watts, with Troop "B" was at Adjuntas where fifteen lives were lost and the rainfall was very heavy, twenty-three inches falling in as many hours, while at La Isalina, near that station eighteen inches fell during the storm. Although exposed to the full force of the hurricane and rain, this troop was so located as not to feel the effects of the flood. However, at Utuado, a substation of the troop, garrisoned by a non-commissioned officer and nine privates, great damage was done by the flood in addition to that by the wind. At Jayuya, within the district of the substation, whole coffee plantations had slipped down the mountain side into the river which had overflowed its banks to an extent before unknown. The town with its 1,500 inhabitants was destroyed and 522 lives were lost.

The post at Humacao, garrisoned by Troop "C," under Captain McClure, was destroyed and forty-three lives lost. At

Mayaguez, where headquarters and Troops "D." "E" and "H" were stationed a great many houses were unroofed while many of these of the poorer class, especially along the seashore. were wrecked, and some of them were carried out to sea. Thirty-six lives were lost. The intermediate towns, however, did not fare so well. At Las Marias, the barracks were almost entirely unroofed and the stables completely destroyed. At Marico, though little damaged by the wind, the river overflowed its banks, ran through the buildings occupied by the troops and did great damage in the town. In the hamlet of La Vega there was quite a loss of life, the total number of deaths being from thirty to forty, among whom were numbered some of the best known people in that part of the country. Many while in their houses were washed down the hillside and carried away by the torrent, their bodies being found miles away from their late homes. From the best information obtainable at the time of the inspections nearly one hundred persons lost their lives in or about La Vega, Las Marias, Maracao and Aldea Saenz.

At Ponce the station of Troop "I," under Lieutenant Frank Parker, much damage was done by both wind and water. Situated in the bed of the Portugese River, the town is liable to great losses during any extraordinary rise-of water and up to the night of the 11th, the troops had buried 117 dead.

Captain Wheeler with Troop "G," was at Aibonito. Here all government property was totally destroyed while the natives were left without food or shelter. There was no house that was not badly damaged or totally destroyed, the distress being simply appalling but somewhat relieved by Captain Wheeler, who at once commenced the issue of the troop rations to the hungry poor.

The damage done at Manati, the station of Troop "K," under Captain Bishop, consisted principally of the unroofing of buildings and the destroying of the poorer quality of houses. No lives were lost and only one injury was reported. From this it would appear that Troop "K" was in luck, but the fact is, the condition of the district was found such as to leave the captain and his troop their full share of labor for the balance of their stay on the island. At Marovis, it was found that the

town had been almost destroyed by wind, all rations and forage were destroyed and sixty-nine people killed or drowned. At Ciales the quarters were badly damaged, forage and rations destroyed and twenty-three lives lost. At Barceloneta the poorer classes of the houses were destroyed, the greatest damage being done by the overflow of the river, which left the town flooded with drift. The railroad depot was totally destroyed and in fact the whole district was in a state of absolute destitution.

At Cayey, was Captain Foster with Troop "M." Here the condition was about the average, the quarters of the troops were destroyed and the town was crowded with poor with no shelter for them.

The municipal authorities were incapable of giving any aid and the only course open to the military governor was to appeal on behalf of the Island of Porto Rico to the government and people of the United States for assistance and to apply the funds and supplies received to the distribution of food to prevent actual starvation. Pending a response, to the appeal, steps were taken to alleviate the immediate suffering and to so organize the work of relief that all contributions might be utilized to the fullest extent. The Board of Charities of Porto Rico was organized to manage all funds and supplies for the purpose as well as the distribution of the same in a manner that would most effectively accomplish the desired end. Before the arrival of the first cargo of supplies complete arrangements had been made for their ultimate distribution.

The work necessarily was military for we were under a military government, but the term Board of Charities, spreads a veil over all which it is hard to penetrate. Wide latitude was given the division inspectors who were on the ground and these inspectors in our zone of labor were our own regimental officers upon whom fell the full responsibility for the work done in our eight divisions.

The conditions under which the various societies were organized existed prior to their organization, so we find that the original task fell to the government, a military govern-

ment, the treasury of which contained barely enough to maintain it with the utmost economy. The period was between the war and the time when Congress would provide a civil government, and it was fortunate that the soldier held the reins, for it was a moment in which quick and decisive action was necessary.

Immediately after the storm, the people had suffered most where the water could reach them and it was a serious problem to keep the poor alive without helping them too much. If rations were issued freely the peon's would not work, not even to repair their own shacks. The planters needed hands to clean their plantations but the windfall had put so much fruit in the peon's way that it was hard to get them to do anything until it was gone and they were actually starving.

It was necessary to devise a method by which no rations should be issued unless there was an equivalent in labor. It was well known by the soldiers who were acquainted with the natives that if the peon was offered one day's rations for his family for a half-day's work, that there were plenty of men who would let their families starve before they would work, even under these conditions.

While immediate relief was necessary on the coastal plains, there was no lack of native food in the hills after the hurricane, especially in the vicinity where fruit was plentiful. On the contrary there was even more than usual, as the fruit of which the trees were completely denuded, was strewn upon the ground and that which would have ordinarily proven a constant supply was there to eat, or leave with the assurance that in a few days it would be no longer available.

The non-commissioned officers and privates on relief duty were officials of the Board of Charities and were in no sense under the control of the municipal authorities. They were to watch over the interest of the Board in every way and carry out to the best of their ability its rule of action, which was, "No person shall die of starvation and no able-bodied man shall eat the bread of idleness."

A day's rations consisted of one pound of food, distributed weekly. Three pounds of rice, three pounds of beans and one

pound of codfish or bacon constituted the allowance for one person for one week.

The local Board of Charities furnished the non-commissioned officer in charge of each station an alphabetcial list of the indigents in each barrio to whom issues were to be made on a specified day in the presence of the commissario of that barrio.

Rations were issued on requests signed by the chairman of the local Board of Charities upon which the exact amount given was noted.

No rations were issued on a request if the non-commissioned officer in charge had reason to believe that the applicant was unworthy. He had to keep himself informed as to the conditions of the poor in his district and saw that the Boards of Charities and the barrio committees performed their duty. He was required to observe the organization and work of the indigent laborers and refuse food to those who failed to work and at once cause the arrest of anyone who misapplied supplies.

No one who has not had such work among such a people can realize the difficulties to be overcome. There was not a single point in common between the soldier and the native, language, customs, morals and business standards all differed so radically that it was quite as impossible for the soldier to understand the native as the native the soldier. What was done, was not done from sympathy, but from a sense of duty and was received by the native not as deeds of a charitable nation but as a right for which no equivalent should be expected, and none came.

We find entered in the records of the Board of Charities, which procured the supplies and transported them to the island, evidence of a sufficiently comprehensive headquarters organization necessary to the orderly conduct of a great business. We find the records of the Colonial Aid Society of the United States, which cooperated with the Woman's Aid Society of Porto Rico, with a full list of its officers; the Merchant's Association and numerous committees, with names, address, business, etc., of each member as well as pages devoted to a list of contributors giving the names of same with contributions from five cents up.

The work done by these organizations was beyond commendation, and it is needless to state that if it had not been for these associations and their humane work, our duty would have been of a far different nature. Still, these same supplies were of little value at the ports in which they were anchored, so from that time on, to the soldier is due all credit. We find him on the end of the job, where the principal tool was the regulation tin cup, with which he measured out the three pounds of rice and beans—the weekly ration—while a companion cut off the one pound of codfish or bacon and the non-commissioned officer made the required entries in the receipt and issue book, showing in detail all the material received and all rations issued.

The Board had asked for the simplest, most acceptible and best rations with which to carry out the work, such as beans, rice, codfish and bacon, still there was to be found flour, canned and other goods together with various articles so necessary to our people at home of which little use could be made. A large supply of clothing new and old, was sent which was turned over to the Women's Aid Society of San Juan and nearly a thousand dresses weekly were sent to the supply stations to clothe the poor. Too much credit can not be given this association of ladies for their assistance throughout the work.

There was no lack of supplies, in fact, at times it seemed that the Board would be swamped. Major Thomas Cruse, U. S. A., was detailed in charge of the general depot, Board of Charities, at San Juan, with Commissary Sergeant Adams, formerly of Troop "K," as his assistant. At this depot, the supplies were sorted over and if necessary repacked and distributed by steamer to Fajardo, Humacoa and Arroyo, another steamer distributed at Manati, Arecibo and Lares via Arecibo, Agualilla, Mayaguez and San German, via Mayaguez, Ponce and Adjuntas via Ponce, while the interior divisions of San Juan, Bayamon Cagus, Cayey and Aibonito were supplied by wagon and pack train.

The government delivered the supplies to these depots and within the division the local authorities were required to furnish their own transportation, the distance to be covered at no place exceeding twenty miles.

Two of the divisions in which our troops were serving but not under control of our regimental officers, were Ponce and San Juan. Sergeant Charles Pfund, Troop "I," was detailed in charge of the warehouse, at Playa, Ponce, from where he received and superintended the distribution of the large quantities of supplies sent out to the towns of Juna Diaz, Coamo, Baranquetas and Santa Isabela, as well as those shipped to other divisions that were landed at that port. Sergeant Gotlieb Williams, Troop "F," was in charge of the division of Bayamon where his work was most important and intelligently performed so we find these two divisions receiving valuable administrative aid from the regiment:

By November, a large part of the island was no longer receiving relief, still, four months later when Troop "I," was ordered to relieve Troop "B," at Adjuntas and its substations of Utuado and Juyuya, the amount of weekly issues had not diminished owing to the constantly increasing demand in the mountain district. It was realized that the work would have to be continued until the bananas and plantains were ripe, or the strong would immigrate to the coastal cities, leaving the weak to die, as pestilence, the twin sister of famine had made its appearance in these uplands in the form of anaemia and epidemic dysentery which would have spread to the coast if a general movement of the people had occurred in that direction.

We had made a previous trip over the trail, cut into the face of the mountain it hugs to Adjuntas, making as difficult a night ride as the most adventurous need care to indulge in. Although our duty at that time had nothing to do with the relief work, it had had much to do with the forming of our opinion of the peon's of that district.

The incident occurred in 1899, prior to the elections. The peon's were being worked on the road leading from Ponce to Arecibo on the opposite coast, which, having been macadamized for fourteen kilometers under the Spanish government was being constructed by the War Department, the constructing parties at the time being employed on a section between Adjuntas and Utuado.

A detail from the troop under Corporal Britton, had accompanied a civilian paymaster on one of his periodical pay trips to Adjuntas, and at about 6:00 o'clock in the evening, Lieutenant Cusack had received a message stating that the detail was in trouble, Private Skipper having been hurt. An immediate start was made for Adjuntas, but upon the arrival of the troop at about 9:00 p. m., all was found quiet, and it transpired that Private Skipper was the only soldier hurt.

He had been standing as a guard in the doorway during the payment, when a burly native sprang from the crowd of hundreds about the plaza and on the road in front of the building, struck at Skipper and jumped back into the mob only too willing to shield him. The gap through which he passed had hardly closed when another opened to receive Corporal Britton, who, jumping over the prostrate form of Skipper, laying in the doorway with his throat slashed from ear to ear, dashed in pursuit, overtaking the native just as he emerged from the crowd on the opposite side of the plaza.

We saw the native the following day laying on a wooden slab in the cemetery, with his shirt drawn back displaying a little blue spot just above the waistband of his trousers where the ball of Britton's rifle had entered. Why he had committed the deed was beyond comprehension and has never been explained.

The few days given us to adjust the mob into an orderly unit had given a fair idea of the people among whom we were to serve.

At Adjuntas, as at the various troop headquarters from where supplies were issued, there was maintained a complete post administration, requiring the service of a post commander, post quartermaster, and a post commissary, duties performed by the troop officers, while the duties of their respective non-commissioned staff officers were performed by their troop non-commissioned officers. Owing to these functions with the additional relief work, at posts and outside barrios, the dependents placed on the enlisted personnel of each organization was necessarily great.

There were also various municipal irregularities requiring attention. It was found at Adjuntas and Utuado, that the

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walled inclosures, termed cemeteries, owing to the increased death rate following the storm, required that all burials be made outside the restricted limits, which was strongly objected to by the local priests and the natives. These inclosures throughout the island, varied from one acre to one hundred thousand square meters and under the most favorable conditions were objectionable from an Anglo Saxon standpoint. The cemetery at Utuado, located practically within the town, had received forty thousand interments within its superficial area of six thousand square meters since its construction in 1856, and no burial could take place without removing the remain of some one else.

At Adjuntas the conditions were even worse if such was possible. An inspection of the cemetery—that pitiless place of the dead—disclosed a wonderful state of affairs. It was during the rainy season and the death rate was high. The bodies were carried from their homes in the hills upon the shoulders of native friends, in the cheaply hired coffins kept by the priest. Within the cemetery inclosure, where they were found standing on end against the cemetery wall for hire.

The little groups bearing their dead were constantly passing through the town, * * * proceed to the cemetery, where passing along its walk white with human bones, they would remove their burden from its bier, place it upon the ground, where in company of many earlier arrivals it would await its turn for burial. This task performed by a lone native, who, as regardless of the intermittent torrents of the tropical showers, as his cold silent company, bent his wasted body to his task with full assurance that many of the still forms, with hair washed back from their white foreheads and matted in the mud, would be left to the mercy of the famished dogs, before the completion of his task. And such was the condition until the military corrected them.

In digging the graves, only waist deep, there were removed with the earth decomposed remains of bodies of those who had been shortly before buried and were being roughly and indecently exhumed for the purpose of giving place for the more recent arrivals.

The placing of the cemetery in a more sanitary condition was of minor importance. We were at Adjuntas to continue the duties of Troop "B," which consisted of feeding such of the morbid, tainted, abnormal and corrupted beings that were still able to drag their wasted bodies from the hills to the relief station.

From early morning, on issue days, the weekly motley mass of human beings would move in the direction of the relief station, their cheap skirts and calico trousers, soaked by the torrential downpours clinging to their wasted forms, while their prominent joints, abnormally articulated as shown by the clinging garments, parchment like skin and protruding abdomens, all denoted starvation. In front of the station the surging mass would wait as the little squad inside were making the issue while stragglers could be found scattered over the barrio, begging, stealing, appealing to all whom they would meet for a claquer, food, or clothing. Across the street from the station could be found the kindly wife of an officer (there were two American women in the barrio) endeavoring to clear her porch and yard of the women with their naked babies straddled on their hips, by dispensing claquers, and I am afraid oftimes wearing apparel with divers articles that she could illy spare, while at the barracks the troop cook was accomplishing the same end by the free use of a blacksnake whip. It was a poor place for a woman.

Space will not permit of going into details of the relief work as performed by the detachments in the hills, but it was work for the natives as well as for the soldiers. Work! there was nothing but work, yet, it is evident we were not overworked as we left nothing undone. When the plantains and bananas were again getting plentiful, the welcome for the Americans soon wore itself out and no longer would the natives condescend to steal the flowers from their Alcalde's yard and sell them to us for "dos claquers" a bunch, even if it were to decorate the grave of one who had laid down his life in their behalf.

The relief work, under military authority, ceased July 15, 1900, and on August 4th, headquarters, staff and Troops "K" and "L," sailed from Mayaguez on transport "Sedg-

wick," being joined at San Juan by Troops "I" and "M," on the 6th. On the afternoon of the 11th, the members of the Third Squadron were enjoying the companionship of many friends who occupied smaller crafts of every description that lazily floated about the transport at anchor in New York harbor.



BREEDING HORSES FOR OUR CAVALRY.

By A MODEST CAVALRYMAN.*

AVING read several years ago, with much interest, an article entitled: "Breeding Horses for the United States Cavalry," by Mr. A. D. Melin, Chief of Brueau of Animal Industry, in which he discusses the means and probable cost of the same, and as yet no really efficient means have been employed for the proper mounting of the cavalry, I take the liberty of suggesting another method. It is not new, and differs most essentially from Mr. Melin's scheme in that the type of horse would be more nearly uniform, the cost less, that the type would steadily become more like that desired, if bred along certain, consistent lines.

By Mr. Melin's plan, we would have half-bred horses, crossed from four essentially different families. His idea of having the different troops mounted on different breeds of horses, for deciding on the best breed by comparison, seems to me not as practicable as to have a certain number of each of different breed in the same troop. Then they would live under the same conditions more nearly than they would the other way. There would enter none of those little conditions which attend a cavalry horse's life, and which are so largely dependent on the troop commander.

As the cavalry will always form part of the army, and as its effectiveness will, to a large extent, depend on the class of remount furnished, why not supply the best? The answer has been that the cost would be prohibitive, and the same answer probably still holds sway, backed up by the political influence of private breeding concerns.

^{*}The writer requested that his name be not signed to the article.

Naturally the first question would be: What breed or family, is most suitable for producing cavalry remounts? That is what breed of horses would most nearly produce the selected type with the most certainty? The answers to that will be many and conflicting. Each hobbyist will have the merits of his own particular choice to exploit.

The cost of producing and furnishing the type selected will be dealt with last.

The type, not the breed of horse, (for it is the individual whether thoroughbred, saddler, standard, or draft, that will fill the requirements), which is required, is one that can stand the hardships of marches, and field service, and in addition must have a disposition that will enable the average enlisted man to handle him, when in and out of ranks. He should have more than the average speed at the run, for the bullet-swept zones to be crossed will be greater than ever; reinforcements will have to be brought up more quickly; patrols and messengers should be sufficiently well mounted to enable them to escape, etc., etc.

So the selected type should have the following qualifications at least:

Good disposition.

Marching capabilities, which includes many points, such as weight carriers, fast walkers, endurance, etc.

Spéed.

Stamina.

Constitutionally strong.

Longevity.

What breed of horse, as a whole, comes nearest to having those qualities?

The weight carrying ability is possessed by the short backed, broad loined, sloping shouldered, horse.

The ground covering horse (marching in ranks) is one that has a long, free stride at the walk, and a slow, easy trot, without waste of energy in the action. Endurance goes with long muscles, nervous energy, condition, and health.

Speed goes with the harmonious fitting together of the frame as a whole, backed by great vitality, or nervous force.

Stamina with well developed internal organs (especially heart and lungs), and well developed muscles, etc.

Constitution: heredity and raising.

Longevity: heredity and care.

And if we breed our own remounts then the fertility of the mares and the stallions must be considered.

No attempt has been made to point out an ideal.

What breed of horse will most nearly produce that type with the most certainty? The standard-bred, the thorough-bred, hackney, coach, saddle-bred, or what type?

I think that we can say that it comes to a choice between the thorough, standard, or saddle-bred family, although much can be said for the Arabs.

The first quality (weight carrying ability), I think is possessed in greater proportion by the thoroughbred and the standard-breds.

The second quality is so well developed in all three horses, that it would be hard to make a choice; although the walk of the saddler and thoroughbred is lighter and freer, than that of the standard-bred. The low easy trot goes with the thoroughbred, and to some degree with the standard-bred, and to a lesser degree with the saddler, and with the latter, even though trained to trot, he is apt to mix his gaits if he becomes excited or irritated, or under bad handling.

The fourth quality undoubtedly goes with the thoroughbred and standard-bred.

The fifth quality to the thoroughbred.

The sixth quality to the thoroughbred and standard-bred. Longevity and fertility is greatest among the thoroughbreds.

There is much to be taken into consideration, and I wish it understood that I am not attempting to exploit the value of one family at the expense of another. Their relative advantages and disadvantages can be dealt with at length by the enthusiasts. But the thoroughbred is the horse whose breeding and performances, both off and on the track, of which we have most complete history, and whose blood is the purest, and for that reason should breed truer to average character-

istics. He is the only horse that has been bred strictly on performance, and has accumulated through many generations greater muscular activity, energy and vitality than possessed by cold blooded horses.

Consequent upon his training and raising, he acclimatizes better than the horse which has had a soft up-bringing.

Their fertility, and the number of mares producing many foals, (as high as twenty-two, and seventeen being not unusual) is greater than any horse.

They say that the thoroughbred is hot-headed, rattle-headed and nervous. The trouble is that he has gained that reputation with many through people who fail to differentiate between the thoroughbred in training and the thoroughbred in every day use. Take a half-bred, and put him in training, get him on edge, and you will find that he has a more difficult temper than his companion in training, the thoroughbred.

As to food they assimilate it as well, and are as hearty eaters as any. It must be granted that their galloping capacity has been increased at the expense of all round leg development, but that is largely due to the fact that in order to race as two year olds, they are deprived of a year's grazing, and are forced on oats (muscle and tissue builder), and deprived of grass (a bone builder).

It would take years to create a special type; it could only be done through selection and elimination. Even if crosses are made and the get are successes, it is only for that one generation. No certainty can be attached to the breeding of the offspring.

So if the government wishes to breed its own horses, which would be most economical and practical thing for it to do, then it must select the family, or create the special family, which latter is not practical owing to the many years that it would take.

Say that we choose the thoroughbred as the family producing nearly the desired type, with the most certainty. Then comes the cost of producing and raising the colts. We won't go in to the discussion of the best location for a stock farm, or stock farms; there are some mighty fine reservations that could

be used for the purpose. Farms that would be almost self-supporting, raising the necessary grain, and hay for the stock, and the truck gardens the vegetables for the employees. And with the advantages that the government would have, it could raise horses below the cost of those raised on a private place, and far below the cost paid for the most undesirable remount now furnished.

After the government once had the brood mares, and the stallions, the cost of furnishing one or two thousand remounts a year would be less than that now expended.

With the use of artificial impregnators, the number of stallions necessary would be small; the fillies foaled could be used in the service, and later used as brood mares

May it be understood that no attempt has been made to discuss the relative merits of the different breeds, or the best type of horse or conformation.

Nothing has been aimed at but to show that the government from its own resources, could furnish a type of horse vastly superior to the one now furnished, and at a far less cost. And I believe that in the end, under capable management, that it would give better satisfaction than the breeding of government stallions to haphazard mares, privately owned.



THE UHLANS AND OTHER CAVALRY IN THE EUROPEAN WAR.

By Lieutenant Colonel John Stuart Barrows, Inspector General, Mass. V. M.

T is most unfortunate that cavalry as a branch of the military service, and hitherto an important factor in success in wars, is constantly being summoned before a court of inferior ability, to prove why it is not obsolete, or, judged by a similar illogical tribunal, is on the scaffold about to be executed, or, is held waiting a possible pardon, to take the form of becoming mounted infantry.

Since the ending of the affairs on the plains and the campaigns in chasing Indians, the court of inferior ability has been trying to declare cavalry obsolete, and, if possible, eliminate it from the army register. It was only a few years ago that this spirit took form in trying to reduce the number of cavalry regiments in the United States Army from fifteen to ten. Fortunately for the reputation of the Army, this shallow-minded counsel did not have the expected influence, and instead a revulsion of feeling set in, which would have increased the number of regiments had it been possible. Under the then circumstances it would have been unwise to have made any increase, but now, with the spirit of better service in the air, and the minds of intelligent people turning toward an increased army establishment, the strength of the cavalry and its usefulness in the future is entitled to calm consideration, in which the testimony of the age should be received and respected.

At first thought, the casual follower of the affairs of the European War may decide that, it being a trench-war, the use of cavalry is being restricted, if not eliminated. As cavalrymen have been dismounted to serve in the trenches of the

Allies or to handle machine guns; the brilliant charge or cavalry reconnaissance is not given much space in the current news, and the use of cavalry seems to be suspended for the time being.

A more careful and wider reading of the dispatches will show that such an opinion is incorrect, for the cavalry of all armies is being used as it should be used, and although few or no great charges are chronicled, it does not necessarily follow that the horses are eating their heads off, or their riders standing in the trenches.

General Frederick von Bernhardi, in his interesting work, Cavalry in Future Wars, published in 1906, says:

"One must, however, always keep this clearly before one's mind that the essence of all cavalry action in the opening stage of the war lies neither in the purely defensive attitude, nor in the offensive enterprises previously alluded to, by which the concentration of the enemy would be disturbed or other material successes might be achieved, but that the decisive purpose only begins when important and possible tasks can be given to the cavalry, i. e., when the main bodies of the enemy become ready for operations.

"Then it becomes our duty to screen not only the advance of our own troops and to secure to our infantry the advantages of being able to advance undisturbed, but the climax of all these duties will be reached in the far more important duty, in the now indispensible task of securing the widest possible sphere of intelligence."

This policy was the one adopted by the German army in their initial dash toward Paris. They covered the country in advance of their marching columns with a cloud of scouts, and the name "Uhlan" was impressed on the world more forcibly than for many years. The Uhlan was common enough, but little or no attention had been given him recently so the name acquired a new and fearful meaning, in the minds of the reading world. Before going further, consideration of the history of the Uhlans is not out of order:

How did the Uhlan receive his name? Though common to almost all the armies of European nations, the Uhlan holds

peculiar early characteristics of name, uniform and armament, and is always distinguishable by the peculiar headgear.

All accounts trace the Uhlan back to a Tartar origin, coming into Central Europe with the colonies of Tartars who established themselves in Poland and Lithuania. They were mounted on light, active Tartar ponies; their dress was similar to that of the Turks, and their arms were the saber and lance, and later the pistol was added.

The development of the Uhlans began in Poland, when in 1717 the Polish army was reorganized. At that time the light cavalry was composed of Polish nobility, but the Tartars, who the Grand Duke of Lithuania had received into his states during the conquests of Tamerlane were admitted on an equal footing, both officers and men. They wore no defensive armor. The lance, with a bright-colored pennon below the point, intended to frighten the horses of the enemy by the fluttering, was the weapon for the front rank, those in the second rank carried carbines, and all had swords and pistols.

One of the first leaders of this light cavalry was a Lithuanian nobleman, named "Huland," from whose name it is claimed that the word "Uhlan" was derived, the change of the letter "H" being but the change of the breathing in pronouncing.

Another origin given is, that the word "hulan" is Polish, coming from the Turkish, "oglan," meaning "youth," and was the name given to a certain class of militia among modern Tartars.

Be it as it may, the adaptation of "Huland's" name seems as possible, and plausible as any source of meaning, as "Huland's" men easily could be called "Hulans" men, and "Uhlans" naturally follows.

From the early days of development, customs clung, and the name of the unit was "polk" or as often found "pulk," which was the regiment. The various regiments were distinguished by the different colors of the uniforms.

Other European nations saw the value of such a type of light-horse and adopted the Uhlan. Austria, Russia, Prussia, France, Belgium and Great Britian all added Uhlans, or "Lan-

cers" to their cavalry establishments, giving the prominence to the "queen of the arme blanche," although the characteristic "czapka" or Polish Lancer Cap was retained as the principal feature of the uniform, and in almost all cases, the blouse bears the plastron of contrasting or characteristic color, and the back seams of the coat and the backs seams of the sleeves are piped with the same color.

In 1734 Marshal Saxe tried to introduce the Uhlans into the French army, organizing a polk of 1,000 men, but the organization was given little attention after his death, and as a distinctive type the Uhlan was not important in France until 1807, when Napoleon organized them in Warsaw, a body of 1,000 being organized as the "Light Horse Lanciers." Two other regiments were formed later, and by 1812 the French army had three Polish regiments and six French, distinguished according to the early custom, by the prevailing colors of the uniform.

The German cavalry establishment classifies its cavalry as light, medium and heavy. The light includes hussars, dragoons, chevau-legers; medium, Uhlans; heavy, cuirassiers.

Such were the terrible Uhlans who rode over Belgium and into France on the errand of acquiring information; often with the probability of a safe return entirely out of the question and many of them fulfilled their mission to the extreme.

So prodigal of cavalry was Germany at the beginning of her dash that it was impossible for them all to be destroyed or dispersed, and the tactics of von Bernhardi were again carried out—"The greater the value of thorough and active reconnoitering."

"If this holds good more especially for the first great collision, it remains also a guiding principle for all future operations; for, on the one side, it is probable that even in its later stages the war will be conducted with comparatively great masses; on the other as we have seen, the importance of the strategical element has unquestionably grown; hence the value of efficient reconnaissance has been proportionably intensified."

Very early in the war the German Uhlans made use of the much despised "shock tactics," and at Petit Croix charged the French infantry with a solid mass advancing at high speed. The French stood fast, because the Uhlans were led into a trap, concealed machine guns opening on them, mowing horse and rider down in such numbers as to effect a rout.

Again, at Gumbinnen, on the Russian side of the war-field, the Germans held a strong position in a small village, from which they were able to inflict a murderous fire on the Russians. The task of silencing the guns was assigned to the cavalry. The first squadron rode forward, charging the battery, which given such a splendid target mowed the Russians down like grass, practically annihilating the squadron. The second squadron was sent in to follow the first, and would have met the same fate, had not the third squadron attacked the enemy on the flank, sabered the gunners, and routed the whole force of the Germans, who fled discarding equipment, clothing and anything which would hinder them in running. It was reported that one squadron of Nizhni hussars cut down seventy Germans without receiving a scratch in return.

On August 24th the British cavalry had an opportunity of repeating the experiences of the Balaklava Charge, only instead of a Tennyson to sing an incorrect account, it was told to the world by the newspaper correspondents. The Rouen correspondent of the *Daily Mail* sent this account to his and American papers:

"On Monday morning, August 24th, after chafing at the long delay, the Second British Cavalry brigade let loose at the enemy's guns. The Ninth Lancers went into action singing and shouting like schoolboys.

"For a time all seemed well, few saddles were emptied, and the leaders had charged almost within reach of the enmy's guns, when suddenly the Germans opened a murderous fire from at least twenty concealed machine guns at a range of 150 yards.

"The result was shattering, and the Lancers caught the full force of the storm.

"While the bulk of the brigade swerved to the right, the others held on, and rode full tilt into wire entanglements buried in the grass thirty yards in front of the machine guns, and were

made prisoners. Three regiments of the best cavalry in the British army wen't into the charge, and suffered severely. The Eighteenth Hussars and the Fourth Dragoons also suffered but not to the same extent as the others."

During the fighting at Tournai, the latter part of August, 1914, an overwhelming force of Uhlans attacked the British out-guard of about 700; a survivor estimated the Uhlans at 3,000, beside auxiliary troops. The Germans had been gathering for some hours in the town of Tournai, and bursting from the streets leading to the British position swept round the flank, and came on the British like waves of horses and men. The British infantry stood up to their work like men, but the weight was against them.

At the battle of Grodek, an encounter of Hungarian cavalry of the Austrian army with a force of Cossack cavalry was described as follows:

"A considerable force of Austrians fell upon the advance guard of General Broussilof, which was composed of infantry, Cossacks and light artillery.

"The plan of the enemy was clear. He hoped to shatter our advance guard and then break through our center. Our infantry and artillery had entrenched themselves strongly and in reserve were several Cossack detachments.

"At first the Austrian infantry moved out for the attack. It was met with a deadly fire of cannon and machine guns, and wavered and fell back.

"Then the cavalry was sent out. The flower of the Austro-Hungarian army, the Budapest Guard division formed of Magyrs, bright-jacketed Hungarians, galloped furiously down in close order. It appeared as if nothing could arrest their impetuous course, not even the awful shrapnel fire of the artillery which brought death and destruction into their ranks, nor even the rain of bullets from machine guns. The Magyrs did not hesitate for a moment but continued to charge at our trenches. One more minute and it seemed as if nothing would be left of our infantry.

"All at once the thud of hoofs and the clatter of steel were heard and the Magyrs were met by a whirlwind of Cossacks. For two hours the Austrian and Russian infantry watched with beating hearts the scene of terrible carnage.

"At the end of this time, of the fine Budapest Guard not one man was left and the whole field was strewn with the enemy's corpses—severed heads, hands, legs—and dead horses."

Early in October, 1914, William Maxwell writes to the Manchester Guardian from the French front, as follows:

"The German cavalry is operating north of Lille and moving westward. Its purpose is to threaten this exposed flank and to mask another enveloping movement. These familiar tactics are not in the least likely to succeed. German horsemen have lost all faith in the 'shock tactics' which their Emperor was fond of leading at maneuvers. Sir John French was not exaggerating when he said that British cavalry goes through German cavalry like a knife through brown paper. Not many days ago one troop rode through two German squadrons, charged back, and rode through them a third time with hardly a saddle empty. A trooper coming out of the charge galloped past a battalion fresh from home waving a saber bloody up to the hilt.

"The French cavalry have the same contempt for the enemy's horse, and seek every chance of coming to close quarters."

The falling of winter, of 1914–15, and the resolving of the western campaign into trench fighting made cavalry unnecessary. Cavalrymen went into the trenches doing good service. Both sides made less use of the mounted branch during the winter, but with the coming of spring, activities were resumed and we read of a dashing charge of Russian cavalry, April 2, 1915, on the road between Kalwarya and Suwalki in north Poland. The Russian cavalry encountered the German cavalry and engaged in a stubborn fight, sabering many of their enemies and capturing others. They drove the Germans from the region and pursued them.

In the Polish campaign it was reported that Gen. von Hindenburg made little use of his cavalry. A raid covering ninety miles into Courland was accomplished in two days last spring, but in general the opposing lines were too close together to require the aid of cavalry, and the country was such that cavalry could not secure much information not otherwise obtainable. The Russian cavalry force was in much the same position. In fact, both were in prime condition and ready for fighting, but their kind of fighting was impossible. For that reason the Russian cavalry was not increased much during the past year. Later in the year, in September and October, both German and Russian cavalry were engaged in raids. attacking outposts and small forces of the enemy.

In the offensive movement of the French, in October, 1915, cavalry was sent forward beyond Souain, in small groups following the infantry, with the intention of clearing the positions, after the infantry had taken them in preparation of further advances. In one instance a detachment took 800 German prisoners.

From these fragmentary notes it may be seen that the use of cavalry continues and that it is used as it has been and as it should be; in such formations and dispositions as may best fit the need and the occasion. No formal formation seems to have been preferred, the cavalry attacked in masses, charging artillery and using the saber; it was used in raids, it charged and fought other cavalry mounted; it was dismounted, and did good work in the trenches; it made sudden dashes at small scattered forces of infantry dispersing and bothering them in their plans. In fact, the meager reports circulated indicate that cavalry has played a very proper part in the war, so far; and while it can not be expected to be very active in its movements when the battle front is a continuous line of substantial trenches for hundreds of miles, whenever the armies have moved from their position in advance or retreat, the cavalry have been given their usual part. Even the trenches have not entirely appalled them, for interesting accounts have been heard of Russian cavalry charging trenches at night, and using the lance in the attack.

So far the European war has been shattering completely the fads and foolish notions of those who have gone about declaring certain methods, customs and equipment obsolete. Hardly any so-styled "obsolete" factors have failed to have been employed, and with marked success. The bayonet is a conspicuous instance of the return to favor of a weapon recently ignored and almost omitted from the service. The saber and the lance have been busy, and the cavalryman has come into his own in a way that tells the United States that fifteen regiments of cavalry in the regular service, and the still less number in the National Guard, is far too small for even a nucleus in time of hostilities. The cavalry is still here; it has not returned, for it never went; and small indeed, should be the hole that would accomodate him who condemned cavalry as useless and obsolete.



NOTES ON THE EXPERIMENTAL SHOEING OF HORSES AT FORT RILEY.

By VETERINARIAN R. VANS AGNEW, FIFTH CAVALRY.

N the Annual Report of the Commandant of the Mounted Service School at Fort Riley, for the last school year, there appears an extremely interesting account by Captain John A. Degen, Twelfth Cavalry, who was in charge of the School for Farriers and Horseshoer's, giving his ideas and experiences with the "modified shoe" advocated by the Chief of Staff.

This style of shoe was first heard of about two years ago, officers speaking of it in a rather vague manner, but the impression then given was that it was a three-quarter shoe, and, consequently, one failed to see where any great advantage would accrue from its use. In fact, in most cases, a three-quarter shoe would cause more harm than good, as its tendency would be to produce corns and sidebones.

Then it was understood that the shoe was being given a trial by the troops on the border and there were heard many pros and cons on the subject. Finally the question was taken up at Fort Riley, and for the first time we have something comprehensive before us as to the shoe and its uses.

But one needs further enlightenment and the best way to get it is to take up Captain Degen's report, paragraph by paragraph, and note the ideas that arise on reading each one.

For instance he says, in Paragraph 2, of his report:*

"No. 1, 11 May, 11 June. Last normal shoeing 22 March. Interval fifty days."

Does this mean that the full shoes were left on the horse for fifty days before he could be shod with the modified shoe?

^{*}Extracts from the report of Captain Degen, as far as it relates to this discussion, will appear as an appendix to this article.—Editor.

If so, what was the matter with the general condition of the horse's health that his feet did not grow and how thick was the modified shoe to be put on?

The next horse, No. 8, took forty-nine days to grow his modified shoe feet, which were shod on April 19th. The next day he went to pasture and on May 6th came to the hospital with a wound on right front coronet. His modified shoes were left on and he had to walk 150 yards each day. On March 25th, he developed strain of the suspensory ligaments in both front legs. His shoes were pulled and his feet leveled the same day, and on June 4th he was discharged convalescent. This horse's condition must have been poor and his feet must have been at a tremendously sloping angle to have sprained both suspensories in walking 150 yards each day. Evidently his toes must have grown more than rapidly between April 19th and May 25th. It would be interesting to know that angle.

The next three horses take 82, 55 and 68 days, respectively, to grow enough hoof to conform, but the fourth horse takes 123 days for his front feet and 143 days for his hind feet to grow, say one-half inch, as that would more than cover the width of the modified shoe. Surely there must have been something wrong with this horse. Had he shed his coat? Was he sick, or had he been sick? Did he have chronic indigestion? No horse in good health would go that long without growing more horn than is quoted. In fact, of the twenty-one horses shod with the modified shoe only one—No. 61—seems to have grown enough horn in a reasonable time. He was shod on April 12th, May 10th and June 11th, and had extra toe to spare each time, but this is put down to peculiar conformation and gait.

This non-growth of these horses' feet is certainly peculiar, especially in view of the usual spring conditions as regards moisture, etc.

As only one-half the horses of the troop were shod with the modified shoe, how about the feet of the other half; did they grow normally or subnormally?

Then we come to the question of the thickness of the modified shoe. The thickness of the extra light No. 1 army shoe

is five-sixteenths of an inch and of the No. 2 size is three-eighths of an inch. Evidently these shoes must be the ones that were cut down to the modified shoe and applied to our horses' feet. If this is so, it is no wonder that it took time to grow horn to countersink such a thick and broad shoe. Furthermore, such a shoe cannot be used successfully in that way as it is too thick and too wide.

To use a modified shoe properly, one must change it into the very ancient and common "tip," which is a piece of metal that only protects the *rigid* front portion of the foot. It is about two-thirds as wide as the width of a No. 1 shoe.

The weight of a tip used on a No. 1 foot is about three ounces, on a No. 2 foot about four and one-half ounces and on a No. 3 foot about five ounces.

The thickness of a No. 1 tip is three-sixteenths of an inch, and of a No. 2 and a No. 3 is scant one-fourth of an inch. If this thickness is used there will be no difficulty in quickly growing enough horn to countersink the tip into the horn, and the quarters and heels will not break away as it is then the same low height as the shoe and, consequently, it is much stronger, and being so low, the frog comes into play more and saves the walls that much.

With a proper tip it is quite easy to maintain a level bearing surface on almost all horses' feet that are concaved, if only slightly. Of course, it cannot be done on a convexed foot. The exceptions are a brittle wall, a sloping angle of forty-five degrees or less, a coarse fleshy foot with a large frog. But this level bearing surface can only be kept so when the tips are reset every fifteen or twenty days, never more than twenty days after being nailed on.

As reported the No. 61 horse was reshod on April 12th, May 10th and June 11th, which was too long by ten or twelve days. If this point is given consideration, one can clearly see that this must be so, for one is bound to get too long a toe by letting it grow for a month; and at the same time daily applying more pressure and wear on the heels, not to speak of the great strain on the tendons and ligaments.

Tips must be reset every fifteen days should be the rule.

This is a matter that takes a very few minutes as there are only four nails to pull and drive, and a little rasping to be done.

Tips can be used both pathologically and non-pathologically. If they are put on a good sound foot and reset at the proper time they can be used just like any other shoe that is put on a normal foot. I do not say that they can be used in the cavalry altogether until they have been systematically and thoroughly tried out under different conditions, but I do believe that they can be used on individual horses with success.

I used them on my private mounts at Fort Huachuca for about eighteen months and rode all over the mountain trails without any harm being done to their feet. At the same time, I would hesitate to recommend them for use on the horses of a troop of cavalry to drill in close order formation around that Post. They are all right when a horse can pick his way and has a moderately intelligent rider on his back.

At Schofield Barracks, tips were used on a great many horses with complete success. At Fort Apache, I rode a horse on a 600 mile march with tips on and I was carried gaily all the way. For the last two years at Fort Leavenworth I have had shod twelve or fourteen horses with tips, most of them for contracted heels. My own two animals were shod for nine months with them, from September, 1914, to May, 1915, and they were only taken off in order to change the gait in one and to put polo shoes on the other.

When tips are first put on a horse he will go quite pussy-footed in front for a week or ten days, but after that the soreness wears off and he will step out quite as freely as ever, only that he will travel more collectedly, getting his hocks under him to a greater extent. This seems to arise from the fact that while his feet were sore in front he has learned the value of saving them by greater collection. This can be tried by any one who has a horse who naturally does not travel collectedly or carries his own head as the old saying goes. Just take the front shoes off and leave the hind ones on and work your horse that way. He will soon collect himself when his feet get a little sore.

This soreness when tips are put on comes from the fact that the average cavalry horse gets but little frog or sole pressure, in fact, in almost all cases he gets none. In the first place, the thickness of a No. 2 shoe (three-eighths of an inch) practically precludes this, especially as almost all the heels of shoes are slightly swelled when turned and fitted, making them one-half inch thick there.

Now, it is clearly impossible that a frog can descend one-half an inch. In fact, all authorities are vague as to the extent of the descent of the frog, but it is doubtful if a descent greater than about one-sixteenth of an inch is possible. At any rate, on a smooth hard road, one can safely say that, except in the case of an abnormally sized frog or of a foot that has been cut down too much, the frog does not touch when shod with a shoe of the thickness of three-eighths to one-half an inch. Consequently the average cavalry horse will go sore when he first feels frog and sole pressure.

The No. 1 shoe is thinner and should be used more than it is. However, I have found that a No. 2 shoe is generally used where a No. 1 would do and this for the reason that it takes more time and work to spread the No. 1 shoe and fit it, whereas the No. 2 shoe, being wider, does not have to be spread. It has, however, the extra length cut off, and is put on with the consequence that the nail holes are further back toward the heel than they should be. That is why so many of our horses are "nail bound."

No doubt the frog and sole both receive pressure over rough ground, if it is fairly soft and during wet weather, but one can safely say that they practically receive no great pressure for about eight months in the year at most stations. Consequently our thick shoes cannot be put on so as to give the proper ground pressure without taking off too much wall. This is rare so that most of our horses do not receive sufficient ground pressure, owing to poorly developed frogs.

I entirely agree with Captain Degen when he says that the inspection of shoeing by troop and organization commanders is sporadic and unsatisfactory. I have always strongly recommended that troop commanders should every day, when at stables, examine every horse shod that day and pick out the horses for the next day's shoeing. In one or two instances this was done for a short time and then dropped. Consequently the shoeing in the service is not of a high order. A good deal of it, as Captain Degen says, is due to the fact that the horseshoer is required to attend all troop drills and other duties and he does not feel like working in the afternoon after a hard forenoon's work.

In some troops the horseshoer is relieved from other duties and in others he is not. This breeds dissatisfaction and slackness of work. Furthermore, horseshoers get into a rut and hopelessly follow a routine in their work. They handle a knife rasp or hammer in the same old way, almost unconsciously. If he has rasped the outside wall after putting on a shoe once, it seems almost impossible to keep him from doing the same thing in every case. Even if he has attended the School at Fort Riley, he seems to drop back into the same old rut in a short while after his return, and this because no one keeps him up to the proper standard that he has learned.

There is in our service a great waste in horseshoes, simply because the horseshoer will take a new shoe everytime instead or resetting the old one. I can safely say that at least three-fourths of the horseshoes in the cavalry could be reset once and half of them could be reset twice. Instead of that being done there is taken a fresh shoe for every shoeing. The complaints of veterinarians will accomplish but little in correcting this evil. They have too little rank and standing to be heard. The troop commander is the only one who can correct it and he must do it every day until the horseshoer is properly trained. This daily inspection of the horseshoer's work and the instruction given is excellent practice for the troop commander and he will soon be able to detect any faulty shoeing and will no longer be at the mercy of a plausible horseshoer.

It is unfortunate that the experiments with the new shoe were not more conclusive. I firmly believe that this special form of modified shoe will prove a failure and for the reason stated above. Nevertheless, it would be interesting to have "tips" given a trial at various stations where the ground surface

varies, such as rocky roads, macadem roads, paved streets, dirt roads, etc. However, such experiments should be made by up-to-date troop commanders and conscientious horse-shoers who will take the time and trouble to make a thorough test. A few such experiments may eventually change our present shoes and system of shoeing so that, although the experiments themselves may be failures or partial failures, lasting benefits may result. "De nihilo nihil fit."

APPENDIX.

Extract from the report of Captain Degen:

1. The following memorandum was received 18 March, 1915.

MOUNTED SERVICE SCHOOLS.

FORT RILEY, KANSAS, March 16, 1915.

Memorandum for Captain John A. Degen, in charge of School for Farriers and Horseshoers.

"1. The Commandant desires that in re-shoeing the horses of Troop "I," you make a thorough test of the system of shoeing advocated by the Chief of Staff, and render a report thereon.

"To this end, every horse, not to exceed one-half the strength of the troops, whose hoofs will admit of it, will be shod with the "modified shoe."

- "2. A record will be kept of each animal shod with the modified shoe, giving date of original shoeing, date of re-setting (if any), notations as to lameness, etc., and what corrective measures if any were taken.
- "3. A report will be submitted to the Commandant as to the test of this system, on or before June 30, 1915.

"INNIS P. SWIFT,

"1st Lieut. Second Cavalry, "Secretary."

"2. The following horses of Troop I were shod in accordance with these instructions. Horses were shod all around except when noted otherwise.

No. 1.

"11 May, 11 June. Last normal shoeing 22 March. Interval 50 days.

No. 8.

"19 April. Last normal shoeing 1 March. Interval 49 days.

"This horse was sent to pasture 20 April with the other horses of Troop I. He was brought from pasture to hospital 6 May with a punctured wound of the right front coronet. Shoes were left on. While in hospital he walked about 150 yards a day from the hospital to the corral and back. 25 May he developed strain of the suspensory ligament in both front legs. Shoes were pulled and feet leveled same day. He was discharged convalescent (light exercise) 4 June and shod normal 7 June.

No. 61.

"Front 10 March. All around 12 April, 10 May, 11 June. Barefoot until shod with modified shoe. Front shoes were first put on under supervision of Captain H. R. Richmond, while he was supervising similar shoeing of school horses and before your memorandum of 16 March was issued.

"This horse has dense feet and peculiar pastern conformation, resulting in a paddling gait with a breaking over on the inside and little wear on the toe. Although he had run barefoot for some time his toes were so long that there was no difficulty in seating the modified shoe. In fact, more horn was removed than is usually taken from the shod foot."

"3. At the time your memorandum was issued 40 horses were in use by Troop I and 21 of these have been shod with

the modified shoe. One horse so shod went lame and one had feet so badly broken that it was necessary to restore the protection given by the full shoe. Another had heels worn down so that it was impossible to approximate a level bearing surface and he was shod normal when reshod. Of the remaining 18 one was a school horse and has since been returned to the school.

- "4. It should be noted that during the period covered by this report these horses have had very light work. When your memorandum was issued the troop was engaged in preliminary instruction for target practice and the regular target practice is not yet completed. From 20 April to 29 May the horses were in pasture. In ordinary circumstances all shoes would have been removed during this period. Shoes were left on only because of this test and of the necessity of having some horses for the student horseshoers to work on.
- "5. It has been impossible to make a thorough test of this system as required in your memorandum. In the first place, three months is not sufficient to make such a test. It should extend over a period of at least six months, and preferably a year. In the second place, Troop I, is not working under normal conditions. It is the only troop in a large post and performs an abnormal amount of guard and fatigue. As a consequence, everything during the target season must be subordinated to the necessary target practice, resulting in the conditions stated in paragraph 4. This is not intended in any way as a criticism of the terms of your memorandum, but merely as a comment on conditions as they exist. I understand fully that these conditions had to be met as best they might be.
- "6. The modified shoe, which, in indication of different lengths, has also been referred to as a half-shoe or a three-quarter shoe, is nothing more nor less than a long tip and it has the defects inherent in the tip. The use of the terms half-shoe and three-quarter shoe in this connection tends to be misleading, as these terms by long custom already have other definite meanings, half-shoe indicating a shoe cut in two at the toe, and three-quarter shoe a shoe from which one heel and any part of the quarter on that side have been removed.

The tip is, like the half-shoe and three-quarter shoe, a pathological shoe, and it should be used only to correct pathological conditions. For a horse working over rough, rocky ground, in sand or on hard roads the tip does not give the necessary protection and when it is used it is impossible to maintain a level bearing surface. Horseshoes were devised to protect the foot from increased wear occuring when the horse is used for domestic purposes. If part of this protection is removed the wear of the foot is uneven, a resultant of the simple mechanical fact that horn has less resistance to abrasive action than has steel. The protection of the shoe prevents the normal wear of the hoof as well as the abnormal wear incident to domestication. When tips are used, therefore, the normal growth of horn gradually increases the distance from coronet to ground at the toe, while the corresponding distance at the heel remains unchanged. There is thus a gradual change in the angles of foot and pastern, resulting in a greater tension on the flexor tendons and suspensory ligament. Consequently, the regular use of tips inevitably imposes a gradually increasing strain on the tendons and ligaments, with a sudden relief from the strain when the horse is reshod and a repetition of the strain as the toe again grows out. An extension of the tip to the rear may modify the degree of this strain but cannot eliminate it.

"7. On inspection of the horses of Troop I for the purpose of carrying out the instructions contained in your memorandum I found 13 horses, 33.2 per cent., whose feet indicated that they could never be shod with the tip without grave danger of damaging the feet directly. One of these was subsequently left for 63 days in the hope that the foot would grow sufficient horn. He was shod with the modified shoe 23 June, but a level bearing surface could not be obtained without penetrating the sole, and when shod about half the thickness of the shoe was below the bearing surface of the wall at the heels. This condition also obtained, with few exceptions, among the horses reshod with the modified shoe. The few cases where a level bearing surface was obtained on reshoeing were all in hind feet, and where the density of the horn was such that the exposed part of the hoof continued to grow faster than it

wore away the feet could have been left bare with greater benefit to them. It should be borne in mind that all lameness results from injury to the delicate and sensitive interior structures of the foot and that the hoof is the protection provided by nature for these parts, the shoe being but an artificial extension of the natural protection. Protection to the horny covering is absolutely useless except as it assists the horny covering in performing its natural function of protecting the interior structures. From this it may be assumed as a general principle that, except in rare cases, to correct pathological conditions, when the wear on the hoof is so slight that the tip can be used without injury the horse can go barefoot with greater benefit. When the modified shoe was first applied in each case it was extended from half an inch to an inch beyond the bend of the quarter, depending on the size and shape of the foot. On reshoeing it was invariably found that the wall was broken away in rear of the shoe and it was necessary to extend the shoe to within about half an inch of the inner angle of the buttress.

"8. The object of this style of shoeing is to secure adequate frog pressure and through that normal expansion. To correct a pathological condition this is a proper application of the tip. If adopted for normal shoeing it defeats its own object. A horse with a well developed frog properly shod with a normal shoe has the frog in contact with the ground when first shod. As the hoof grows the frog is gradually raised and the degree of pressure and expansion is gradually decreased. It is entirely lost only when the horse travels on a smooth, hard surface. On soft ground the foot penetrates sufficiently to give contact for the frog at every stride. On hard but rough ground the frog gets contact, due to inequalities of the ground at varying intervals and with varying degrees of pressure. Even if a horse is used entirely on a surface both hard and smooth, an asphalt pavement for instance, frog pressure will not be entirely lost until about the third or fourth week after shoeing, depending on the rate of growth of the horn. When the frog is but a short distance from the ground, as from one to three weeks after shoeing, it remains in that position only while the horse is at rest or the foot is not bearing its share of the weight. When the foot is brought to the ground at each stride the weight is transmitted down the bony column and the frog is forced down and contact and consequent pressure are obtained. It varies only in degree from the full pressure that occurs when the frog is in contact while the horse is at rest, as in that case there is nothing more than contact while at rest and the frog does not bear any weight until the horse is in motion. Horses should be shod every four to six weeks, usually about once a month. Six weeks is generally accepted as the maximum interval between shoeings. In paragraph 2 the interval since last shoeing is shown in each case. One horse was barefoot when the modified shoe was applied, leaving twenty horses with a recorded interval since last shoeing. In two of these cases the exact interval was not known and only the known interval, which was less than the actual interval, was recorded. Of these twenty cases the shortest interval since last shoeing was forty days and the longest was 123 days, the average interval being 68.35 days. Taking four weeks as the interval after shoeing when frog pressure is lost, in order to make the most favorable showing, it thus appears that in order to apply a special shoe the avowed object of which was to obtain adequate frog pressure it was first necessary to have the horse go without frog pressure for a period of from two to thirteen weeks.

"9. Complaint has been made that the shoeing of service horses is not satisfactory. I believe that this condition is due, not to any fallacy in the accepted principles of correct shoeing as they have been taught at this school since its inception, but to a failure to properly apply those principles in service. I have known very few organization commanders who regularly inspect their shoeing, though doubtless more did so than I knew about. There have been more cases, however, where I knew that the troop commander did not inspect shoeing than where I knew that he did. I have known only one commanding officer who inspected the shoeing of his command, and that only once during approximately two years that I served under his command. Whether

he ever followed up the results of that inspection I do not know, as he had no fault to find with the shoeing of the troop I commanded. I must add that credit for this pleasing condition was not due to me but to the chance that gave me an excellent and conscientious horseshoer in the troop at that time. Until then I had given no more personal attention to shoeing than any other troop commander and not as much as some of them. Lack of inspection is, however, not the greatest cause for poor shoeing. This, I believe, is the general requirement that horseshoers shall attend all drills and instruction. In almost all department instruction orders the cooks are the only special men excused from drills. No man should be appointed horseshoer until he is thoroughly instructed in the duties of a soldier and thereafter he should be required to attend only target practice and such inspections as would insure his equipment being kept in condition. Shoeing three animals a day all around is strenuous occupation for any man. If he is required to spend several hours a day at drill and stables in addition, the shoeing will suffer. Place the horseshoer on the same basis as cooks regarding drill and similar duties and give his work the same supervision and inspection as is given the work of the cooks, and I believe that in general there will be no fault found with the results.

"10. Except paragraph 9, which is the result of observation in the service at large, the above remarks are deduced from a careful observation of the experimental shoeing in accordance with your memorandum and a consideration of the anatomy and physiology of the horse's foot. For the reasons stated in paragraphs 4 and 5 the results of this test are inconclusive. That there has been no more lameness I believe is due to the very light work these horses have had. I have observed the condition of the frogs before and after shoeing but have not noted any general improvement. In one case bar shoes were used to develop the frog so that there would be pressure when the modified shoe was applied. I regret that I did not make notes of the conditions of the frogs before and after shoeing in each case. This should be done if any future experiments of this kind are undertaken, as well

as the measuring of the distance between the heels before and after shoeing. The only definite deduction that can be drawn from this experimental work is that by it alone the unsuitability of any form of tips for general shoeing of the service horse has not been proved.

JOHN ALDEN DEGEN, Captain, Twelfth Cavalry.



RECOLLECTIONS OF AN OLD CAVALRYMAN.

BY LIEUTENANT COLONEL EZRA B. FULLER, U.S. ARMY, RETIRED.

THIS being the fiftieth anniversary of my having first become a cavalry soldier,* it is but natural that I should indulge in retrospection and that my mind should drift back to the day, half a century ago, when I first donned a cavalry uniform. It is also but natural that one should on such an occasion make a mental note of the many changes that have taken place in our service in these fifty years.

These changes in the service have been along all lines—changes in the uniform, in barracks and quarters, in arms and equipment, in the ration and other supplies, in the regulations and in administration, in the drill and drill regulations, in the records and paper work, etc., etc. In fact about the only thing pertaining to the cavalry service in which there has been no substantial change is in the dear, old McClellan saddle and even that is soon to disappear from our midst. Yet this saddle has undergone some alterations, particularly as to its covering, since I first knew it when it had a raw-hide cover. Later this was changed to a black leather covering and, still later, to the russet leather covering and trimmings. Our service never had a better saddle for field service and I have my doubts as to the new one being an improvement.

It is true that we still have certain articles of equipment, such as axes, spades, shovels, etc., which are common articles of commerce, in which there has been no change, but of those which are especially manufactured for the army, there are but few, if any, that have not been modified in one way or another.

It is an old army saying that it is a soldier's privilege to growl and claim that the service is going to the dogs. At any

^{*}This article was outlined and commenced several months ago, so that the date of the anniversary has long since passed.

rate, one used to hear in the old days that "The service is not like what it was before the war." meaning the Civil War, and still later this same remark was made, these later day growlers referring to the late war with Spain.

Personally, being somewhat of an optomist, I am glad that our service is not like what it was before either of these wars. as I believe that great and good progress has been made along almost all lines, especially in that which better fits our officers and enlisted men for service in war, the object for which they are being trained. At the same time there are many characteristics of the cavairy service of the old frontier days that have been lost to us and which it would be well if they were with us still. Especially do I wish that we had the old time, thoroughly trained, typical, frontier soldier, more particularly the noncommissioned officers: those that remained with us for years and whose experience in the many campaigns on the plains gave them a training that it is impossible for the modern cavalryman to acquire.

These old time cavalry soldiers were tough and hardy; they could ride and shoot, although possibly not as fine target range shots as the present day soldier; they were self-reliant and resourceful and they were, as a rule, trained scouts, some of the men and officers of those days having been experts in this line.

How well do I remember many of these old and faithful men, not a few of whom I helped to bury on the field where they fell in an engagement with the Indians, gallant soldiers who had followed me on many a hard ride. It is true that some of them could consume their share, and possibly more, of the Post Trader's whiskey and were adept at playing monte, faro, poker and "Honest John" when in garrison. Still they were ordinarily sober, honest and reliable garrison soldiers and there were no better in the field.

It is certain that in those days no one became a First Sergeant during his first or second enlistment and it was seldom that one became even a corporal during his first term of service. On the other hand, I have seen many a non-commissioned officer in these later days without a single service stripe. Some claim that this is what is now wanted and that the modern

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soldier should be turned back to civil life, after being thoroughly trained, and become a reservist. I am not in accord with this idea as regards the cavalry service.

RECOLLECTIONS OF A CAVALRYMAN.

Furthermore, these old time soldiers were neater and nattier looking men when on parade or drill or other garrison duty, or when on pass, than are those that it has been my fortune to see of late years. It is many a year since I have seen men go on guard with their uniforms, arms and equipments as spick and span as in former times, when even their underclothes were inspected to determine the cleanest man to be selected as the commanding officer's orderly for the day. Often the rivalry between troops was so keen as to who would be selected for this honor that officers and men turned out to witness the inspection and to ascertain who had been chosen. In recent years soldiers may be seen on the streets of garrison towns in uniforms that they would not have been allowed to wear to stables twenty years ago. This, it is believed, is largely due, however, to the introduction of the khaki uniform which, when not fresh from the laundry, never looks well.

Of the numerous innovations that have come about in our service during these fifty years, it would be difficult to specify just which has been the most beneficial to the service as a whole; the women think that it is the introduction of the folding card tables that now have become so common. The vast improvement in fire arms undoubtedly ranks first as regards the efficiency of our troops in battle. It is a long stride from the old muzzle-loading musket-not even rifled as the first one ever in my hands was not-with its cartridge of powder and ball, wrapped in oiled or parafined paper that had to be bitten off when loading, to the modern, long range rifle of today. The same comparison can be made between the revolver of the Civil War as I first knew it and the present automatic pistol. The former used a similar paper cartridge and the percussion cap, and it was not an infrequent occurence for all of the chambers to go off simultaneously when only one was intended to be fired.

Probably there is no one item in which more changes have been made in these years that I have been a soldier than in that of the uniform of both officers and enlisted men. In a great many respects these have been in the line of improvement as to comfort and suitability for field service but in other respects such is not the case. The present day service uniform for garrison use is far from being as satisfactory as regards comfort, and there is no comparison between it and the old blue uniform, that is now the so-called dress uniform, as regards appearance. Especially is this true of the summer uniform, the khaki, that never looks well, even when clean, and when soiled should never be worn even when on fatigue. I can never be convinced that the starched uniform is as cool and comfortable as a light weight serge blue uniform. All this without considering the leggin which has become a veritable nightmare to the officers and enlisted men who are compelled to wear them all the livelong day.

The first cavalry uniform that I donned fifty years ago was a monistrosity, especially as issued, but fortunately we were not required to so wear it. The coat was a jacket, very long in the waist and coming to a point in the back, something like some of the other monstrosities that I have seen in recent years and know as the mess jacket. This jacket had a two story collar that came up to the ears of a short necked man, and which, as well as all of the seams of the jacket, was trimmed with yellow braid. It had two projections or knobs let into the back seam at the waist, which were designed to keep the saber belt from sagging. By cutting down the collar and cutting off the bottom straight around and stripping it of the braid, we managed to make a fairly presentable coat of it. The hat as issued to our regiment (the other regiments of our brigade wore caps), was a broad, stiff brimmed one with a sugar-loaf crown that stood about six or seven inches high. With it were issued a lot of brass trimmings, consisting of a spread eagle, crossed-sabers, numbers, letters and a feather. These we threw away and by cutting down the crown some three inches and taking off about an inch of the brim, this hat became less unsightly. The trousers were of light blue and about the same as continued to be the uniform for many years, except that the quality was greatly improved after the war. Many of our regiment used to have their trousers slashed up the side nearly to the knee and buttoned with small brass buttons. When unbuttoned, the bottom of these trousers could then be folded around the leg when top boots were worn. The boots were of a heavy, clod-hopper style that came up to the calf of the leg and that were seldom worn by any that could raise the price for a decent pair from the sutler. However, it took nearly a month's pay to procure a pair of good boots from the sutler.

The officers wore a long tailed, single breasted coat that continued to be their uniform coat until just before I became a commissioned officer. This coat answered for a full dress coat as well as for every day wear. However, they wore epaulets with it when in full dress and shoulder straps for undress. With this many wore a single breasted vest, with gilt buttons, and when not under arms went with the coat unbuttoned. The full dress hat and trousers for officers will be noticed later.

It would take too much time to note all the many changes in the uniform that have taken place in these years and will, therefore, enumerate but a few of the more freakish articles with which the army has been afflicted at times and also the most prominent ones that were more or less beneficial.

Along in the seventies, we of the cavalry were temporarily burdened with an experimental campaign hat, the first of this article of dress we ever had. It was a black hat, supposedly of felt, with a very broad brim, some five or six inches wide, which was provided with hooks and eyes on the edge of the brim, both fore and aft, for the intended purpose of hooking it up into a front and rear peak. When the brim was thus hooked up, it afforded practically no protection and when unhooked, except when new and the sizing had not yet been washed out, the brim flopped like a pair of elephant's ears.

At about this same time, there was adopted for officers and enlisted men of the mounted service the Napoleon boot which had high tops with the front part extending well above the knee. This was a fairly serviceable boot in some respects but it failed of answering the intended purpose of protecting the knees during stormy weather, as, when mounted, the elongated front part of the top formed a sort of funnel for conducting the rain down the leg.

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The little French chasseur cap that was the head covering for the army for many years was a neat, natty cap which we all disliked giving up very much. Of course, it did not afford much protection to the head, but no cap does that, and of all the many styles of caps that we have since had, none came up to it in style and military neatness. It was the most serviceable and best looking head gear for garrison use that we have ever had. Furthermore, all of the later day numerous caps that we have had requires much more space for packing.

The old time full dress hat for officers, with its feather and coat of arms and looped up brim on one side was, when well made and properly worn, a neat and jaunty affair which was strictly American and a better appearing full dress head gear than any we have had since. Certainly, it was far more comfortable and better looking than its successor which was the most abominable of all contraptions as regards looks and comfort. This was the helmet with its horse hair plume for the mounted troops and spike for the dismounted arms. It is true that all did hot agree with me as to the appearance of this full dress helmet, but all were in accord as to its discomforts. No one ever wore one of these on a dress parade or at a review without coming in with a head ache or a strained neck, if the wind had been at all strong.

The blue blouse, now known as the dress coat, underwent many changes but finally developed into the neatest and most serviceable coat that our army has ever known. At one time it had a turn down collar; again it was covered with braided frogs in front; and for a short time had breast and waist pockets. I regret very much that this coat is not still the regulation coat for every day wear, winter and summer, for garrison use, as was the case a few years ago.

The introduction of the service uniform, olive drab or khaki, for garrison use has undoubtedly led to the more or less lack of neatness in dress, on the part of both officers and men, that prevails in a greater or less degree throughout the army. The use of the service uniform in garrison not only detracts from the military appearance of the wearers but has tended toward actual slovenliness under some commanding officers.

There has been but one marked change in the blue trousers for officers during my service and that was when the old time welt or cord in the outside seam, of different colors to designate the several arms of the service, was replaced by the present stripes. A great howl went up when this change was made, many officers claiming that they could not then be distinguished from the sergeants, especially when in the field where the dark blue flannel shirt was worn and without insignia.

For many years, before and after the Civil War, the overcoat for enlisted men was of light blue with a cape lined with cloth of the color of the arm of the service. The present olive drab overcoat is far more serviceable and a better appearing garment. Although a "cloak coat" was the prescribed overcoat for officers during the Civil War and afterwards until 1870, yet few of them were worn. The officers generally wore the enlisted men's overcoat, with the braid indicating their rank on the sleeve, similar to that now in use, although many wore it without any indication of rank, especially when in the field. Since 1870 we have had several different styles of overcoat, with and without frogs and braid, with or without brass buttons, etc., but none were as serviceable and as comfortable as the present overcoat.

In the matter of barracks and quarters the improvements have kept pace with the betterment along other lines. The old time abode or frame buildings, and even log shacks in some instances, have been replaced by large roomy, steam heated and electric lighted barracks and quarters which are almost elegantly fitted with lavatories, baths and toilets. When I first served on the frontier, the barracks were of abode or frame construction and in many cases were built by the troops. One of the first details I ever had as a commissioned officer was that of superintending a detail of enlisted men engaged in shingling the roofs of our barracks and stables. Later, in another garrison, our troop stables were entirely built by the men of the troop of which I was a lieutenant and under my direction, this without the assistance of a single carpenter or other mechanic.

The barracks were lighted with candles, the allowance of which was not sufficient to properly light the squad rooms so 420

hat-tubs, rubber folding ones or the ordinary wash tub, and the other furnishings were equally simple. Outside of a few easy chairs, some draperies, etc., brought by the officer from the East, nearly all the furniture for his quarters was made by the troop carpenter, and improvised dressers made out of packing boxes were the rule. With the advent of better

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quarters came mahogany and other better furniture; oriental rugs replaced the old time ingrain or other carpeting and finer draperies were installed. With the coming of these disappeared the old time simple life of the frontier days.

Similarly, the offices of the Commanding officer, Adjutant. Quartermaster, etc., were bare of all luxuries and the furnishings were of the simplest kind, often such as were made by the quartermaster. There were no such things as carpets or rugs, window shades, easy chairs, etc., except at the several department headquarters.

The amount of furniture, etc., that an officer could have in those times was restricted largely by the baggage allowance which was far smaller than at present, and in some cases, when changing station by marching, that limited allowance was curtailed to a greater or less extent, according to the wagon transportation supplied. The baggage allowance for a second lieutenant is now greater by 1,000 pounds than was that of a major general twenty-five years ago, and the allowance of a non-commissioned officer is now larger than was that/of a lieutenant at that ime. There was no baggage allowance for professional books in those days, and it was not long after this allowance was made that the old story was heard of some quartermaster wiring an officer that one his boxes of professional books was leaking badly.

The change in the ration allowance for enlisted men has been very great when it is considered that it is not so very many years ago that there was no vegetable component of the ration. outside of the dried vegetables, rice, beans and split peas. The army is indebted to the late Senator Plumb, of Kansas, for the addition of the potato, onion and tomato, a pound in all, to the daily allowance. Prior to that time, the troops had to raise their own vegetables, purchase them from the troop fund or

that the men could read at night. The larger part of this allowance was used in lighting the kitchens and dining rooms, leaving only enough for the squad rooms to dimly light them when the men were going to bed and getting up in the morning, especially in the winter months. There were few reading rooms in any of the barracks. The barracks were generally without bath rooms but the enterprising troop commanders usually improvised one by either utilizing some small room in the barracks or stables where a stove for heating water was set up and a few wash-tubs installed, or, in some cases, a bath house was built of logs or adobe in the barrack yard.

The barracks were then fitted out with two story wooden bunks for the man, which required eternal vigilance to keep them free from vermin. There were no white or any other iron bunks with bed springs, mattresses, sheets and pillow cases in those days. Each enlisted man was supplied with a bedsack which he stuffed with straw, of which there was a fixed allowance for that purpose. If he had a pillow or other bedding, except his blankets, it was a luxury procured at his own expense.

Also, there were furnished no dining-room china or other table-ware and the kitchens were supplied with a limited quantity of cooking utensils. What they had in the line of table-ware or kitchen furniture was purchased from the troop funds or by the contributions made by the men. Even the tables and stools were home made. No knives, forks, spoons or cups were supplied either for garrison or field use. It was considered a long step in advance when the Ordnance Department first began to supply these articles for field service and the introduction of the present meat can was looked upon as the greatest invention of the age. Certainly no other one article of equipment has contributed more to the practical benefit of the enlisted man in the field than that of this self-same meat

The officer's quarters in those early days were, in many respects, as crude and as poorly supplied as were the barracks. It is only within comparatively recent years that any of the officers' quarters were equipped with bath tubs, except tin 422

go without. The recent addition of an allowance for chicken or turkey for holidays, and the components of butter, jam, etc., has greatly added to the soldier's diet. It is understood that now there is no prescribed ration and that the money value of the ration is placed to the credit of an organization commander and that he purchase from the commissary or elsewhere what he chooses for the table of his troop or company.

While whiskey was not a part of the prescribed ration when I first saw service, as was formerly the case, yet it was kept in the Commissary for sale to officers and for issue to the men on extraordinary occasions when recommended by the Surgeon and approved by the Commanding Officer. The frequency with which it was so issued depended upon the conscience of the Surgeon and in some regiments the issues were numerous. Being a mere lad at that time and not addicted to the use of strong drink, I passed my allowance on to some friend in the company and there was always a struggle to get next to me in ranks when the whiskey issue was made.

At many of the frontier posts game was plentiful and a large saving on the meat ration could be made; this—in the form of bacon—usually brought high prices, and at those garrisons located near mining camps or on the routes of travel to them, the savings of coffee, sugar and bacon brought almost fabulous prices.

There was no travel ration during the Civil War and for many years after, When troops traveled by rail they carried the usual field ration of hard bread, coffee and bacon and cooked them whenever and wherever they could, generally when unloading to feed and water the stock.

The improvements along the line of the reduction of useless paper work has been notable. Formerly this item of duty was a bug-bear to the officer and much of his time was spent in making records that were of no earthly use. The Board of Survey has been replaced by the Survey Officer's report which is far less cumbersome. In the old days, the proceedings of a Board of Survey were as formal and complete as those of a General Court-Martial and usually four copies had to be made, two to go to the responsible officer, one to post headquarters

and one to Department headquarters. In some departments, the one for post headqaurters was not required. I have known it to happen that the copy sent to Department headquarters would travel back and forth for a year or more, directing that additional investigations and reports be made, all of which required further proceedings in triplicate or quadruplicate, according to the Department, and all this after the responsible officer had used his two original copies as vouchers, had dropped the property and his return closed.

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A Board of Survey was then required, in some departments on all stores received at a post and many long weary hours have I spent weighing in oats, corn or hay, or in checking in Subsistence stores, etc.

The introduction of the Summary Court reduced the paper work immensely, as prior to that time every minor offense was tried by a Garrison Court, which court met and proceeded with as much deliberation and dignity as did the General Court-Martial. Both of these courts met in full dress uniform and the old time commanding officer would have a fit if they could see a present day general court meet in service uniform.

The employment of a stenographer for a Court-Martial was unheard of in former times, except under the most extraordinary circumstances, and then only upon the express authority of the Secretary of War.

I am not familiar with the troop records of today, but I understand that they have been greatly simplified. The present troop commander does not have to make quarterly returns for the property in his charge but holds the same, or a large part of it, on a memorandum receipt. This certainly must save an immense amount of work and worry over some small error which entailed an endless amount of correspondence before the return was closed. Formerly the list of expendable articles was very small and such articles as tent pins and other trifling items had to be regularly accounted for and disposed of through the medium of a Board of Survey or an Inspection Report.

There were no civilian clerks in former days at any garrison, no matter how large the garrison or how great the responsibility of an officer. Now civilian clerks are falling over

one another at all garrisons. Of course this is an exaggeration, but they are so numerous in the various staff departments that I lay awake nights thinking of the many long and weary hours that I spent in the Q. M. office working on papers. Frequently the only clerk that I had was a drunkard, but bright and competent when sober, and who never worked except under guard.

In no one other respect has there been so great an improvement in our army since I have been a member thereof as in respect to the methods and amount of practical instruction given to troops. When I first joined, the daily drill, generally mounted, of an hour, or possibly more under some overzealous troop commander, was the only pratcical instruction given. Absolutely nothing outside of the drill book was ever undertaken. There was no instruction in outpost duty, advance or rear guard or field exercises of any kind. It is true that, in some commands, a limited instruction was given about once a week to the non-commissioned officers in the, then called, tactics, and once in a long while some commanding officer would have the temerity of having an officers' school once or twice a week on the same old drill book. Also, in some Departments, instruction in signalling was spasmodically carried on. At one time this was carried out at all posts by War Department orders. However, this signal instruction never brought forth any practical results and the time spent on this, as well as that on "First Aid to the Injured" was always, in my opinion, wasted. Such instruction is for the special auxiliary troops whose business it is to do this class of work in time of war. Enough of them should be kept at war sterngth at all times and they should be made experts in their special lines. A jack-of-all-trades is generally worthless in any one special line and a cavalry soldier has enough to learn in his own trade.

There was no target practice in those earlier days, except when the old guard went out and discharged their carbines at a mark set up somewhere behind the guard house. It was as late as 1876, when I first saw any target practice in a garrison and then it was only to a very limited extent. The several companies and troops composing that garrison would go out at the regular hour and the officers would fire a score each,

often for the beer or some other non-intoxicating stimulant. Then they would leave their respective organizations in charge of their First Sergeants and proceed to the club for the purpose of collecting their winnings. There was no Small Arms Firing Manual in those days.

Later, however, this instruction was taken up with a vim and marked improvement was made in the markmanship of our men and officers. In fact, it became an all devouring craze and the time and attention devoted to it was actually far beyond what its importance, although extremely great, warranted. The rivalry between troops, companies, regiments and departments became so great at one time that amazing, even if not fraudulent, figures of merit were recorded and reported. As a matter of fact, very few in the army placed much faith in the reported scores in some instances and it was thought by some that the moral tone of the army was lowered by this infatuation. It was believed by many in the cavalry that other equally important instruction for our arm was neglected on account of the time devoted to practice with the carbine, both on the target range and the preliminary instruction leading up to it.

The craze was not so great for pistol practice, although we did hear of cases where the targets for mounted practice had to be removed to the other side of the track to keep them from being run over, and in others where the targets were set on fire by the blaze from the pistol. The writer led his troop in pistol practice for a couple of seasons and thought at one time that the markers were fudging for their captain but I could never catch them at it. However, I finally concluded that my scores were due to the fact that my horse would keep an even steady gallop down the course and never swerved an inch from the prescribed track.

However, much good came out of all this strenuosity in target practice and it finally settled down to a fairly good basis, although many officers still claim that too much time is devoted to this instruction to the neglect of saber practice, field firing, scouting, patrolling, etc., etc.

I had my doubts as to the wisdom of the comparatively recent innovation of giving extra pay for those qualifying as

marksmen, sharpshooters and expert riflemen as it might lead to frauds in obtaining these grades in rifle practice. Up to the present time, however, no intimation has come to my ears of such attempts at fraud. In addition to the foregoing reason for doubting the wisdom of granting this extra pay, it is believed that it is better to bring the average of a troop or company up to a higher standard than that a few should become expert shots.

The educational fad is one that has sprung up in our army during comparatively late years, although it has not become such an all-devouring craze as was that of target practice when it was at its height. This, however, has had a direct and also an indirect beneficial effect upon the service at large. Directly, because it is fitting our officers better for their duties of commanding troops in war and indirectly because now officers have to devote so much time in study that they have none left for boozing and playing poker.

As stated before there was a time in my experience when no instruction whatever was required outside of the drill book and the very few who did apply themselves to the study of the art and science of war, the reading of military history, etc., were styled, in a sort of contemptuous manner, as "Red Book" soldiers. This was due to the fact that all the works on minor tactics, strategy, etc., were of British origin and were bound in red. Of course, this color distinction disappeared when Wagner, Carter and others of our officers began to write and their books were otherwise bound.

It is not so very many years ago since one of our colonels of infantry, having an unusual large part of his regiment at one station, for those days, instituted an officers' school on a higher basis and gave orders that his officers should supply themselves with certain specified text books, such as Hamley's Art of War and Wilkinson-Shaw's Minor Tactics, etc. At once there was a vigorous protest made by some of them against such an unheard of requirement and a few went so far as to appeal to the War Department against the legality of such an order. It goes without saying that they were promptly and properly sat upon. That, so far as is known, was the first

attempt in our army to start any systematic instruction in any garrison, outside of the before mentioned schools for officers and non-commissioned officers which confined their instruction to the drill book.

Later the Infantry and Cavalry School at Fort Leavenworth was established but for several years it was derisively spoken of as a kindergarten. Certain it is that much that was there taught in the early days of this school could and should have been taught at the garrisons and some that the officers should have known before entering the service. However, that school has developed into a great institution and its scope has been so extended that its founder and the early day instructors would not now recognize it as in any form resembling what it was in its infancy. In reality, it has developed into a military university, covering instruction along many lines, not only for the officers of the mobile army, but for those of certain staff corps as well.

Since those days the schools at Fort Riley have been instituted and developed so that now they are doing important work for the mounted services.

Later still the War College was established but that may be said to be yet in an experimental stage and it is feared that it is covering the same ground, in some respects at least, as are taught at the other institutions. However, steps have been taken to coordinate the instruction being given at the several educational institutions of the army. There is so much for our officers to learn in these strenuous times that no work should be duplicated.

I have had no experience with the work being done in the garrison schools but believe that it has settled into a satisfactory course of instruction for the junior officers.

It would require a book, and a very large one at that, to record all the many thousand changes that have been made in the Army Regulations during the last fifty years. That there should be many is but the natural consequence of the changes in our military laws, and as our army has improved along so many lines, new regulations were required to carry out these improved conditions. Still, in order to keep up to date on the

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regulations, it is necessary for one to constantly paste in the orders affecting them as they are issued. The Army Regulations, like a dictionary, should always be at one's elbow and the idea of requiring an officer to be examined on them, when up for his examination for promotion, has always appeared absurd to me. Yet it has been the case that officers were required to stand a written examination for five days, of eight hours each, on this one subject.

In these days there are many conveniences that facilitate business that are considered actual necessities which were unknown to the army thirty or forty years ago. Among the most prominent of these is the telephone the use of which has become universal, not only in the garrison but in the field as well, and is now considered as essential on the modern field of battle. Well do I remember the first telephone system I ever saw in a garrison. It connected the Adjutant's office with the Quartermaster's office and the corral. Regarding its use at this post, a story is told of a certain noted Provost Sergeant who stood in awe of the machine and would stand off as far from it as the cord would permit, and when answering to some instructions being received, he would reply "Yes Sir" and salute the telephone.

The typewriter, speaking of the machine, was, for many years after it became a practical machine, barred from use in the army, whereas now there are thousands of them. Nearly every officer has one and no office is considered properly equipped, either in the field or in the garrison, that has not one or more of them. Some thirty-five years ago an officer who was one of the first to own a typewriter in the army, had the temerity to send in a set of proceedings made out in a neat and legible manner on his machine. His Commanding Officer nearly had a case of nervous prostration as the result of this youngster's boldness. He finally recovered and sent back the proceedings to be written out in long hand. Today such proceedings would be returned probably if made out otherwise than on a typewriter.

The law requiring that officers of certain grades should pass a satisfactory examination as to their physical and mental

qualifications before being promoted went into effect long after I became a commissioned officer. Many had been advocating the passage of such a law and had hoped and argued that it would have the effect of weeding out the incompetent and unworthy, the lazy and booze indulging officers, and, incidentally, to stimulate promotion by getting rid of these barnacles. In this, however, they were sadly disappointed and in this respect the law has been a dismal failure. The number that have been eliminated by this law have been very, very few, while, on the other hand, many of this class have calmly passed through the several grades and were retired as colonels.

RECOLLECTIONS OF A CAVALRYMAN.

At first the extent of ground covered by the examinations was left to each individual Examining Board and it frequently happened that one Board would hold a stiff examination, lasting for two or three weeks, while another Board, sitting at the same time in another locality, would finish with an officer in a single day. This gross inequality was finally remedied and now all take practically the same examination for the same grade.

Still I believe in the law and that it has had a beneficial effect upon the army, in that it has induced many officers to study and take a livlier interest in their profession, although as an elimination scheme it failed. At the same time it is believed that some such law, severely but fairly administered, is the only practical, just and fair scheme for elimination. Inasmuch as no officer should be allowed to reach the grade of captain—the most important grade in the army-who has not proven his fitness for promotion to that grade by a rigid, impartial and comprehensive examination as to his physical condition, his mental attainments, his temperament, his habits and his social standing, the principal eliminations should be made among the lieutenants. In other words, kill them while they are young. Of course, it would still be necessary to have examinations for advancement to the higher grades, both as to their physical and mental qualifications, as well as to their temperamental fitness for higher commands, yet the cases requiring elimination would be rare if the work had been properly done when the officer was a lieutenant. Then the officer so eliminated would

still be young enough to start life anew in other lines, whereas if this is done later in life, the officer is too old to take up other work and pity for him induces the powers that be to pass him along until the time arrives for him to retire.

In the matter of transportation of troops, there has been an immense improvement, since the days of the Civil War. At the close of that war, in July, 1865, the writer made a trip west from Washington in a box car, none of our regiment having any better accomodations, which cars had temporary seats of planks put in them, the seats running crosswise of the cars. These seats we tore out, either throwing away the lumber or using it for the cook fires at the first_stopping place where we unloaded to feed and water our stock. Then by covering the floor of the car with hay we made fairly comfortable beds for the night and a more comfortable place to sit during the day. At the same time, as there were no air brakes in those days, traveling on a freight train over the B. & O. was no pleasure trip. It was not until the "War of 1889" that I first heard of transporting troops in tourist sleepers, when I, as Chief Quartermaster, was ordered to furnish them for the Eighteenth Infantry when shipping this regiment from the Indian Territory to Texas. These troop trains of tourist sleepers have since been improved by having a kitchen car attached from which hot meals are served three times a day during the trip.

There have been but two important changes in the laws affecting the pay of officers and enlisted men since I have been a soldier. The first was the so-called "Logan Bill," of 1870, and the other was the pay bill of May 11, 1908, our present law. The "Logan Bill," while slightly increasing the pay of the officer and greatly simplifying their pay accounts, reduced the pay of the enlisted men to what is was before the Act of May 1, 1864. The pay of a private from 1854 to the date of this last mentioned Act of Congress was \$13.00 per month, but this Act increased this to \$16.00 per month, the pay of the other enlisted grades having been correspondingly raised and decreased. Prior to the passage of the Logan Bill, an officer's pay account was a complicated affair as his pay was made up of several

different items. The officer was allowed a comparatively small amount as his pay proper, that for a colonel having been \$110.00 per month, but was allowed a certain number of rations, at a fixed commutation value; the pay, clothing allowance and a ration for a servant; and, if a mounted officer, a certain fixed allowance for forage. In some specified cases double allowance of rations were given to certain officers, such as the commanding officers of posts, general officers commanding geographical departments, etc. Also there was a further increased allowance of rations for every five years' service.

The pay bill of 1908 was a long step in the right direction as, while the cost of living had increased tremendously in the preceding years, there had been practically no change in the rates of pay for thirty-eight years. The increase in pay for the higher grades of non-commissioned officers was marked and a suitable recognition of the valuable services of these worthy men, with the possible exception of the First Sergeants. There is undoubtedly no more important grade of non-commissioned officer than is that of First Sergeant and their pay should be even higher than at present.

There is one question connected with our service that has never changed during the last fifty years, and probably for a hundred years or more, and that is the everlasting growls, complaints and bickerings regarding the inequalities in promotion. This has been the source of never-ending arguments and the cause of much lack of harmony among the several arms and corps of the army. I first heard it over forty years ago when the principal complaints and appeals were regarding the rank of officers coming into the regular service at the close of the Civil War, and the inutterable confusion resulting from allowing officers, under certain conditions, to take rank and precedence according to their brevet rank. There was hardly ever a Court-Martial convened without one or more protests as to the rank that had been assigned them on the court.

Having been a sufferer of the injustice of the old system of regimental promotion, it is probable that I have been as great a growler as any in the service, but more particularly have I felt the rank injustice of the inequalities of promotion between

the line and certain staff corps. To illustrate, the writer was an instructor at the Military Academy, with ten year's service as a commissioned officer, when a cadet was found deficient and dismissed from the Academy. This ex-cadet then studied medicine, had the required hospital service, was examined and came into the Medical Corps in time to get his captaincy seventeen days before the writer was promoted to that grade. after nearly twenty year's service as a lieutenant, and chose his quarters on reporting for duty at the same post. This injustice has been still further accentuated in these later days by the law allowing the promotion of lieutenants of the Medical Corps to their captaincies after three year's service. Those officers have some ground for complaining that they should receive extra pay because of their having to take a course in medicine and surgery and hospital training, at their own expense, before being commissioned. There can be no objection to their receiving any amount of pay for their services, in order to obtain the best talent in that line that the country affords, but there is a serious objection to their taking rank and precedence over officers of much longer service. There are in the service today over one thousand captains and not a few lieutenants of the line of the army who were in the service before the junior major of the Medical Corps received his commission; there are nearly two thousand lieutenants who were in the service before the junior captain of this same corps was commissioned; and there are several captains in the Engineer Corps whose classmates are still second lieutenants. This is all wrong and we will never have a harmonious army so long as such iniustice exists.

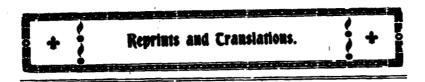
Under the old law, or rather system—many claiming that the law regarding promotion was not correctly interpreted—of regimental promotion, there were very many cases of gross inequalities in the same arm, while the relative promotion in the different arms and corps depended largely upon luck—not merit—and was greatly the result of legislation, vicious or otherwise. The officers of one regiment would be jumped by those junior to them in other regiments of the same arm, not only occasionally but for a term of years. At one time the

nine senior lieutenants of cavalry belonged to one regiment and the senior of these was at the head of this list for nearly four years.

The single argument that it would kill regimental esprit to change this interpretation of the law, and the influence of certain officers, who would be adversely affected by the change, prevented the passage of the law which finally made all promotions in each arm lineal, until a proviso was inserted excepting the then First Lieutenants of the service.

From all the above, it must not be inferred that the writer does not believe but that the service has greatly improved during the last fifty years for, on the contrary, there has been great advancement in all that fits our army for service in war. There is more study and instruction; there is less, much less, drinking and gambling; and the arms, equipments and other accessories have been greatly improved.





THE SWISS CAVALRY.*

THE Swiss Cavalry will not so much command the attention of the student because of its strength, nor because of the number of its regiments, so much as by the fact—as is the case in Switzerland, where the army means practically the whole people in arms as a national militia—so much, we repeat, as by the nature of its organization, which in every particular has taken count of the needs of a special arm, such as is the cavalry, and has completely satisfied all the requirements arising from its difference and departure from the normal constitution of all other cavalry in Europe, differences that must necessarily arise from its peculiar character as a militia force.

It may possibly be that useful lessons will be learned by other states from what has been accomplished in Switzerland, where they have succeeded in creating a force of cavalry worthy of the name: that is to say, a body of mounted troops that is prepared to perform all the difficult and varied duties that would be expected of them in time of war. At all events, certain particulars as to their formation and requirements—as we shall presently see—will undoubtedly not fail to prove of interest especially to officers of cavalry.

It is our intention, therefore, to describe with sufficient circumstantuality in this modest essay the conditions obtaining in the Swiss cavalry, for we are satisfied that everything relating to its make-up, in which they depart so considerably from that of the cavalry of the great European powers, is well worthy of our attention.

A few preliminary remarks as to military conditions formerly existing in Switzerland will be, if not indispensable, at least useful in throwing light upon the organization of their cavalry as at present constituted.

In Switzerland whatever relates to military matters has from the earliest times been held in great esteem; and for centuries every citizen had been under obligation to render service; but it had always been in a local militia, in no wise approaching the idea of an army; not having been in any sense of the word a national force, but simply a militia for the several cantons.

It was only after the disturbances that arose and existed from 1798 to 1801 that the Confederation began to consider seriously the establishment of a true military organization, but always for the cantons individually.

On the 22d of June, 1804, the Diet at length passed a bill for "a general military force for the Swiss Confederation." According to this measure there was to be created an army, with a strength of about 15,200 men, to be divided into several legions; but the project was never carried into effect.

From that time on, however, various regulations concerning a military force were passed, notably in 1807, 1817, and in 1850; while in 1865 a General Staff was appointed. In 1874 an order was finally issued, by which a federal army was authorized, with a total strength of the line and national guards of 202,479 men.

The regulations at present in force date from 1907, having been revised and completed in 1912.

^{*}Translated from the Cavalry Review of August, 15, 1915, by Chaplain Henry Swift, U. S. Army, Retired, for the War College Division, General Staff.

THE SWISS CAVALRY.

The army is composed of three sections or lines:*

First Line: The Elite, consisting of soldiers between the ages of 20 and 32, with these exceptions: Cavalry men, who serve in the line for ten years only; Captains, who serve until they have completed their thirty-eighth year; and the higher ranking (field) officers, who are required to serve until they shall have completed their forty-eighth year.

Second Line: The Landwehr, composed of soldiers between the ages of thirty-three and forty, with the following exceptions: Captains, who serve up to the end of their forty-fourth year; the higher ranking officers, who may be required to serve until they shall have completed their forty-eighth year.

Third Line: The Landsturm, composed of soldiers between the ages of forty-one and forty-eight.

In addition to these there may be incorporated into the ranks of the third line: Soldiers who may be or have become unfit to serve in the line or in the Landwehr, who may still be able to duty in the Landsturm; as also volunteers who may have shown sufficient proficiency in firing, and who possess the requisite physical qualifications.

In the Landsturm all officers must serve up to the end of their fifty-second year.

The transfer from one line to another is made on December the 31st.

In case of war the Landwehr may be called upon to serve with the line, and the Landsturm to serve as Landwehr.

Having given this brief prefatory sketch of the general

composition of the army, we will pass at once to the consideration of the cavalry.

The unit in the cavalry is the squadron, which is recruited—as is the infantry—territorially within the canton, and in the respective districts.

The cavalry consists of squadrons of dragoons, and squadrons of guides. The squadrons of dragoons are organized into eight regiments, each regiment consisting of three squadrons. The regiments, again, are formed into four brigades, which represent the cavalry of the army; these being under the command of one chief.

The squadrons of guides are arranged in groups of two squadrons each. These constitute the divisional cavalry, and furnish moreover detached troopers to serve as orderlies with the field and the staff of the infantry regiments, with the mountain infantry, and with brigades of these arms.

In addition to these there are companies of cavalry serving rapid fire guns.

Altogether there are the following:

Fifty-four squadrons of dragoons; thirty—numbered from 1 to 30—belonging to the Line; twenty-four—numbered from thirty-one to fifty-four—belonging to the Landwehr.

Forty-two squadrons of guides; thirty—numbered from 1 to 30—for the Line; twelve for the Landwehr.

It is proposed to organize thirty-nine companies for the Landsturm.

The cantons as listed below* are required to furnish the squadrons of dragoons and guides as is shown by the accompanying table:†

Vaud: Nos. 1 to 4, and 31 to 34.

Fribourg: Nos. 5 and 6, and 35 and 36.

Bern: Nos. 7 to 13, and 37 to 43.

Aagua (argovie): Nos. 15, 23, 45 and 53.

^{*}With their mixed nationality the Swiss have borrowed impartially from Germany and France. Elite, however, departs from the meaning of the French term, which would rather signify a body of picked men, the flower of the army, a "crack corps." In translating I shall hereafter speak of the elite as the "line," as being the line par excellence, fully armed and equipped and approaching more nearly the idea of a permanent establishment. The second line, or landwehr, is less a national guard than it is the "first reserves;" while the landsturm may be regarded as the "second reserves;" age being largely the determinant.—Trans.

^{*}There are twenty-two cantons in all. The orthography given is that of Everyman's Encyclopaedia.—Translator.

[†]In the list given these dragoon squadrons are unaccounted for: Nos. 14 25, 26, 27, 28, 29 and 30; while no mention is made of the guides.—

Translator.

Schaffhaussen: Nos. 16 and 46.

Zurich: Nos. 17, 18, 24, 47, 48 and 54.

Thurgau: Nos. 19 and 49.

St. Gallen: Nos. 20, 21, 50 and 51.

Lucern: Nos. 22 and 52.

The squadrons of dragoons and of guides are composed of three platoons commanded by officers, consisting each of four squads. Officers without commands (one in each squadron of dragoons, and four in a squadron of guides) are charged with the conduct of patrols.

The formation of a squadron of dragoons is as follows:

1 Captain commanding,

4 Subaltern officers,

16 Non-commissioned officers, among whom are included 10 corporals,

117 or 118 Appuntati (picked men*) and privates (the farriers being two or three in number),

132 to 133 saddle horses.

3 wagons, each drawn by four animals, of which vehicles one is for forage and kitchen appliances.

In all there are 5 officers, 133 to 134 men, with 132 to 133 saddle horses, and 12 draught horses with the 3 wagons.

The squadron of guides is somewhat stronger; comprising 8 officers, 146 to 147 troopers, of whom 22 are non-commissioned officers, 150 to 151 horses for saddle use, and 3 wagons with 12 draught animals.

The officers of the Landwehr are entitled to a saddle horse; but the squadrons in the Landwehr are not mounted. They have neither a sanitary squad, nor soldiers of the train, nor orderlies for officers; no draught horses, no wagons.

The cavalry rapid fire gun companies, introduced in 1899, are provided with eight rapid fire guns (four platoons with two guns each). The men are mounted, and all necessary supplies are carried by cavalry horses, able to follow wherever the command may go. In every company there is always a certain number for service of security.

The strength of the company is: 7 officers, 22 non-commissioned officers, 116 privates, 135 saddle horses, 24 pack

horses, 20 draught horses, and 7 vehicles, 4 of which are caissons for the ammunition.

The formation of the Swiss army in time of war—without taking count of the numerous bodies of the Landwher and Landsturm—is into six divisions; out of which, as circumstances may demand, are constituted three army corps. In addition to these are the garrisons of St. Gothard and St. Maurice.

The groups of the squadrons of guides are thus distributed among the divisions:

First Division: group 1, squadrons 1 and 9.

Second Division: group 2, squadrons, 2 and 10.

Third Division: group 3, squadrons 3 and 4.

Fourth Division: group 4, squadrons 5 and 11.

Fifth Division: group 5, squadrons 6 and 12.

Sixth Division: group 6, squadrons 7 and 8.

Of the troops (mounted) that are not assigned to divisions there are in the Line the four brigades of cavalry, which are organized as follows:

First Brigade of cavalry:

First Regiment of dragoons, squadrons 1 to 3. Second Regiment of dragoons, squadrons 4 to 6. First Company of rapid fire guns, mounted.

Second Brigade of cavalry:

Third Regiment of dragoons, squadrons 7 to 9. Fourth Regiment of dragoons, squadrons 10 to 12. Second Company of rapid fire guns, mounted.

Third Brigade of cavalry:

Sixth Regiment of dragoons, squadrons 16 to 18. Seventh Regiment of dragoons, squadrons 19 to 21. Third Company of rapid fire guns, mounted.

Fourth Brigade of cavalry:

Fifth Regiment of dragoons, squadrons 13, 14 and 22. Eighth Regiment of dragoons, squadrons 15, 23, 24.* Fourth Company of rapid fire guns, mounted.

The meaning of appuntati will appear later on.—Translator.

^{*}The writer gives squadrons 15, 23, 34; I have corrected the last, a manifest error, to 24.—Translator.

The Swiss army has no horse artillery: so it would seem that the cavalry brigades are not provided with batteries.

However, among the forces not incorporated into the divisions are several groups of field artillery, from which portions may be attached, as occasion calls for them, to the cavalry brigades.

There are, in addition, to be disposed of as needed, some companies of cyclists. No detachment of cyclists, however, forms an essential part of the cavalry brigade, but when required a company of these may be assigned temporarily to a cavalry command.

It is to be noted that of the thirty squadrons of dragoons only twenty-four are incorporated into the eight regiments of the cavalry brigades. The remaining six squadrons are probably kept for assignment to the three army corps, in groups of two squadrons to each corps; while groups of two squadrons of guides are assigned to each of the divisions.

And so, just as with other armies, the Swiss would have their cavalry forces distributed:—the cavalry brigades, the cavalry of the corps—the groups of two squadrons of dragoons, the division cavalry—groups of two squadrons of guides.

The cavalry brigades are commanded by lieutenant colonels.

The cavalry regiments are usually commanded by majors, although a lieutenant colonel may be appointed.

Each regiment has its standard.

The only particulars, outside of these details, that demand our attention are the following:

The Swiss army, which is in fact a militia, has no troops on a peace footing except the unit, which in the cavalry is the squadron.

In case of a call to arms the squadrons assemble in their respective cantons—we shall see presently in what a simple and expeditious manner—and, being assembled, betake themselves with all speed to the appointed rendezvous, where they are organized into regiments and brigades.

But how is the recruiting of the men, the appointment of the officers effected? How are the one and the other instructed? What methods are followed in the training of their mounts? It is about these, the officers, men, horses, the three principal elements which constitute the essence of cavalry,—it is exactly all these, how they manage to keep up to the mark all that concerns these factors, all the interesting particulars concerning the cavalry of Switzerland, that we are about to examine in detail.

As a preliminary it will be well to give in brief a few indispensable data concerning enlistment or recruiting; first, as it relates to the troops, and then as regards its officers.

Every Switzer, then, is under obligation to render military service to the state from the beginning of that year when he will have completed his twentieth year; from that time until the end of hostilities, or until he has completed his forty-eighth year, or in the case of officers his fifty-second.

This personal obligation includes: Drilling and other instruction; active service; the compliance with such duties as may appertain to each individual; the keeping in good order, and in readiness for inspection, his outfit of clothing, arms and equipment; to practice firing when not on active service; to obey all orders as to conduct during, as well as outside of active service; to accept promotion, and to comply with all the duties that such grade imposes, and to accept any command assigned to him.

It seems to us that no demonstration is needed to show that such obligations are far more binding, and cover a wider field, than in other countries. We certainly can conceive that by such means the problem—especially difficult in an army or militia—is most satisfactorily solved, the keeping up of the efficiency in their various grades of the men in the ranks, and what is of still greater importance, of that of the officers; and that it is only in Switzerland that the military, when not on active service, are under obligation to take care of their equipment, arms, etc., and to keep up their discipline when at home or on furlough.

The Swiss citizen, who may for any reason whatever be exempted from military service, whether he be in his own country or living abroad, is required to pay in cash a tax, which

consists of a personal tax of six francs, and a supplementary tax of one and five-tenths francs on each 1,000 francs of net income; a tax, however, which is never to exceed 3,000 francs.

This military tax*, first ordered in the year 1873, is paid up to the end of that year in which the person concerned will have completed his fortieth year. For the collection of this tax the cantons are held responsible, these being required to pay in the full amount to the Confederation before the end of the following January.

Recruiting is effected through agents of the Confederation, in cooperation with the cantonal authorities. The men are selected in the year when they will have completed their nineteenth year. The business of enrollment begins ordinarily about the first part of July, and is expected to be completed in October.

Those enrolled are not only subjected to a physical examination, but they are also examined as to their literary attainments, and are tested as to their physical aptitude, by athletic trials, etc. The cantons invite young men who may desire to join the cavalry, as well as those who wish to be enrolled in the cycle corps, or to serve as drivers in the artillery, to give notice through them to the commandants of their respective districts before the end of June.

The canton authorities first cancel from the lists of aspirants the names of such as are not competent to comply with the requirements imposed upon cavalrymen. They then send the lists to the commandants of the several districts, who makes a personal inspection in the premises, and then forwards the lists with their indorsements to the recruiting officers.

The scrupulous care exercised in the selection of men for cavalry is well worthy of consideration. The principal qualifications required of those who aspire to serve in the cavalry are as follows:

For dragoons and guide: Height 158 centimeters, although men especially qualified are received from 156 centimeters up; acuteness of vision two-thirds.

For rapid fire gun detachment of the cavalry the minimum of stature is 158 centimeters; acuteness of vision one.

The men must be vigorous, wiry, of a rugged constitution; and they must demonstrate their ability to maintain at their own charges a horse.*

Possibly the great care exercised, not to speak of the examinations, first by the cantons, then the more searching inquiries by the commandant of cavalry, have as their main object to assure themselves that the candidate is able to take care of the horse that is to be intrusted to him by the Government. But suppose that the authorities act principally to safeguard—which would be only right and proper—the interests of the State, yet the actual result is that a better class of men is selected for the cavalry, to the manifest benefit of that arm.

And so the above mentioned examinations, of a kind with that which every recruit must pass, but wider in its scope, bring a better instructed lot of men into the cavalry, novices though they may be as yet in arms.

An official document, giving the result of the examinations, certifies to the amount of attainments, as well as the physical aptitude of the recruit. He must, above all, present an official certificate regarding the courses he has pursued during the final year of his obligatory schooling.

The literary examination, which is to determine the degree of the aspirant's mental standing, embraces the following subjects: Reading, composition, mathematics, civics. On every subject a rating is given from one, which is the highest, to five, which is the lowest. In accordance with the general average on the grade attained the recruits are divided into three classes, namely: From 4 to 6 in the first class, from 7 to 11 in the second class, from 12 and beyond in the third. The recruits of the third class are almost invariably assigned to the infantry or to special functions.

The examinations in physical ability, under charge of professors of gymnastics, were inaugurated under general order in 1906. The main features of these are the length of running long jumps, the lifting of heavy weights (seventeen kilo-

^{*}The Confederation realized in 1911 by means of the above mentioned tax the sum of 2,204,918.09 francs.

The italics are by the writer of this article.

grams), with the two hands, and a trial of speed over a course of eighty meters.

In this examination a rating is given ranging from 1 to 5; but it seems unnecessary to dilate more upon this; as it does not appear to us to have any very important bearing on the special qualifications for cavarly service.

We think, however, that it is important to describe more fully the preparatory military instruction given to youths, instructions which comprise:

The teaching of gymnastics, which is required in all the schools, as well as in the academies, private as well as public.

Voluntary exercises without arms, preparatory callisthenic exercises (setting up).

Voluntary drill with arms, preparatory instruction with arms, voluntary courses in firing, courses in marksmanship.

This last preparatory instruction is given to youths between the ages of sixteen and eighteen; and is in conformity with the firing regulations, being arranged for and directed by officers or non-commissioned officers.

Having shown the methods of procedure followed in selecting recruits for the cavalry, methods which are similarly employed in filling the grades, non-commissioned and commissioned, we will speak briefly of the clothing, of the arms and equipments, which are furnished gratuitously to the young recruit upon his call to arms, beginning with his course in the School of Recruits.

The uniform consists of a dress and a fatigue cap, a dresscoat with epaulettes, a blouse with shoulder straps for field service, two pairs of pantaloons, a great coat and spurs.

The soldier supplies himself with underclothing, as also with footwear, which must consist of one pair of boots, and a pair of laced shoes. Every recruit has the privilege of purchasing his shoes from the federal supply depot; while boots are furnished him at the reduced price of twenty-seven fraces.

His arms consist of a cavalry saber, model of 1896—1902, with blade slightly curved, 810 millimeters in length, with a steel scabbard; a repeating rifle, model of 1905, with a cali-

ber of 75 millimeters. The length of the barrel is 330 millimeters; the weight of the piece is 3.65 kilograms; its initial velocity is 375 meters.

All of these articles forming his personal equipment are the property of the Confederation. They remain, however, in the possession of the soldier as long as he is in service, he being required to keep them in good condition, using them only when on duty.

To the recruit is also consigned a horse, together with all the necessary trappings, which he keeps from that moment in his own possession, as we shall learn more in detail further on.

As to instruction, this is imparted in the School of the recruit, and in the maneuvers of the Line, which are annual and continue for eleven days. Cavalry soldiers are required to participate in eight series of maneuvers.

Accordingly the private (as well as the *appuntato* or picked man) receives as a minimum of instruction:

In the school of the recruit 90 days; in the eight series of maneuvers 88 days; making a total of service in the Élite or Line of 178 days.*

It is to be noted that the time spent in going to and returning from duty—ordinarily not more than two days—is not included in the duration of time consumed in the schools and maneuvers as by law required.

The graded men of the squadron—all classed as non-commissioned officers—are:

One Sergeant major, assistant to the commanding officer, who is charged with the assignment of the men to their duties, the transmission of orders to the command, with arranging for special details, etc.

One Quartermaster (sergeant?), who is responsible for the property, and to a certain extent looks after the commissary supplies.

Four Sergeants, one for each platoon.

Ten Corporals.

^{*}The writer gives 80 instead of 88 days, a manifest error, which I have corrected.—Translator.

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Among the graded men might well be included the appuntati, of whom there are nine to a squadron. These are picked men selected from the ranks, who are not ordinarily vested with any authority except when ordered upon some particular duty, as in charge of a guard, a patrol, etc.

The non-commissioned officers, as well as the appuntati, are selected and promoted by the chief of the unit. As a requisite for promotion to the rank of non-commissioned officer a private or appuntato must have received a certificate of ability from some school of non-commissioned officers.

The duration of the school course for non-commissioned officers is thirty-five days. Men are detailed for school work on the recommendation of their superior officers, and during its continuance are under the orders of the commander of the troop and the instruction officers. During the maneuvers they are subject to the commander of the unit to which the aspirant is attached.

A candidate for the position of quartermaster must take a course in the school for quartermasters.

The minimum service of instruction for non-commissioned officers is given compendiously in the following table:

	Corporals	Sergeants	Sergeant Majors	-
School of Recruits	90	90	90	90
School of Non-commissioned Officers	85	35	33	33
School of Recruits as Corporals	90	90	90	90
Maneuvers as Corporals in the Line	88 .	22	22	11
Maneuvers as Sergeant in the Line School of Recruits as Ser-	••••	77	11	····
geant Majors	••••	′	90	90
jors or Quartermasters in the Line			66	88
Service of Instruction in the	303	314	404	434

The ranking of officers is as follows:

Subaltern officers: Lieutenant, First Lieutenant, Captain. Superior officers: Major, Lieutenant Colonel, Colonel. In the Swiss army the rank of general does not exist.

As far as we are concerned, whose subject is the cavalry especially, what most chiefly concerns us are details concerning the captains and subaltern officers; for it is to these, and these only, to whom the administration of the cavalry unit (the squadron) is committed.

Candidates for a commission are instructed in a School of Officers, the duration of whose course is eighty days. In order to enter such a school a man must be a non-commissioned officer. The recommendations are made: In the school of non-commissioned officers, and in the school of recruits, by the officers of the troop, and by the instructors of these schools; from the field of maneuvers, by the commanding officer of the unit.

The commandant of the school—in the field of maneuvers, the commander of the unit—must pronounce upon the character and standing of the prospective commissioned officers, whether from personal knowledge, or from whatever may be the source of his information.

At the termination of the course the corps of instructors, convened under the presidency of the commandant of the school, determine by a majority of votes as to the fitness of the candidates. None are considered as eligible for promotion to a lieutenancy unless they shall have a grade of two (sufficient) at the very least.

The list of such as are qualified are sent to the Military Department, where the papers in each case are compiled so as to exhibit the relative degrees of fitness. These are then submitted for the approval of the Commander in Chief.

The certificates are then transmitted to their respective cantons, by which the non-commissioned officers are made or raised to the rank of second lieutenant. (I quali nominano i sottufficiali a tenente. See nominare in appendix.—Trans.

No officer can be promoted to a higher grade until he has served four years in the lower. Promotions to the grade of

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first lietuenant are made according to the exigencies of the service, and in order of seniority. Promotions to higher grades depend on the demand and on the efficiency of the officer.

The ordinary custom or rule is that promotions to the rank of first lieutenant or captain are made at the end of the year, on December the 31st.

The following is the routine of instruction for commissioned officers ordinarily followed:

Second lieutenants just appointed serve as such in the school of recruits.

Subaltern officers qualifying for the assumption of command of a unit of the troop attend Central School No. 1 for a period of thirty days.

First lieutenants must besides this attend—first a school of non-commissioned officers, and then a school of recruits in command of a unit.

For captains qualified for advancement to higher grades a Central School No. 2 is provided, which gives them a more advanced course of military instruction, so as to enable them to assume higher commands later on.

The Federal Assembly has also instituted by a recent bil a scheme of instruction for officers of cavalry, namely:

Courses for chiefs of patrols, for subaltern officers, duration eleven days.

Tactical courses, for captains and officers of higher rank, duration eleven days.

The minimum, then of instruction for officers during their term of service is as follows:

For Subaltern Officers.

	DAYS.
School of recruit, as recruit	90
School of non-commissioned officers	35
Maneuvers as corporal	11
School of officers	80
School of recruits as lieutenant	90
Maneuvers and special courses	121
Total instruction in the Line	427

For Captains.

Service up to the end of the school of recruits as lieuten-	DAYS.
ant	306
Central School No. 1	30
School of recruits as commanding a unit	90
Seventeen series of maneuvers, and special courses	187
Tactical courses	22
Total of instruction	635

To make up when not on duty, in part at least, for the briefness of the courses of instruction it is obligatory upon all officers, as well as upon those of non-commissioned rank, to keep up and develop their knowledge and military efficiency. Numerous military societies have been organized with this end in view. It is only necessary to mention one of these, a society consolidated into one grand association—the Swiss Society of Officers.

These are especially active during the winter. They arrange "meets," war games, tournaments, fencing contests, ski practice, etc. In the summer, but not so frequently, they have tactical exercises at various points, courses in equitation, etc.

Officers receive gratuitously from the Confederation their armament, horse and personal equipments, but not their uniforms; these must be provided at their own expense. Officers of the cavalry, however, receive a rebate or indemnity for their first outfit of uniforms of 470 francs.

The equipment which the Confederation furnishes to officers of cavalry is as follows:

- 1 Saddle complete with case or chest.
- 1 Saber with belt, baldric, and cartridge pouch.
- 1 Field belt with supplementary straps.
- 1 Pistol with accessories and holster.
- 1 Whistle and compass.
- 1 Field glass with case.
- 1 Pair of saddle-bags.
- 1 Sabretache.
- 1 Canteen.
- 1 Pocket lantern with case.

Captains of cavalry, on being promoted to a higher grade, receive a further indemnity of 180 francs.

Officers are required, as goes without saying, to keep their own uniforms always in first class order, and to preserve with the greatest care the various articles of equipment supplied them by the Government.

The daily rate of pay in the cavalry is as follows:

	Active Service	Service of Instruction
	Fr.	Fr.
Lieutenant Colonel	15.00	13.00
Major.,	15.00	12.00
Captain		9.00
First Lieutenant	8.00	7.00
Second Lieutenant	7.00	6.00
Sergeant Major	2.50	2.50
Quartermaster	2.00	2.00
Sergeant	2.00	2.00
Corporal	1.50	1.50
Appuntato	1.20	1.20
Private	.80	.80
Recruit		.50

The commissioned officers, as well as the non-commissioned receive their mounts from the Government, as we shall have occasion to speak more at length upon later.

We have mentioned above pay for active service. We would state that such service means only as it is rendered in actual warfare, or when defending the neutrality of the country—as is the case at present—or under a call to arms issued by any of the cantons in order to subdue tumults, repress disorder, etc. Ordinarily then the Swiss soldier, be he officer or man, receives pay only for service of instruction.

But to this general rule, which is the fundamental characteristic of Swiss military service, there is one notable exception, namely in what is known as the Corps of Instruction.

Up to a very recent time the functions of the instruction officers were much more numerous and extensive than at present; but now the commander of each unit has been charged with much of the instruction in his immediate department;

while to the officer instructor is given only the direction of the school of the recruit, and of the higher courses. During the maneuvers they are detailed to serve with troops.

By all odds, however, the two duties reserved to them are regarded as of the greatest importance, and the greatest care is taken, as may well be understood, in the make-up of this corps.*

The number of instructors is determined by the Federal Assembly. In the year 1912 there were seventeen appointed for the instruction of cavalry.

Officers who aspire for the position of instructor must make application to the chief of their particular branch of service; and above all they must furnish proofs of their capacity or fitness.

Those only are admitted as candidates who have earned a certificate of merit admitting them to the University. They must be, moreover, of sound health, must have served with success in the school of the recruit, as also through one set of maneuvers. They must also be masters of two at least of the national languages.†

Since 1911 aspirants for such a position have been required to take a three years course in the military section of the National Polytechnic School,‡ and must have served with troops.

Three years after their admission as candidates the officers, if judged competent, and provided that vacancies exist, are appointed instructors.

^{*}La formazione dei quadri. The meaning of this expression is obscure, and the dictionaries give no light whatever. Quadri is defined as flower-beds; while quadro is a picture, a frame, a square. As these officers are over the higher schools—such as Central School, numbers I and II, the meaning above given is inferred.—Translator.

[†]German, French and Italian: Roumanian is also spoken in the eastern portion, and the term may include this language, though it is not ordinarily regarded in the same light as the others.—Translator.

[†]Military science is one of the branches in the Federal Polytechnic School. Its object is to give officers of the army an opportunity to go more thoroughly and deeply into the Art of War. It serves to provide competent instructors to the combatant arms. Their studies extend through three terms, two winters, and one summer. The subjects studied are practically the same as are pursued in other army schools.

The annual salaries of instruction officers are as follows:

From 5200 to 7300 francs for superior officers.

From 4200 to 5800 francs for captains.

From 3700 to 4800 francs for subalterns.

We have had occasion several times to mention the Chief of Cavalry; it will be necessary to speak of him more fully.

The aforesaid chief is a superior officer of the army, holding a permanent position like the instruction officers. He is head of the cavalry section in the War Department.*

His duties are:

The study of all questions of a military nature; the administration of the units, and of the staff corps instituted by the Confederation; the superintendency of all instruction; the appointment and assignment of instructors; all matters relating to officers, including certificates of capacity up to the grade of captain; all business connected with the stock of the cavalry, their purchase, training, issue, control, supervision of the cavalry depots of remount; command of the corps of instructors of the cavalry; in fact, he has absolute command of this arm.

CAVALRY HORSES.

To go fully into every particular relating to the horses of the Swiss army would far everpass the limits of this article. We shall only speak briefly of that which is of paramount interest to us, the horses of the cavalry.

As has already been stated, the officers, commissioned and non-commissioned, as well as the privates of this arm, are required to maintain permanently a saddle horse fit for service. The horses are acquired (purchased) by the Confederation, or furnished by the individual himself.

It is the chief of the cavalry department, as has been stated, who has the supervision of the purchase of horses, of their training, assignment and control.

For these duties he has under him:

A commission for the purchase of stock.

A depot of cavalry horses, used also for the training of the same.

The commander of the units.

We shall speak of each of these further on.

The commission for the purchase of horses has a chief, a permanent appointment, who serves as the president of the board. He has under him a veterinarian officer. It is the president of the board who makes the ultimate decision as to the acceptance of each mount; and he alone is responsible to the chief of cavalry. The veterinarian makes an examination of the horse, and pronounces as to its physical condition, noting any blemish or important defect, the eyes, etc. To the commission belongs a third officer, who acts as instructor or principal trainer.

It is for the president to find vendors, and to complete the terms of contract with them in the name of the chief of cavalry. In order to be accepted by the cavalry and purchased, horses must be of good strain, and of fine conformation. Their gait should be such as is required in a saddle horse. They must possess the qualities necessary to fit them for mounted service. Horses having much white in their coats are accepted only under the most exceptional circumstances. At the time of purchase the animals must be three and a half years old; their height from the withers must be not less than 154 centimeters, nor exceed 160.

The sale takes place at some point determined prior to the beginning of the year, and announced beforehand by the president of the board, and for prices agreed upon previously with the sellers or contractors. After having been purchased they are sent to the depot.

The cavalry depot is at Bern, with an annex at Schönbühl. It is under the direct charge of the chief of cavalry; is administered on military lines; is under the superintendency of an officer, who has under his orders the necessary officials and employees.

The functions of this establishment are multifarious in their character. The principal ones, affecting most closely the

^{*}The Federal Council includes the Military (or War) Department, whose chairman is a member of the Council. The Military Department consists of thirteen officials, who administer the various arms and services.

cavalry, and evidencing the importance attached to this service, are the following:

The acclimatization and training of horses to the saddle so as to fit them for their duties in the cavalry;

The renewal of horses of the Confederation to officers, commissioned or non-commissioned, or to privates, when there is a shortage from any cause whatsoever;

Selling of officers' horses;

The observation, treatment, and correction of faults in horses appertaining to officers or men;

Taking back and selling at auction, or selling at a reduced price, horses that may have become incapacitated for service;

The maintenance of a certain number of horses, fitted to serve in the cavalry, as a reserve;

Shipment of horses of the reserve to the schools and maneuver fields;

Furnishing mounts to the personnel of the staff, etc., during the maneuvers;

Instruction of aspirants for the position of riding master; The care of depot materiel, the issue of such to the troops during the course of the maneuvers, as also the schools of

cavalry.

The training of animals for the maneuvers, to which they are despatched from the depot, is regarded as a matter of great importance. For such uses horses only are accepted that have become thoroughly acclimated, and are well up to their work, fitted for the saddle or for driving. Before being forwarded for service they are branded on the right flank with the cross of the Confederation and the year of their acceptance, on the left flank with the running number.

After they have been thoroughly trained the horses destined for issue to recruits are assessed and classified under the categories respectively of their values, namely, 1600, 1400, 1200 and 1000 francs.

The assignment of horses to officers, to men, to such military as require mounts—it has many features of a sale—is made from the depot or from the school of recruits. In arranging for these, assignments the riders as well as the

horses are divided into two or more classes, height and physical build being the determining factors. Every rider is authorized to put in a claim for one horse belonging to his class. Before acting on the application the age, height and estimated value is stated; the horse is then put through its paces at a walk and trot, information also being given as to its breed, defects and temper.

If any man wishes to secure an animal, which in build, height and temperament does not seem adapted for his use, the commandant has authority, and indeed is required, to refuse it. If there should happen to be several men competing for the same horse it is then put up at its estimated value to be knocked down to the highest bidder. Bids are forbidden that are less than twenty, or exceed fifty francs. If the bidding reaches only 400 francs then lots are cast by the higher bidders to determine the contest.

Officers may either purchase their horses at the estimated valuation, or they may acquire the animal on the same terms as the enlisted men. If they buy, the half of the price must be paid down. The Confederation, however, reimburses the officer eventually, paying him back one tenth annually.

A recruit may furnish his own mount. If it is accepted, the soldier receives from the Confederation an amount equal to half of its assessed value, paying him in the same manner as in the other instance, namely one-tenth annually.

The horses, in fact, are regarded as the property of the State; but after his ten years of service are completed they pass into the full possession of the man or officer.

The obligations imposed upon the holders of these horses are numerous and rigorous, as may be seen by the regulations in the case.

The horses must be present at every duty upon which its owner is called.

Sergeant majors, quartermasters and sergeants, must participate, inclusive of their year at the school of recruits, in nine series of maneuvers; corporals and recruits in eight.

When not on active duty horses are fed and cared for at the expense of the holder, and they are enjoined against putting

THE SWISS CAVALRY.

them to any use that is not consistent with their military character.

The horses must be housed in roomy stables, airy and well lighted.

The holders are required to ride or exercise their horses regularly, so as to keep them in the best condition for saddle use

It is expressly forbidden to employ cavalry horses for hauling heavy loads, to use them as post-horses, or to draw public vehicles, as pack animals, or for towing or such like labor, to let them out for hire, whether for military or any other purpose. The military department has authority to punish offenders against any of these rules by a fine of 100 francs, or by disciplinary penalties, or by taking the horse from the man.

Holders, who take bad care of their mounts, or are found not to be in condition to maintain them properly, are transferred to some other arm of the service, and their horses are taken from them.

The holder of a horse is held responsible for its loss, or for any injury the result of his own carelessness, when not on active duty. The responsibility extends to the total value of the animal.

Very minute are the regulations concerning horses that become incapacitated for service, whether through disease, from causes dependent on or independent of the care of their custodians, by death, by decreptitude, etc. But we will spend no more time over the particular cases contemplated by the regulations; what we have already given demonstrates sufficiently the scrupulous consideration that is given to this important detail.

The commanding officers of the units, that is to say the captains in command of squadrons, are charged with the oversight of the horses assigned to the members of the troops, the officers, non-commissioned officers and men.

They are required, by means of frequent and periodical inspections, to keep informed as to how the horses are stabled, handled, and fed, and what use is made of them when the men are not on duty.

Before bringing this modest work to a close we wish to say a few words concerning the Federal Institute for Horses (Regia Fedrale dei Cavalli; see under "regia" in supplement.

—Translator).

This is under the direction of a superintendent, having under his orders a corps of officials and employees.

The institute has among its functions the facilitating of the purchase by officers of suitable mounts.

In times of peace this establishment is charged with the following:

- (a) The purchase of saddle horses, with the acclimatization and training of these animals for their use by officers in times of war.
- (b) The shipping of chargers to officers, both to the schools and to the maneuver grounds.
- (c) The sale of trained horses to officers, who are under obligations to retain them for at least three years.*
- (d) The training and maintenance of horses belonging to officers.
- (e) The encouragement of equitation by competitive races, trials of skill, tournaments.
- (f) Providing instruction to equerries, drivers and grooms.†
- (g) The administration of the supply depot for artillery horses.
- (h) The care of horse equipments for the schools and maneuvers.

In case of mobilization this institute provides mounts for officers who may be detailed by special order. In fact it would not be possible to overrate the importance of this admirably conducted institution, which offers advantages rarely enjoyed by any other body of cavalry.

This regulation is probably intended to block the abuse of a privilege, to prevent their selling them for favor or profit.—Translator.

[†]Scudieri, conducenti, palafrenieri. Drivers, skilled in their work would be needed in the cavalry as well as in the artillery.—Translator.

Trained in our ideas as we are, who are officers in regular establishments (standing armies), it is hard for us to comprehend how it is possible to maintain an efficient cavalry, an arm worthy of the name, with animals exercised in military service for only 110 days in the ten years, with instruction of recruits for ninety days, with eight calls to arms for periods of eleven days each during their term in the Line, without (it may be) one single day of actual war service, except under extraordinary circumstances.

But the Swiss citizen has by him his uniform, his arms, and every article of personal equipment, as well as his horse. This being the case, apart from the fact that it becomes possible for him to respond promptly to a sudden call to arms—whatever may be the reason therefor—it is borne to his mind every day that he is veritably a soldier in the cavalry. Now this is no small consideration, and it needs to have attached to it all the importance it deserves.

From all these things it may easily be seen that the Swiss Confederation has a clear comprehension of the great difficulties that beset the maintenance of an efficient cavalry force, one that may be relied on. They have certainly given splendid proof of the care and thoughtfulness they have exercised in the formation of this arm, particularly in its fundamental elements—men, officers and horses.

All this care, intelligent and entering into the minutest details, awakes in us a sympathetic interest. We have therefore presented this essay in the hope that the knowledge of what has been accomplished in Switzerland in providing themselves with a true cavalry, deserving the name, may be to ourselves a matter both of pleasure and profit.

Signed X.

Note.—The principal authority to which we are indebted is the able work of Colonel Ch. Egli—The Army of Switzerland (Lausanne, Payot, and Company, 1913). We have also consulted Veltzes International Army Almanac, 7th year, 1913–1914 (Vienna, Stuttgard, 1914); also the Armies of the Principal Power, 1918 (Paris, Library Chapelot, 1913).

SUPPLEMENTARY.

The definitions are given below of a few words, some of which are not found in the dictionaries, while in other cases the meanings there given are not satisfactory.

Appuntato. A private selected for special calls of duty, but without authority except when so charged. He receives higher pay than the private.

Beretto. In French "beret;" defined by Willcox as a kind of tam-o-shanter worn by Alpine troops; a fatigue cap.

Bigliere. Baldric worn by officers.

Boraccia. Canteen, a leathern bottle.

Cassa. Case or chest furnished to officers for their saddles and equipments.

Chepi. French "kepi;" a dress cap.

Compratori. Literally purchasers, term applied to those holding horses for service. As the word applies equally to the greater number to whom the horses are merely assigned, the word has been translated "holder" or "custodian."

Controspaldine. The straps on the shoulders of the service blouse.

Corsi di repetizione dell' Élite. Field maneuvers of the Line.

Dragona. A pouch attached to the officer's baldric. The dictionary, however, defines it as an ensign with dragon (formerly) thereon.

Dragoni. Dragoons; that is, those belonging to the cavalry brigades, as distinguished from those attached to the divisions, who are called "guides."

Élite. The Line; first line, composed of men between the ages of twenty and thirty-two; time of service twelve years, excepting the cavalry, which serves for ten years.

Formazione dei quadri. Literally formation of the grades; higher instruction to officers and candidates for commissions. Quadri is defined as pictures, frames, garden-beds, etc. Willcox alone gives the true military definition. See "cadre."

Furiere. Latin fodrarius, forge-master; defined as quarter-master, which is misleading. He answers to our quartermaster sergeant.

Giubba. Blouse.

Guide. Guides, cavalry attached to the divisions, etc.

Landwehr. Name adopted from the German. The second Line; serving between the ages of thirty-three and forty.

Landsturm. Adopted from the German. The Third Line, serving between the ages of forty-one and forty-eight.

Lire. About twenty cents. In the translation the word franc has been adopted, while the writer seems to use the one and the other indifferently.

Maniscalchi. Farriers, blacksmiths.

Mansioni. Functions.

Mantello molto chiaro. Coat with a good deal of white in it (that is, the coat of a horse), dappled.

Nominare. Appoint. The appointing power in making officers seems to belong to the cantons.

Ordine di battaglia. Organization of the army (into divisions and corps) in time of war.

Reclutamento. Living up to the terms of enlistment. Recruiting.

Scudieri. Riding master; see Willcox under "ecuyer."

Situatione. Military standing as appears from the official reports.

Soldato. Private, especially as distinguished from the appuntato.

Sottoufficiali. Non-commissioned officer, including corporals.

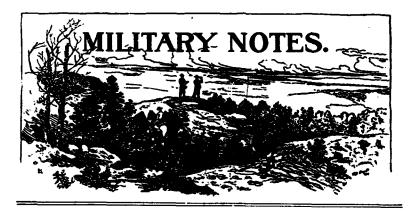
Spalline. Epaulets.

Tara. A blemish in a horse. See Willcox under "tare."

Tenente. Second lieutenant.

Tunica. Dress coat.

Valigia a compartimento. Saddle bags.



CAVALRY TRAINING.

HEADQUARTERS FIRST CAVALRY BRIGADE.

Forst Sam Houston, Texas.

December 3, 1915.

Memorandum No. 6.

Subject: Cavalry Training.

THE following notes extracted from "Notes on Cavalry Training by a Cavalry Officer," published by Hugh Rees, London, 1915, are valuable since they are the results of war experience. The principles indicated therein will be used in the instruction of this brigade:

RECONNAISSANCE.

It must be remembered that the first body of hostile troops to be encountered is likely to be the enemy's scouts, and that they must be dealt with vigorously and driven back. Hesitation in dealing with them leads to delay in the advance of the main body and in the enemy gaining the advantage of position.

Dismounted defensive action should not be resorted to on the first contact with the enemy.

In woods decisive fire is required at once. Therefore, thicker firing lines must be formed from the beginning, the supporting lines must be closer and must cover the flanks rather than follow the center. The most important point to attend to is to scout so well with advanced patrels that the firing line can be deployed in time for effective fire. Therefore, before contact has been obtained with the enemy it is absolutely necessary to push out a chain of small patrols, from two to four men, along the whole front and well round the flanks. This chain of patrols should be pushed out from 100 to 300 vards in front, depending on the thickness of the wood, and it should be strong enough to enable the patrols to keep in touch with each other. Before contact is gained with the enemy all troops can advance in troop columns of single file at deploying intervals. Supports and reserves should be moved so as to take the enemy in flank. These supporting troops must be trained to push up to the firing line and to reinforce it, and not merely to form a second line to cover a retirement. At night these supporting troops when coming forward should use the bayonet. In wood fighting it is important to keep maxims well to the front, but it is not important to have a long field of fire.

When entering a village in face of likely opposition, the advance should be rapid, dismounted up one side of a street from point or cover to cover, covered by a party ready to fire up the other side of the street. Meanwhile men in rear will at once begin to open up the doors and windows of all the houses.

Reconnaissance detachments of all sizes should advance by bounds.

The value of stationary observation from a concealed position should be impressed on all. Open spaces, long stretches of straight road should be crossed rapidly until some tactical point is gained. Directly there is a halt all units must arrange for their own protection and make arrangments such as cutting

wire, making gaps in wall or fences so that they can change their position quickly if they are shelled.

Aeroplane look-outs should be posted wherever concealment is required. Their alarm signal will nominally be a series of long and short blasts upon a whistle upon which all ranks will either hide or remain perfectly still. Aeroplanes are not to be fired at without orders from the officer commanding or squadron leader.

DISMOUNTED ACTION.

Squadron leaders should practice keeping touch with the squadron reserve and with the led horses.

The officer in charge of the led horses must practice keeping touch with the firing line, and must reconnoiter to find places to which to go, to be as near the firing line as possible and to see exactly where different troops have gone so as to be able to send their horses up direct to them. He should also reconnoiter the ground and cut all wire near his position so that he can move away quickly if shelled.

Men should be practiced in leading more than three horses as at times as many men as possible are required in the firing line.

Men should also be practiced in jumping up behind another man when mounting again as their horse may be shot.

When this is done the mounted man must give his stirrup to the man on foot and lean over in his saddle to the opposite side on which the man is mounting.

In dismounted attacks that are to be pushed home, depth is necessary because the firing line must be supported to keep it up to a maximum intensity of fire action; and also because it is necessary to be prepared to meet the unforseen in the form of sudden enfilade fire. It is also necessary in order to develop the situation by the employment of only a few rifles. At the beginning of an attack half the force only should be deployed, the remainder being kept in support. The ground entirely dictates how far in rear supports should move, the principle is that they should keep as close to the firing line as the ground will allow.

As the firing line approaches the enemy, cover must be a secondary consideration and the supports must be closer to the firing line until they catch it up and become absorbed in it.

In the early stages supports can often move under cover by advancing in columns of single file, and as long as possible they should retain the formation of troop columns in single

The great danger of a counter attack is going too far and being caught by a hostile counter attack when there are no reserves in hand. It is necessary, therefore, that the objective should be clearly defined and strictly limited.

At Night: Attacks should be practiced at night. In this case the firing line and supports can be closer together than in the day attacks and the supports should not be so strong. The reserves, however, should be well back between 400 and 800 yards, depending on the light. Good scouting is essential and the attacking line should not be hurried. As in woods, a screen of patrols should precede the advance. They must, however, be given a strictly limited distance up to which they are to advance. When they reach this point if no contact with the enemy has been obtained the attacking line can come up to the patrols or scouts, and these can then again advance a limited distance, and so on.

While men are advancing they are exposed to fire to which they cannot reply and are therefore for the moment unprotected.

It is obvious too that during such advances the volume of fire is either wholly or partially diminished for the time being.

This advantage to the defense can only be compensated for by some form of covering fire which if well directed amounts to an order to keep the enemy's head down and prevent them from firing.

Artillery and machine guns when available serve this purpose, but when not available the attacking line must provide for it.

In certain cases the most unsatisfactory and dangerous plan that can be adopted is to advance by alternative rushes, certain parties advancing while others in the rear continue their fire. It often happens those advancing almost to a certainty mask the fire of those in the rear, in which case the volume of fire is still further reduced. In addition it will frequently occur that men advancing will be fired at from behind. This plan is often dangerous on the level or where there is little cover, or where the intervals between the parties is limited. Those who are working the covering fire to be effective must be in a position to continue it from start to finish with no possible chance of danger to the advance; therefore:

- (a) On the level when covering fire is provided by the firing line itself, it must come wide from the flanks of those advancing.
- (b) In undulating country it is possible only when those in rear can safely fire over the heads of those in front.
- (c) Therefore, the best plan is to detail a special covering detachment which will take post much in the same way as a machine gun or battery, and throughout the battle devote itself to covering fire alone. This party should be within 500—1000 yards of the enemy, preferably the closer range. It should not move forward until the position is taken, but will, by its sustained fire keep down that of the defence.

A long rush may at times be made to pass over an open space in order to reach cover, but it must be made at speed and must end in a fairly long pause to regain breath. Ordinarily, however, a rush should not exceed twenty yards, because:

- (1) Less disorder is caused.
- (2) The time of exposure is lessened.
- (3) The volume of fire is not appreciably diminished.
- (4) There will be less loss of accuracy of fire owing to loss of breath.

Each rush should be made in the nature of a surprise.

Men must be trained now to rise absolutely together so that one man in the party is not marked out by getting up first, and they must double forward and then drop together. This requires a great deal of practice and is very important.

As soon as a squadron gets into a firing position and it is known that another squadron or regiment is working on its flank, patrols should be sent out to gain touch at once, and to let the troops coming up know the position of the firing line.

Casualties are due to unnecessary exposure of the body. Men must be practiced in crawling. In good crawling a man presents scarcely more of a target when moving than when stationary.

In crawling being one knee forward keeping the inside of the knee flat to the ground and the back hollow. Now push forward with leg and elbow. Knees must not be brought up under the body.

Men must be practiced too in doubling forward with empty sand bags and filling them to get cover, then they must practice scraping and digging when lying down to get cover. Lines of trenches have been established in this way eighty yards from the enemy.

Whenever possible trenches should be cited so that they are not under artillery observation.

Trenches should be cited having regard to possible "observation stations" on ground occupied by the enemy, and not solely with regard to the possible artillery positions of the enemy. In open country it is better to select a position behind the crest of a hill. This compels the enemy to expose his infantry to our rifle and shrapnel fire and affords his guns little opportunity of observation.

Cover may conceal from view or it may afford protection. It is most useful when it both conceals and protects. Cover which only conceals from view should be avoided if it forms a conspicuous target at short ranges to the enemy.

When under artillery fire no cover should be taken which even though it may protect from rifle fire forms a conspicuous target to hostile artillery. Similarly under artillery fire all well defined objects such as buildings, etc., should be avoided as they become death traps. Cover is not only useful to afford protection and concealment but every advantage must be taken of it to rally and re-organize, to check and to replenish the expenditure of ammunition and to make plans for a further advance.

Whenever a flank is exposed a small patrol should be detached to guard against surprises. Such a party may be eventually of great value in reporting any movements of the enemy connected with surprise and in observing the effects of fire and nature of ground in front.

Passing orders must be practiced by word of mouth from man to man and to ensure that the order has been understood it will be passed back to the commander in the same way.

Judging distance should be practiced. It can be practiced by troop leaders with their men during a march. The practice will in addition teach men to observe a habit that cannot be over-estimated. One distance should be accurately known, and that is 600 yards. It is at this distance that rifle fire begins to take deadly effect.

Long range fire should rarely be opened without special permission of the regimental or squadron commanders.

The advantage of retaining fire and surprising the enemy should be impressed upon all ranks by day and night.

Fire discipline means strict attention to the signals and orders of the commander, combined with intelligent observation of the enemy. It assures the careful adjustment of the sight, deliberate aim, economy of ammunition and prompt cessation of fire when ordered and when the target disappears.

Troop leaders and Sergeants carry rifles and bandoliers, but they must remember that their duty is to command and not to shoot.

It is the duty of all ranks so to husband and economize their ammunition as to have the greatest possible amount in hand to meet and overcome a crisis.

All commanders will unceasingly try to carry this out by regulating and controlling the fire and by keeping a constant account of the amount expended and the amount in hand. The mental arithmetic involved is best carried out by keeping the account in clips. Thus supposing each man started with 100 rounds equalling 20 clips. The first burst of fire may be two, then three rounds, when the account stands one clip gone, 19 in hand. The next burst may be five rounds—2 clips gone, 18 in hand, etc. Never more than five rounds at a time

should be ordered for a burst of rapid fire and fewer rounds are advisable.

The men assist in regulating the expenditure of ammunition by never firing without orders and never obeying the order to fire if they are so posted as not to see the target.

Men must be reminded that it is often a very difficult matter to replenish the supply of ammunition during the advance without causing heavy casualties to comrades employed in this duty over "fire-swept ground."

By Command of BRIGADIER GENERAL PARKER,

A. G. Hixson, First Lieutenant, 14th Cav., A. D. C., Acting Adjutant.

THE ROLE OF CAVALRY.

Editor Cavalry Journal:

THE recently discovered confidential dispatches from Lee to Davis, 1862-65, contain many illuminating references, which show the decisive rôle of cavalry at the most critical period of our fistory.

Perhaps this is more valuable to us than more recent examples in European wars because the cavalry was of the American type, and not influenced by feudal traditions which may be the case in Europe. It was a cavalry that cut loose from its base of supplies, fought mounted or dismounted, or both mounted and dismounted in a single action.

I send the most instructive of the many references to cavalry which appear in the book, written as you see nine months before the "issue of the Campaign in Virginia" was decided in the way that Lee feared it would be decided.

It furnishes a valuable lesson in that sort of Preparedness which is often forgotten.

The italics are my own.

EBEN SWIFT,

Colonel, General Staff.

HDORS. ARMY N. VA.,

5th July, 1864.

His Excellency JEFF DAVIS, Presdt. C. States.

Mr. President:

The subject of recruiting and keeping up our cavalry force, has occupied much of my thoughts, especially since the opening of the present camgaign. The enemy is numerically superior to us in this arm, and possesses greater facilities for recruiting his horses and keeping them in serviceable condition. In the several engagements that have taken place between the cavalry of the two armies, I think great loss has been inflicted upon him, but it has been attended with a dimunition of our force which we were less able to bear. Could I sweep his cavalry from the field, or preserve a fair proportion between its numbers and our own, I should feel that our present situation was in a measure secure. But in view of the disparity that exists, and the difficulty of increasing or even maintaining our force, I cannot but entertain serious apprehensions about the safety of our southern communications. Should we be unable to preserve them, I need not point out the consequences. * * * I think if anything is to be done, now is our most favorable opportunity. I hope your Excellency will be able to devise some means of obatining an increase of our supply of horses, and recruiting our cavalry, as upon that in a great measure I believe, depends the issue of the campaign in Va.

> Very respectfully, Your obt servt,

> > R. E. LEE.

Genl.

MILITARY TRAINING AND WAR ENTHUSIASM.*

THE other night several thousand people gathered in a park in Denver and cheered to the last echo a half dozen speakers whose talks supported the policy of President Wilson. Some of the speakers became very eloquent when the subject of war was broached and were cheered again and again when they declared that America should protect her honor with her blood.

Such sentiments sound well and no doubt a majority of those present are willing to die if need be for the American Union. But supposing it had been necessary for Denver to have given fifteen thousand men that night and she had given them what would our government have done with them?

They are not trained. Many of them never answered a military roll call in their lives. Hardly any ever held a gun in their hands, let alone being skilled in the use of firearms, and most of all the government has not the guns to give them.

This is one side of the situation in a nut shell. We may have the patriotic heart that is willing to die for America but we have not the military preparation as a nation to do the fighting.

War is not gathering under some open sky on a moonlight night and becoming enthused over sone sentimental speech of some great orator. War is deliberately killing so many of the enemy and destroying so much of his property that he will grant your demands. Sentiment is a necessary part of war but preparation is a far greater part. Germany has the world at bay today because she kept her own preparedness ahead of her war sentiment. The Red Cross records show that two and one-half million men were killed the first six months of the war. At that rate one standing army of fifty thousand men would last a little less than four days.

We have cultivated a national sentiment among our people but is it a war sentiment? To be sure the crowd at Denver cheered but did it know what it really was cheering? Was it cheering for real war or was it cheering that American sentiment that has done so much to keep out of war?

Let's look at the situation squarely. Is there not a deep rooted sentiment in Colorado against anything of a military nature? Even with such good prospects of war our National Guard is having the fight of its life to keep alive. The enemies of the guard say the trouble is because the guard is not properly managed. Such is not the case at all. From the cradle to the grave the most of us have been drilled into the belief that military Europe is a dreg on the world's progress and that free America is the restorative of real governmental life. Our boys went out a year ago and saw some military life. They were killed and they killed. The experience did just what calling the National Guard into the field always does. It lessened the military enthusiasm in this State. It caused a certain class of our citizens to begin a tirade against our soldier boys that was almost damnable in its abuse.

Those same men were some of the speakers at the Deriver meeting and in the cheering crowd were thousands who have fought the military arm of this State for years and years. They fought the military arm of our Government during the Spanish-American War. They have been against constituted authority and law whenever they have been placed on the trial of steel vs. gallery playing and self-ambition.

Colorado men and women must not supposed that because a few thousand cheered war speeches in Devner that a military arm of our Government could be constructed from the ranks of that crowd. Its most caustic speakers would be the first to cry "Imperialism," or to bewail the fact as they would see it that our boys were being used to place the yoke of eternal bondage around the necks of what was before a free people. Just hark back to our war with Spain if you do not agree with these ideas.

From the Pueblo Chieftain, Pueblo, Colorado.

MILITARY NOTES.

The way is plain. If we are going to get ready to fight we must create a military spirit. We must teach our boys and ourselves to long for the night when drills are on. We must prepare their minds not to rebel against the long march, the cold ground for a bed and the hard-tack and water for breakfast. We must train our children and ourselves to endure hardships in the name of America just the same as we train them to love the sentimental side of our national life.

It is not enough that we gather by some silvery lake and furnish sentimental copy for our papers. Those same orators will be at the same lake decrying military men before you moon quarters again.

These are the things we must consider. And until we are ready to prepare not only in sentiment but from every other point, which preparation will be costly, laborious and obnoxious to most of those who participated in the Denver meeting we had best follow carefully the advice of William Howard Taft and "Watch Our Step."

THE AMERICAN TROTTER SUPREME.

THE Editor of "The Horseman and the Spirit of the Times," has furnished us with a clipping from that periodical, giving a letter from their correspondent with the French army who is employed there as a trainer of cavalry horses. The letter is as follows:

70th Battery Depot, 29th Field Artillery.

Lorient, Morbihan, France.

Editor of "The Horseman:"

As you undoubtedly know, the war here still continues. I am now given permission to tell you something of the horses during war times. Our French horses suffered terribly of the "strangles" at the start. Many of them died and others were

extremely feeble. Now we have received a great number of American horses. Those of the Argentine Republic are not much in favor; they do not show up well and are of poor quality. But those that we receive from North America (they call them "Canadians," but in fact many of them are trotters from the United States) are excellent and are much superior to the French mounts which were furnished to us. They are generally well built horses with good sound bones, perhaps less frisky and not so brilliant as the French and English horses, but much better adapted for the work that they are expected to do.

Officers and privates are unanimous in praising your horses. Besides, they resist the "strangles" better than the French horses and this sickness has done so much harm. They make excellent draft horses and perfect saddle horses. I am employed at the drilling of the horses and I exercise every day with men of higher rank, although I am only a private. It is surprising how horses, many of which never had a saddle on their backs, adapt themselves to their new requirements: trotting, galloping and jumping. It is wonderful how tractable they are; you can do with them what you like, if they are not treated brutally, and I can assure you that I am greatly surprised at that.

I am particularly glad (because, as your correspondent, I have always praised the horses trained in the United States) to see the great success of your horses who will go far towards delivering my country from the enemy, who has destroyed all the property belonging to me and to my family. I believe that after the war, owing to the great success of your horses, you can predict large exporations of horses from the United States.

Alas! My private fortune has been almost completely wiped out by the war. I shall go to America to obtain a place in a trotting stable, as soon as the war is over, if I am not killed in the meantime. Anyhow I live in hopes and keep up my courage and trust that the day of my departure for America is near. Rejoice in the meantime in the great success of your horses. Your breeders can be proud of their race of trotters.

RENE MORAL.

A WARNING OF COMING DEMANDS.*

M. RICHARD T. WILSON, JR., President of the Saratoga Racing Association and himself a breeder of thoroughbred horses, sounded a note of warning a few days ago about permitting further shipments of desirable broodmare stock from this country, saying in part:

"I am much impressed by the plea uttered recently by Major General Scott of the United States Army for the preservation of the type of mare capable of producing army horses, and Congress should take action along the lines recommended by that distinguished officer, whose knowledge of cavalry requirements is second to none in the country. The recent intelligence that Russia during her invasion of East Prussia decimated the splendid stud established by the late Count Lehndorf, taking in all 20,000 brood mares of the highest class, means that Germany, as well as France, Austria-Hungary and other nations, will be in the market for breeding stock the moment peace is declared. It is only natural that this country should be a mecca for those who want the best. We have a shortage of thoroughbred mares because of the crippling of racing for the past seven years; but now that better days, are in prospect we shall speedily remedy that. There is a lack also of that type of mare, with or without a dash of warm blood, that would throw a trooper's mount if mated with a thoroughbred sire. The question is one which should engage the attention of the National Security League, whose general call is for preparedness, and if they will investigate the situation they will discover that we are in a bad way for cavalry remounts."

THE CAVALRY OVERLOOKED.

(Editorial from the "Washington Times.")

NTIL Secretary Garrison's complete plan for military expansion has been made public is it neither fair nor wise to attempt criticism of it. But it is not pertinent to inquire at this stage: "What has happened to the cavalry?" Since the Spanish-American War, United States troops have been called into action on the continent only in connection with the Mexican border troubles. The work there has been almost entirely cavalry work. But for the cavalry trouble with the Mexican pillagers on both sides of the border unquestionably would have attained dangerous proportions. The cavalry has demonstrated its usefulness in that kind of country.

Cavalry—British cavalry—brought from another part of the line effectively stopped the German drive on Calais in the early stages of the great war abroad. True it was cut to pieces, but it "got there" when no other arm could be moved rapdily enough, and it did the combined work of horse and foot soldiery.

Cavalry—French and British—stopped the German drive on Paris; impeded the huge mass movement of the onrushing Germans until heavier and less mobile troops could be brought into the immediate theater of operations.

The lack of cavalry on the Eastern front in the great German drive of last summer prevented the conquering Germans from snapping the jaws of the strategic trap upon the retreating armies of Grand Duke Nicholas, of Russia, and forfeited an advantage which if pursued might have resulted in the fall of Riga and even Petrograd.

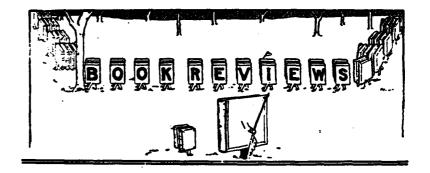
These are only a few instances in support of the just claim for recognition which the cavalry arm of the United States army may make. It would be interesting to know whether the plan to exclude the cavalry from the proposed expansion

^{*}From the "Rider and Driver" of July 24, 1915.

of the army was recommended by or meets with the approval of the General Staff of the Army or the military experts of the Army War College.

PROMOTION BY SELECTION.*

HE French army is said to be suffering from a serious disease. Officers are obtaining promotion in response to demands of political wire-pullers. In the March list of promotions there were the names of 1,500 officers in respect of whom an average of eight letters of recommendation per officer were received. A small army of clerks are employed solely to deal with this correspondence. The Minister of Public Works, when he took over his duties, gave out that the only notice that would be taken of such letters was that they would militate against the men in whose favor they were sent being promoted, and it is suggested that if the Minister for War would make a similar pronouncement, it would be a good thing for the army. The promotion in the French army is mostly by selection, not by seniority, so that the way is more open to promotion by favoritism than in some armies. Selection, theoretically, should lead to efficiency, and if the selection be made for merit alone it certainly would: but when the selection depends on the amount of political influence an individual can bring to bear, all merit in the system disappears. It is just this point that opponents of promotion by selction always bring forward. When it prevails, the army suffers; for it is just the men who have the least chance of promotion for merit who exert themselves to get their political friends to make their influence felt. If an army is to retain its morale, all ranks must feel confident that promotion depends on professional efficiency, not on political influence. Political pressure of this sort has ruined armies before now, and there is no reason to suppose that if allowed to prevail it will not ruin armies in the future.



Minor Tactics is a book prepared by Captain E. D. Scott, Field Artillery, Le-Roy Eltinge, Cavalry, and H. B. Fiske, Infantry, Instructors in the Department of Military Art at the Army Service Schools, under the direction of Lieutenant Colonel W. A. Holbrook, Cavalry, Senior Instructor in the Department.

Lieutenant Colonel Holbrook explains in his preface that the studies have been published to supply a demand for a work which officers may use in the applicatory method of studying the Field Service Regulations and the Drill Regulations of the three arms of the Mobile Army.

This is a book that should be intensively studied by all officers who expect to command units of the mobile forces in active operations. It will be of immense value to those who are preparing for the course at the Army School of the Line.

The situations in each problem are so arranged that the student quickly finds himself "living the problem" and thoroughly interested in making logical dispositions of his command to meet the next situations as they arise.

^{*}From "The Broad Arrow."

^{*&}quot;STUDIES IN MINOR TACTICS." Prepared by the Department of Military Art, Army Service Schools. Press of the Army Service Schools, 1915. For sale by the Book Department, Fort Leavenworth, Kansas. Price Fifty Cents.

Parts I, II and III cover the dispositions of all parts of an Infantry regiment in most of the situations that will arise in a campaign.

Parts IV to VII, inclusive, treat of Cavalry operations in patrolling—reconnoitering and covering detachments and the Squadron and Regiment in Combat.

Parts VIII to XII include problems on the use of Field Artillery—Batteries and Battalions—for the instruction of officers of all arms of the service.

Maps are furnished with the book. Copies of the Gettysburg three-inch to the mile map mounted on muslin, may be obtained from the Book Department at \$1.00.

This is undoubtedly the cheapest, as well as the best book on the subject of Minor Tactics that has ever been published.

Back account of the mental and physical condition of the French, German and English peoples and their respective armies during the first months of the present European war, this book gives in a clear and definite way the beliefs of each of these peoples as to why they are engaged in the struggle.

Senator Beveridge is a keen anylitical observer who has used his exceptional facilities for obtaining information in an able way and has presented his results in a most interesting manner which is made more pleasing by the author's charming style and his clear concise English.

His observations during battles and at hospitals and detention camps together with the record of his interviews with representative people of all walks of life are likely to constitute a valuable contribution to the history of the war.

At present there is no publication which so fully and impartially presents the causes of the war and the conditions under which it is being fought.

E.

Criticisms
Of Map
Problems.*

Army School of the Line upon some eighteen different solutions of the map problems solved at this school during the school year 1911-12. The book is intended to show the mistakes that student officers make in solving map problems and thus learn by the mistakes of others.

In a number of cases where there existed a difference of opinion between the student and the instructor, there appears the reply of the student to the instructor's criticism and the latter's comments upon such reply.

The problems and the approved solutions are given in full and illustrates the use of troops, batteries, battalions and detached brigades.

The following are extracts from comments made upon the book by some of the Instructors and others at the Army Service Schools:

By Lieutenant Colonel W. A. Holbrook, Cavalry, Director School of the Line:

"This compilation makes a very valuable book for those interested in the critical study of field operations of small units up to and including the reinforced brigade.

"The problems were prepared and their solutions commented upon by instructors of well known ability.

"By solving them and comparing the results with approved solutions and then noting errors made by others as set forth

^{***}WHAT IS BACK OF THE WAR." By Albert J. Beveridge, former Senator from Indiana. The Bobbs-Merrill Company, Indianapolis, Indiana. Price \$2.90, net.

^{*&}quot;CRITICISMS UPON SOLUTIONS OF MAP PROBLEMS." By Captain C. T. Boyd, Tenth Cavalry. U. S. Cavalry Association, Fort Leavenworth, Kansas. Price \$2.00.

in the comments of instructors upon their work, students are sure to be greatly benefitted.

"To those preparing themselves for entrance to the Army Service Schools, as well as to those who are fitting themselves to properly instruct their commands, I would recommend this volume in high terms."

By Captain LeRoy Eltinge, Eighth Cavalry, Instructor Army Service Schools:

"The book would be most useful to an officer who was preparing to enter the Army School of the Line but will be found valuable by anyone who is systematically taking up the study of tactics.

"In the past many officers have asked me to tell them how to go about learning to solve map problems and I have invariably recommended that they secure a set of problems with their approved solutions and some student's solutions of the same problems together with the criticisms made on the student's solutions. Then they should take the problem, solve it, and compare their solution with the approved solution and the student's solution. By this method they would not only see a complete solution, but would see many of the most common errors with criticisms showing why they were so regarded.

"This is the exact method adopted in this book, except that, instead of one student's solution, sixteen or eighteen student's solutions with the criticisms thereon are given.

"I consider the work to be unique in its conception and of unparalleled usefulness to the student of tactics."

By Captain H. B. Fiske, 28th Infantry, Instructor Army Service Schools:

"In my opinion 'Criticisms upon Solutions of Map Problems,' compiled by Captain Charles T. Boyd, 10th Cavalry, is of great value to anyone who desires to take up the study of tactics in a serious manner. The book contains sixteen problems, ranging from the handling of a patrol to that of the reinforced brigade, and covering about all of the simple forms of tactical procedure. In studying the text one finds a problem stated for his solution, followed by the detailed criticisms of

the Military Art Department upon some eighteen or nineteen solutions of the same problem at the Army School of the Line. Among these criticisms he will almost certainly strike some that apply to his own solution. Finally, he has the published solution of the Military Art Department for comparison with his own. The opportunity so afforded for an exhaustive study of a number of problems is not equalled by that furnished by any other publication of which the undersigned has knowledge. The book, therefore, is of great value to most officers. To those about to enter or preparing for entrance to the Army School of the Line it has the additional merit of teaching the manner of solving problems, of their critisicm and grading, at this school."

- By Captain A. L. Conger, 26th Infantry, Instructor Army Service Schools:
- "1. I consider your compilation, 'Criticisms upon Solutions of Map Problems' to be an important contribution to our educational military literature. Among students preparing for the School of the Line, or taking the course, it has always been considered most beneficial to secure for study even one or two former student's solutions with the instructor's criticisms. In this book you put into the student's hands sixteen problems enabling the student after solving each to compare his own solution with those of other earnest students and also to benefit by the criticisms of an expert upon almost every paragraph of his own work.
- "2. Without any question this book will be an invaluable guide to the student of tactics at the School of the line or in Post School work or wherever he may be, but very especially it will afford the officer pursuing the study of tactics alone and unable to secure the benefits of individual guidance in his tactical studies to make substantial progress along assuredly correct lines."
- By Captain F. J. Morrow, 18th Infantry, Student Army Staff College:
- "1. It is recommended that the recently published military treatise, entitled 'Criticisms upon Solutions of Map Prob-

lems,' by Captain Charles T. Boyd, 10th Cavalry, be incorporated in the official list of the War Department as a standard military authority.

- "2. The book will be an invaluable aid to officers in studying minor tactics through map problems and should be used in garrison schools and by officers preparing for promotion. Militia officers should make extensive use of it in their schools.
- "3. For those who have to instruct classes in minor tactics, the great variety of criticisms contained in the book on a wide range of problems, will offer a trustworthy guide to how solutions should be reviewed and how to properly comment on them.
- "4. The work has been written with a great deal of care and good judgment by Captain Boyd, who has himself graduated from the Army School of the Line and is now in the Staff College, and the book reflects the best teachings of our Service Schools."

By Captain Kirby Walker, 14th Cavalry, Student Army Staff College:

"Captain Boyd's 'Criticisms on Solutions of Map Problems' contains sixteen representative problems given out at the Service Schools, Fort Leavenworth, Kansas, with approved solutions, and with the comments of the instructor in each case upon the various solutions submitted by student officers. Anyone who faithfully studies these problems and the comments of the instructor thereon, cannot fail to have improved his professional knowledge and to have acquired some facility in the solution of map problems. This is a valuable and interesting book for students of Military Art."

By Captain James B. Gowen, 10th Cavalry, Student Army Staff College:

"I have just had an opportunity to look over your book,
"Criticisms upon Solutions of Map Problems," recently from the

"Most of us are so constituted that at times it takes a fall, maybe a hard one, to impress on us certain facts. I find this

so in the study or application of tactical principles as in other lines.

"I believe this book of Criticisms in which both the error made by student and the reason it is in error are pointed out will be a great aid to officers wishing to pursue the study of tactics. As nearly every kind of probable error is shown in these sixteen problems, one has a chance to profit by the mistakes of others."

By Captain D. F. Craig, Fourth Field Artillery, Student Army Staff College:

"Your book, 'Criticisms upon Solutions of Map Problems,' I have read with a great deal of interest. As a guide in the study of tactics it is a most excellent work, and one that cannot but be of value to any officer in his work along that line; but to the beginner, in his post school work, or during his work at the Service Schools, it is especially valuable.

"In my earliest struggles in the Line Class what was of great assistance to me was the solutions of map problems, by an officer of a previous class, with the criticisms of the instructor on each, and I can not but think how much more valuable is this book with, what is equivalent to, eighteen of such solutions with criticisms in compact form.

"A great deal of credit is due you for getting out a publication of such great value to the service, and I hope very soon to see it listed and officially recognized by the War Department."

As nearly all of our officers have the Gettysburg maps, these are not included in the book. The best map to use with this book is the 3-inch map, with 5-foot contours, made up of the four sheets—Gettysburg, Hunterstown, Bonneauville and New Oxford—mounted on one piece of muslin. The unmounted sheets cost five cents each and the four mounted together cost thirty-five cents. The Gettysburg general map is furnished with either set.

BOOK REVIEWS.

Four Years with Morgan & Forrest.* Colonel Berry's book deserves more than a passing mention. The title would indicate that he was in the regular Confederate service during the entire Civil War, but such is not the

case. At various times, for several months at a time, he lapsed into guerilla life.

From his own confessions, we must conclude that his actions, during those periods, placed him outside of the pale of civilized warfare.

When we see how the sense of right and justice, in this gallant and gifted man, was blunted and distorted by the law-less deeds of these irregulars, we can realize, to some extent, the terrible influence of war upon the human mind, particularly of Civil War.

Colonel Berry's book is also a good illustration of how little dependence can be placed upon the human memory after fifty years. No one can read the book and not be impressed by the fact that the author believes that he is writing the truth, yet he makes many statements which are incorrect. The following may be given as examples.

Statement that Forrest cut his way out of Fort Donelson. (Page 44.) It is well known that Forrest and his men left that place, unopposed, and that General Buckner and his command could probably have done the same.

The Union strength at Shiloh is given as 45,000, at the beginning of the battle, and the Confederates as 35,000. Neither of these estimates is correct.

Likewise, the strength given at Chickamauga on both sides is incorrect. At the latter battle, Longstreet's Corps is reported to have been on hand before the struggle began, whereas only part of the troops of the Corps were there at the beginning. Others arrived during the battle, but a large part did not get there in time to join in the battle of the second day at all.

The author states that he met Stonewall Jackson and Colonel Ashby, when in Richmond, in January, 1864. These

officers had been dead several months at that time. Presumably on the same trip, he met one of his brothers who, he says, was killed later at Malvern Hill, although this battle took place eighteen or twenty months before the reported meeting.

Many other incorrect statements could probably be found if one had the time to compare them with the records. These do not brand Colonel Berry as untruthful, but simply show that after fifty years the finest human memory can no longer be relied upon to recall accurately the past.

Colonel Berry, having heard of Lee's surrender, decided to join Shelby's expedition into Mexico and did so at Piedras Negras, probably late in April, 1865. But the spirit of the rover was upon him and he returned to Kentucky late in May, 1865. We are led to believe that the Colonel's memory is again at fault here, for it is difficult to understand how he could have travelled from Piedras Negras to Vera Cruz and back to Kentucky in a period of about six weeks.

In June, 1865, Colonel Berry joined Quantrell who was operating, at this time, in central Kentucky, with a band of guerrillas. Shortly after this, these men were captured, killed or dispersed and their leader mortally wounded. Colonel Berry escaped, but was captured several weeks later and taken to Louisville. Here he was tried by what he calls a court-martial, and sentenced to death. This tribunal was probably a Military Commission. In January, 1866, he escaped and made his way to Mexico again.

This ends the Colonel's story, which was written, he says, to vindicate the memory of his brother, Captain Samuel O. Berry, who was known in the war-time days as "One-armed" Berry.

One cannot read the book without being struck by the terrible earnestness and sincerity of the author, and the men of his class, who battled for the South so bravely, but not always in accordance with the laws of war. It was too bad that such valor and such love of country should have been marred by the lawless deeds of guerrilla warfare.

Notwithstanding the many typographical errors and inaccurate statements, one cannot fail to be interested in the story

^{*&}quot;FOUR YEARS WITH MORGAN AND FORREST." By Colonel Thomas F. Berry. The Harlow, Ratliff Company, publishers. Oklahoma City, Ok.

of this man of iron, who fought in so many combats and escaped so often from his enemies.

According to his own account, he was wounded twentyone times. Several times he escaped from prison under most remarkable circumstances.

The revolver was his chosen weapn. Those cavalry officers who believe in discarding the pistol for the bayonet would do well to read this book. Those who have faith in the pistol will find strong arguments to support their view in almost every chapter of Colonel Berry's work.

N. F. M.

Modern
Horse

This is an American reprint of the book of the same title that was reviewed on page 732 of our April, 1915, number.

Management.* It gives more detailed instructions for the training, feeding, shipping and grooming of horses and more explicit directions for their care in sickness or in health than any one book the reviewer has ever seen.

A thoroughly practical treatise on every phase of horse management, clear, detailed, easily understood, profusely illustrated and fully indexed and cross-referenced, it is fully recommended as a book that every troop commander and every lieutenant of the mounted services would be glad to own and one that its owner would frequently consult for information that he needed in the performance of his daily duties.

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POUGHKEEPSIE, N. Y.

^{*&}quot;MODERN HORSE MANAGEMENT." By Reginald S. Timmis, Royal Canadian Dragoons, (Regular Forces). With an Introduction by Major General Lessard, G. B., and a Preface by Prof. Alfred Savigear, formerly Chief Riding Instructor to R. M. College, R. H. A. Staff College and 17th Lancers. 466 photographs and drawings. Frederick A. Stokes & Company, New York. Price \$5.00, net.

THE ARMY STAFF COLLEGE FORT LEAVENWORTH, KANSAS.

OCTOBER 1. 1916

FROM: - Captain C. T. Boyd, 10th Cavalry.

TO: - - Officers beginning the Study of Map Problems.

SUBJECT: "Criticisms upon Solutions of Map Problems."

 The book entitled "Criticisms upon Solutions of Map Problems" is now in press.

- 2. This book contains the original criticisms of the Instructor upon some eighteen different solutions of each one of the map problems of Series I and II, Army School of the Line, 1911-1912.
- 3. In this way the mistakes a student can make in solving map problems are vividly pointed out to him, and he thus learns by the mistakes of others.
- 4. In addition, in a number of cases where a difference of opinion existed, there appears the reply of the student to the criticisms of the Instructor, and the latter's comments upon such reply
- 5. The problems and the approved solutions are given in full, and illustrate the use of troops, batteries, battalions and detached brigades. There are in all sixteen different problems.
- 6. Knowing that such instruction as this book gives would have been of very great aid to me I have compiled these criticisms for publication.
- 7. The U. S. CAVALRY ASSOCIATION, Fort Leavenworth, Kansas, is the Agent. The price per copy is \$2.00, and postage.

C. T. BOYD.

Many years ago General Emery Upton wrote a book called "The Military Policy of the United States" which remained unread and almost unknown. It presented the most salient showed the military weakness that results from the traditional policy, or rather lack of policy, of the nation.

BOOK REVIEWS.

Mr. Huidekoper is taking advantage of the newly aroused interest of the public in military matters to again present the historical examples of weakness, extravagance, and waste due to this lack of policy and to point out the extent to which our country is menaced thereby. While much like General Upton's presentation on the subject, Mr. Huidekoper's is more full, thorough and complete.

The book is carefully written and contains a large appendix of original documents or extracts therefrom to which the reader is constantly referred.

The subject is one that the average citizen has found disagreeable and which he has avoided by refusing to hear anything that was contradictory of his preconceived ideas. These ideas have been based on sentiment and have largely ignored the facts. They have been promulgated by politicians, anxious to flatter the voter and by so called histories, that taught only such things as would be popular.

Now that the citizen is beginning to honestly take stock of the available assets for defence he is willing to read the facts in these matters and it is to be hoped that "the Military Unpreparedness of the United States" will have a sale commensurate with its great worth.

Ε.

^{*&}quot;THE MILITARY UNPREPAREDNESS OF THE UNITED STATES." A History of American Land Forces from Colonial Times until June 1, 1915. By Frederic Louis Huidekooper. Author of Military Studies, etc. With an Introduction by Major General Leonard Wood, late Chief of Staff, U. S. A. The MacMillan Company, New York. Price \$4.00

The author, who is perfectly familiar with all phases of life in Germany, seeks to give a per-Germany fectly clear impression of the political, social, Teday.* economic and military organization of that country. He is animated by a friendly feeling toward Germany, but seeks solely to present the facts in a

simple, readily understood form.

The varying forms of government existing in the different kingdoms, grand-duchies and free cities that are united into modern Germany are fully described, so that one gains a very clear idea of the variations in internal forms of government of these political divisions and of the mutual relations that exist between the separate fractions of the confederation.

This is not a war book, except that it tries to explain the setting of one part of the stage when the curtain was lifted on the great drama of the Great War.

E.

This is a neat little volume devoted to a development of the theory of evolution as portending an eventual, and far distant, era of Peace.† universal peace. The main idea being that, since prehistoric man fought for his possessions, his family, and his life, man's brain development has been accompanied by many impressions of strife which have produced in the average brain so-called "brain patterns" that make man quickly responsive stimulii that bring the fighting instinct to the fore.

The author's remedy is in so training the young that they will see the "victories" of peace and know only the horrors of war. With this latter end in view, the author, who was an American surgeon with a Red Cross unit in Europe, has illus-

trated his book with pictures well calculated to forcefully suggest the horrors of war. He, however, has neglected to add the corresponding pictures of industrial accidents, railroad wrecks, etc., illustrating the "victories of peace" by which, due to lack of public discipline, there are each year caused avoidable accidents many times greater in number and even more repulsive pictures of the results to the victims.

Probably as good an idea of this book may be Defenseless obtained by quoting from its Preface as could America.* be given by an extended review.

"The main object of this book is to present a phalanx of facts upon the subject of the defenceless condition of this country, and to show what must be done to avert the dire calamity that can fall upon a people—that of merciless invasion by a foreign foe, with the horrors of which no pestilence can be compared.

"We should bring a lesser calamity upon ourselves by abolishing our quarantine system against the importation of . deadly disease and inviting a visitation of the London Plague, or by letting in the Black Death to sweep our country as it swept Europe in the Middle Ages, than by neglecting our quarantine against war, as we are neglecting it, thereby inviting the pestilence of invasion.

"Self-preservation is the first law of Nature, and this law applies to nations exactly as it applies to individuals. Our American Republic cannot survive unless it obeys the law of survival, which all individuals must obey, and which all other nations are obeying. No individual, and no nation, has ever disobeyed that law for long and lived, and it is too big a task for the United States of America.

"It is the aim of this work to discover truth to the reader. unvarnished and unembellished, and, at the same time, as far

^{*&}quot;GERMANY OF TODAY." By George Stuart Fullerton, Ph. D., L. L. D., Professor of Philosophy at Columbia University, New York. The Bobbs-Merrill Company, Indianapolis, Ind.

^{†&}quot;A MECHANISTIC VIEW OF WAR AND PRACE." By George W. Crile. Edited by Amy F. Rowland. Illustrated. The MacMillan Company, New York. 1915. Price \$1.25.

^{*&}quot;DEFENCELESS AMERICA." By Hudson Maxim. Hearst's International Library Co., New York. Price \$2.00, net.

as possible, to avoid personalities. Wherever practicable, philosophic generalizations have been tied down to actualities, based upon experimental knowledge and innate common-sense of the eternal fitness of things.

"The strong appeal of Lord Roberts for the British nation to prepare for the Armageddon that is now on, which he knew was coming, did not awaken England, but served rather to rouse Germany.

"Admiral Mahan pleaded long with his country for an adequate navy. All the Great Powers of the world except America were stimulated by his logic to strengthen their navies. The beautiful, imaginative, logical language of General Homer Lea on America's military weakness, in his 'Valor of Ignorance' and 'The Day of the Saxon,' has caused many a gun to be made, many a battalion of troops to be enlisted, and many a warship to be built—in foreign countries.

"The eloquent words of wisdom of Lord Roberts, Admiral Mahan, Homer Lea, and all true friends and advocates of the only way of maintaining peace—by being prepared against war—have fallen on a dead America.

The several chapter headings are as follows: Dangerous Preachments; Can Law be Substituted for War; Our Inconsistent Monroe Doctrine; War Methods and Machinery; The Needs of our Army; The Need of our Navy; The Language of the Big Guns; Aerial Warfare; Our Armaments not a Burden; Ego-Fanatic Good Intentions and their Relation to National Defense; A Dangerous Criminal Class. The Good and Evil of Peace and War; Conclusion: What Shall the End Be.

Chemistry and Physics.*

This book of 322 pages—4½" x 6½"—contains a mass of information, generally in tabular form, on the subjects indicated in its title, prepared primarily for use in the laboratory and classroom. It is also a general reference book on a vast

number of topics of value to the general reader. In addition to containing general chemical tables and those relating to physics, there are also many relating to properties of matter, on heat, light, sound, electricity, magnetism, and many miscellaneous tables. It gives numerous definitions and formulæ, measures and units, mathematical tables—such as mensuration formulæ, trigonometrical functions and their values and relations, together with tables of logarithms, natural sines, cosines, etc., and their logarithms.

In fact, it is a veritable "Trautwine" but of a lesser scope and a corresponding reduction in price.

Citizen
Soldier.*

This book was received too late for an extended review in this number of the CAVALRY
JOURNAL.

It is dedicated to "every red-blooded American citizen who is willing to do a man's share in the defense of his country," and purports to be a guide by which the civilian may inform himself in a general way concerning the military rudiments and other matters, so that, should he ever be called upon to defend his country he may better understand the general nature of things military and may thereby learn the soldier's trade all the sooner.

It has an introduction by Major General Wood who quotes from letters and messages by our earlier Presidents, showing the necessity for a well trained citizen-soldiery. In it he says:

"We must strive to instill into the youth of the country the idea of their individual responsibility for military service and we must adopt some systematic plan for securing such general instruction of our men as will make their service effective. It is not enough for a man to be willing; he must be trained. Willing, but untrained men, cannot meet with any hope of success against good men trained and disciplined."

^{*&}quot;HANDBOOK OF CHEMISTRY AND PHYSICS." A Ready Reference Pocket Book of Chemical and Physical Data. Compiled from the most recent authorative sources. The Chemical Rubber Company, Cleveland, Ohio. Price \$2,00.

^{*&}quot;Self-Helps for the Citizen-Soldier." Being a Popular Explanation of Things Military. By Captain James A. Moss and Captain Merch B. Stewart, United States Army, with Pen Sketches by Lieutenant W. E. Larned. George Banta Publishing Co., Menasha, Wis. Price \$1.25.

RECEIVED FOR REVIEW.

"MY MARCH TO TIMBUCTOO." By General Joffre, with an Introduction by Ernest Dimnet. Duffield and Company, New York. Price seventy-five cents, net.

"VISION OF WAR." By Lincoln Colcord. The Mac-Millan Company, New York. Price \$1.25.

"ORDEAL BY BATTLE." By Frederick Scott Oliver. The MacMillan Company, New York. 1915. Price \$1.50.

"THE ATTACK AND DEFENSE OF LITTLE ROUND TOP, GETTYSBURG." By Oliver Willcox Norton, U. S. Volunteers. The Neale Publishing Company, New York. 1913.

"Women at the Hague." The International Congress of Women and its Results. By Jane Adams, President of the International Congress of Women, etc., and Emily G. Balch, Professor of Economics and Sociology, Wellesley College, and Alice Hamilton, Investigator of Industrial Diseases, U. S. Dept. of Labor. The MacMillan Company, New York. 1915. Price seventy-five cents.

"THE NEUTRALITY OF THE UNITED STATES IN RELATION TO THE BRITISH AND GERMAN EMPIRES." By J. Shield Nicholson, Sc. D., LL. D., F. B. A., Professor of Political Economy at the University of Edinburgh. The MacMillan Company, New York. Price twenty cents.



UNPREPAREDNESS.

Although the restrictions of General Orders No. 10 will not permit a discussion of this question, it is allowable to call attention to the mass of literature, pro and con, that has appeared and is daily appearing on this and kindred subjects, either in book form or published in magazines or other periodicals. Without going into details, among the many books that have been produced recently upon this question, there are two which stand out preeminently and they are: Huidekoper's "Military Unpreparedness of the United States for War," and Hudson Maxim's "Defenceless America," both large and interesting books, although very different in character.

Other similar books and articles, letters, etc., along these lines have appeared heretofore and the same arguments have been advanced by army and navy officials and others, for years and years, all of which fell on stony ground. Such books as Upton's "Military Policy of the United States," and Homer Lea's "Valor of Ignorance" were read and digested by army men, although they already knew much that they contained, but not one in a hundred of the intelligent, educated, voting American citizen ever read them, and those who did so, laughed at their—to them—ridiculous warnings, and prated about militarism or other equally silly matters, such as a million men springing to arms over-night.

However, the country has now gone wild on the question of national defense and all sorts of schemes are being suggested, in and out of Congress, for bettering the condition of our country in this respect. The Secretary of War has submitted his plan to Congress; the chairmen of the Military Committees have each prepared a bill covering their ideas as to a desirable reorganization and increase of the army; and several others have prepared or are preparing similar bills.

Congress has a great problem before it of adjusting all the differences of opinion and evolving a compromise measure, as nearly all congressional legislation is bound to be.

Fortunate will it be for our country, if advantage is taken at the high tide of this hysteria that is rampant throughout the land, to get on our statute books a well digested and wise military policy which will provide for a suitable and reasonable army and navy and that a practicable scheme of national reserves is adopted.

UNIVERSAL MILITARY TRAINING AND CUMPULSORY MILITARY SERVICE.

This has been a tabooed subject in this country heretofore, although a very few daring spirits, like Dr. Eliot of Harvard, have expressed favorably their views on the question. Six months ago, even three months ago, no one in any official position connected with the army, or, for that matter, no one in civil life would have considered for a moment any proposition for universal training or cumpolsory military service for the United States.

It is true that we have had on our statute books, ever since the birth of this Nation, laws that prescribed that all citizens between the ages of eighteen and forty-five were available for duty as militarmen and they used to have "training days" which, according to traditions, were the occasions of grand drunks, but these were never looked upon seriously and were finally disregarded entirely. Now we hear this question discussed on all sides by the press, in the halls of Congress and before the Military Committees of the House and Senate. Whether any such training or service will be prescribed is doubtful and, even if adopted, it will be, it is believed, a half-way measure with no practical benefit to the country.

That we should have some practical scheme for a National Reserve is acknowledged and is believed that the one advocated by General Carter in "The American Army" is the best that has as yet been presented. This plan, however, does away with the National Guard, and no scheme which relegates them to the rear will be adopted. This being the case, the laws and regulations relative to our National Guard should be modified in many respects. This, first, for the purpose of making them a National Guard in fact, instead of state organizations and, second, that their training, equipment and numbers should be such that they are prepared to take the field at once, with their ranks full to war strength, each man being up to the prescribed physical standard. It is well known that such is not the case in a large majority of our states. At present, on a call for service in time of war, they would require time, and much time, to recruit to war strength, after weeding out the physically disqualified, and further time to get properly equipped and at the end they would then be no better, or little better than volunteers.

It is also a fact that our regular army, in its present shape, would have to recruit to war strength and that they also would be, for some months, little better than volunteers for war time service in the field. Of course the officers of the regular army are trained and, in some states, those of the National Guard are also, to a more or less extent, and the recruits for their organizations could be sooner whipped into shape. Still this would take time and time is valuable in time of war or a threatened invasion.

Either universal training or cumpulsory service would be a great help in securing the material with which to fill our depleted ranks on the outbreak of war, but it will never come about, it is thought, in the days of the writer.

WHAT FOR THE CAVALRY.

That there will be an increase in the strength of our army during the present session of Congress is almost certain. Exactly along what lines and how great this increase will be is uncertain and it would be hard to predict, even approximately the final outcome of the present agitation for a larger army. The wide differences of opinions to be reconciled between those who oppose any increase whatever and those who would make our country a veritable Nation in Arms are so great that the resulting enactment must necessarily be a compromise. Each of the Chairmen of the two Military Committees have plans in the addition to the one submitted by the Secretary of War, and these differ greatly.

However, none of these plans provide for any increase in the cavalry arm and, at present, it appears that this important branch of our service is to be left out in the cold. It goes without saying that we believe this to be a mistake and that a proper proportion, as determined by the General Staff, should be maintained at all times.

The opinion that our country will have no need for more cavalry in the next war into which we may unfortunately be drawn appears to have grown out of the abnormal condition of affairs obtaining in the western theater of operations in the great European War. There, since the first great German drive towards Paris and the subsequent retreat and the opposing lines have been engaged in trench warfare, there has been little opportunity to employ cavalry in their proper sphere and their rôle has been that of dismounted work in the trenches. From this many have jumped to the conclusion that the day for the use of cavalry has passed, forgetting, apparently, the great work done by the cavalry, on both sides, in that advance and retreat. Also, as little has been learned or reliably reported as to the operations on the Eastern front, they have assumed that the cavalry has done little in the advances and retreats in that field of operations.

It is firmly believed that the final official reports of this almost world-wide war, will show that the cavalry has been far from having been relegated to the rear. It is also believed that, when one side or the other is finally driven out of their trenches in the Western front, as must be the case ultimately, the work of the cavalry will be of immense value to both sides.

However, any war in which we are liable to be engaged will be on this continent where conditions as to roads, distances and the nature of the country are entirely different, whether the war be to repel an invasion on either coast or against our neighbors on our northern or southern borders. It will then be found that the cavalry arm will be as great a factor in bringing the war to a conclusion as was the case in the campaign ending at Appomattox.

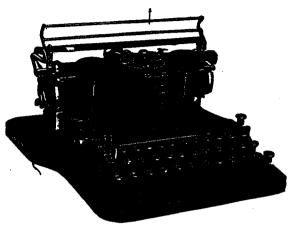
Inasmuch as none of the proposed plans presented thus far provides for any increase of the cavalry and it is possible that the bill when passed will have no such provision, the question naturally arises what is to become of the cavalry as regards the resulting promotion. Are they to be overslaughed by those in the other arms and their condition as regards relative rank be made worse than it is now?

It is certain that some scheme for equalizing promotion between the several arms of the mobile army should be evolved in all fairness and justice and for the sake of harmony, and the present appears the best time possible for such legislation. "THE ONE LIST FOR PROMOTION" is the only just and fair solution of the problem, and now is the time to put it into practice.

The great bug-bear that this scheme for promotion in the mobile army would necessitate the promotion of officers into arms other than the one in which they had been trained would disappear under either one of the three plans thus far proposed for an increase of the army. The extra officers provided for the purpose of instructing the National Guard and the proposed continental army would form a reservoir that would care for all such officers as would otherwise be promoted into other arms.

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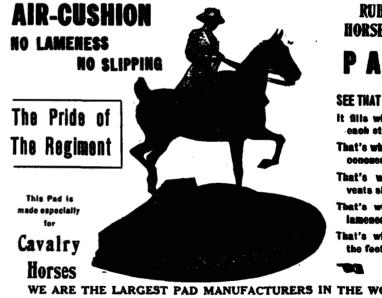
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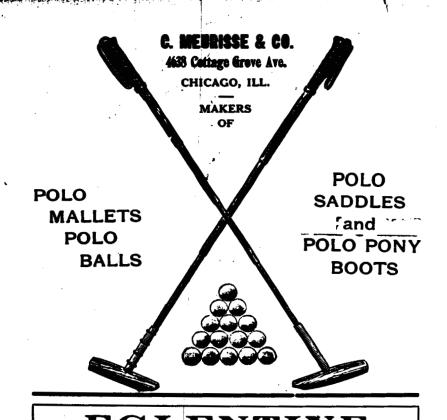
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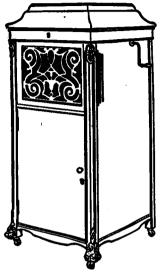
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Vol. XXVI. APRIL, 1916. No. 110

MILITARY NOTES

REVISION OF CAVALRY DRILL REGULATIONS.

To the Editor:

It has occurred to me that the JOURNAL is remaining much too silent on a matter in which we are all vitally interested, namely the revision of our Drill Regulations.

This is being done by a Board of representative cavalry officers and will, no doubt, be well done. Nevertheless, such a board, no matter how able, can not think of all the good ideas that should be considered before this subject can be presented to the service as a complete, compact and non-conflicting whole.

I am therefore taking the liberty of presenting a few matters that I believe should be considered. The Board is too well informed and too able to need to have every suggestion explained in detail and argued about at length, so I will present them in outline only. The Board is not in a position to ask for suggestions from every one, but should certainly be glad to have ideas brought before it through your columns.

In order to modernize our antiquated Drill Regulations I believe the following are some points that need attention:

1. There is in the service no system of fire control, fire direction, etc.

It is necessary that we have prescribed a suitable method for dividing the target into sections and assigning a part of our firing line to keep each section covered by fire.

It is necessary that some method of pointing out a target be put into general operation. Whether the clock system, the system of taking a reference point and then using finger widths or sight leaf widths or any other be prescribed, it is essential that we have one or more quick, easy an readily understood methods of pointing out a target and of pointing out the limits of the hostile line that any unit is to cover

- 2. I believe that our squadron can seldom put on the firing line more rifles than a large European company does and, that it therefore follows, that as a fire unit, our squadron should be handled like such a company—that is, that the major should assign targets to the troops, regulate the intensity of their fire, see to ammunition supply, etc., and, in other respects handle his four fire units as a battery commander handles his four guns. At any rate, the duties of each commander with respect to fire should be definitely laid down and not left to guess or to chance as is now the case.
- 3. Any system of fire control requires a system of signals in order to carry it out. The infantry have a signal system for this purpose that preferably should be accepted by us for the sake of uniformity.
- 4. The cavalry, more than any other arm, needs a quick, easy and thoroughly understood method for visual signalling. The semaphore alphabet is suitable up to a certain distance, but its limit is quickly reached. The flag and Myer code is toc slow. A few of the more usual things, such as enemy in sight, can be covered by conventional signals. The whole matter is now more or less in the air. I believe that considerable experiment will be necessary before the right means is decided upon. Patrols must be able to communicate with each other and to the rear, parts of an outpost must keep up

communication, adjoining parts of a screen the same. Now the only safe and completely understood means is by messenger, which is slow and frequently impossible in active service. What are we to have for this purpose?

- 5. I believe that for drill purposes we should have words of command, trumpet or whistle signals and visual signals. All of these should be practiced. Different circumstances call for the use of one or the other. No one method should be used exclusively in practice at drill and on the maneuver field. In war all will be called for at different times.
- 6. There should be but one method of dismounting to fight on foot, and it should apply equally well for all possible formations. A method, not original with me, that I like best is as follows:

Explained for a troop as all that is necessary to convey the idea. Command or signal, "To fight on foot" is given when in any formation or at any gait. At the command all numbers one and three grab their rifles and fall off their horse, forming a single rank line behind the captain and facing the same way he does. At the command or signal the captain also drops off his horse and moves in the direction he wishes the firing line to face, his trumpeter grabbing the reins of the captains horse. Even numbers grab the reins of the horses of the odd numbers. The commander of the rear platoon remains mounted and marches the led horses rapidly to a place of safety, has the horses linked in fours, uses some of the numbers two for guard for the led horses and for patrols to insure their safety and then brings forward the remainder of the numbers two as support. This support will arrive soon enough to reinforce the firing line, to extend it or to be assigned a different target. If the captain desires more men to be brought forward he calls to the commander of rear platoon "Link by platoons" or "Link by twos head and tail" as he dismounts. One can find several theoretical objections to the above method, but, as a practical proposition it answers in all cases, is adapted to all formations, and is quicker and surer than any method I have ever seen.

There are numerous good Drill Regulation ideas floating around in the cavalry. Let us mobilize them for consideration by our Board.

LEROY ELTINGE, Captain Eighth Cavalry.

I have read Captain Eltinge's notes as to certain points that our new cavalry regulations should cover with great interest and feel compelled to add some additional notes.

Our new regulations should be divided into distinct parts, preferably separately bound. Part I to contain everything that pertains to the course of instruction to be followed and the formal drill. Part II to contain combat principles. Part III to contain ceremonies, calls and information as to the care of the horses and equipment, etc., etc.

From the very nature of their contents Parts I and III are subject to frequent amendments and changes, but a thoroughly digested Part II enunciating on broad lines the principles of cavalry combat should constitute our cavalry doctrine and should rarely be changed and that only after long and serious consideration of the consequent effects on cavalry action.

The determining factor in the tactics of cavalry is the mission naturally subdivided into offensive and defensive. These main divisions should be again divided to discuss the three very different conditions:

- 1. When the force of cavalry involved is less than a regiment, consequently has no machine guns, i. e., purely fire units.
- 2. When the force of cavalry involved has a purely fire unit available such as machine gun troop, horse battery or even cyclists. For no matter what the circumstances to fail to employ such a fire unit would be a failure to exert one's full strength.
- 3. When the force of cavalry involved is not acting independently of the other arms or at least is not the main arm which determines the employemnt of the others as in cases 1 and 2, but is assisting its command in obtaining the tactical decision.

The point is that mission and composition of forces are the elemental factors that determine the tactics. Thereafter there

are almost limitless variations of terrain, time and situations. No one can expect to exhaust all their possibilities, for war is an art, not an exact science. In my opinion the technical principles for handling dismounted cavalry may be worked out separately in Part I but the tactics of dismounted cavalry cannot be disassociated from that of mounted, for mobility, that is the ability to seek the most favorable conditions for mounted or dismounted action and the mutual relationhip between cavalry shock and the fire action, will guide all tactical considerations. In Part I there should be separate rules for the technical handling of cavalry in the charge and in the fire fight, the latter closely assimilated to the infantry and in Part II there should be combat principles, which interpreted in the light of each particular case will determine the mounted, dismounted or combined action which will most accord with the mission, exploit mobility and make the utmost of the terrain.

Even in a purely dismounted action potential mobility is both an asset and a liability. An asset since the apparent must guard against and will be distracted by the larger variety of possible defensive measures that mobility allows. A liability since the most successful dismounted action would prove a disaster, if during its course the horses were disabled or lost.

Nc cavalry combat principle is sound that does not advocate the maximum use of that one great asset of the cavalry arm, mobility, for no matter what you do the horse is always with you and requires money, time, energy and men to care for even under the most favorable conditions. So there has been no true economy of force if the mobility asset, thus hardly earned, is not employed to the utmost.

S. HINTZELMAN, Captain Sixth Cavalry.

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MILITARY NOTES.

CAVALRY TRAINING.

The following are exercises, etc., for Cavalry as required by recent orders from Headquarters First Cavalry Brigade, General James Parker, Commanding:

COMBAT EXERCISE NO. 10.

The Pursuit of the Rear Guard by a Mounted Force:

The troops are divided into two equal forces; one, the Cavalry Rear Guard, Blue; the other, the Pursuing Cavalry, Red. The rear of the retreating Main Body, which the Rear Guard protects, is represented by wagons moving two miles per hour. The Main Body is supposed to include infantry, artillery and a train.

The route of the retreating force is a read, or trail, selected in advance and known to both sides. With the Advance Guard, as well as with the Rear Guard, is a battery, platoon or section of field artillery. When field artillery is not available it is simulated by the use of flags.

The action is supposed to take place in a defile. Limits of action, one mile on each side of road.

The conditions are such that neither commander is justified in scattering his command. He must keep it intact and together.

The depth of the retreating column is supposed to be such that it is not possible for the pursuing force to pass it and head it off.

The maximum distance between the Rear Guard and the wagons is limted to one mile.

2. The rôle of the Reds is to halt, cut off, capture, or destroy the Blues, or to attack the retreating Blue's main force (See C. S. R., pages 256-257).

The rôle of the Blues is to protect the retreat of the Blue's main force, inflicting such damage as possible on the Reds.

(See. C. S. R., pages 257-258). They should keep in touch with the Blue main body.

- 3. The action commences with the Reds and Blues in contact by means of scouts, the Blue force in position. Since the commander of the Blue force is prevented by his orders from at any time being more than one mile from the wagons, it will be necessary when this distance is about to be exceeded for him to fall back, in order to take up a new position, or in order to fight a retarding action until a new position is reached. The rate of two miles an hour for the wagons is maintained by having their teams halt for five minutes and walk five minutes alternately.
- 4. It is suggested that scouts be used in groups of three, each group under charge of a non-commissioned officer. This enables one man of each group to observe behind cover dismounted, another man to hold the horses, and the third man to be used as a messenger. It will be found, ordinarily, that scouts should not exceed a distance of 600 or 800 yards from the command. If they go further their reports when received are liable to be useless, since they may represent a state of affiairs which has changed in the meantime. Further, if too far out they may loose touch with the movements of the main command, or be cut off. Multiplication of scouts is usually not necessary. 'Three to five groups composed of reliable men are sufficient. A common fault of scouts is to fail to send back reports, thinking that other scouts have done so. Another fault is to fall back to the main command and lose touch with the enemy when the enemy makes a threatening movement. Scouts who expose themselves on the skyline, or fail to take cover, should be reported and punished. The position of chief of scouts is a very important one and should be confided only to an officer. He should at all times be in touch with the commander of his force and ready to suggest advantageous changes of position, etc. He should be an officer with a good eye for the country and for offensive or defensive combinations. He should see that his men do not expose themselves in view of the enemy.
- 5. The use of artillery on both sides increases the necessity for the use of cover. When open ground cannot be avoided

troops should adopt a dispersed order. When under fire of artillery or musketry mounted troops should disperse, or make a rush for cover. Common faults are leaving the led horses where they can be seen and fired on by the enemy; galloping up on a ridge to dismount instead of dismounting in rear of the ridge. Such faults as these should be severely commented upon. For a skirmisher to dismount and fire, holding horses, at an enemy capable of returning his fire is a ridiculous procedure and should not be permitted, for the reason that he furnishes a target three or four times that furnished by the enemy. The horses also are liable to jerk the reins at the moment the trigger is pulled.

- 6. When a situation has occurred which prohibits a continuance of the movement of withdrawal on the part of the Blues the exercise should be stopped and a critique and discussion had. This completed, the Blues should be given time to take up a new position.
- 7. This exercise should be constantly practiced. It brings about a great number of situations common in war and therefore is of great value. It simulates actual fighting to a remarkable degree.

Many of the situations arising in this exercise resemble those arising in Combat Exercise No. 5, G. O., No. 21, Hq. 1st Cav. Brig., 1913. This order should be studied in this connection.

COMBAT EXERCISE NO. 11.

The Mounted Attack of Cavalry against an Outlined or Represented Enemy:

1. The terrain selected for this excerise should admit of free movement, but have frequent cover. If cover is not available it, should be simulated.

The exercise may be practiced by a force of cavalry in size ranging from two troops to a regiment, or brigade.

In preparation for this exercise the horses of the command should be so trained that when moving at an extended gallop thay can be pulled up within 30 yards. The gaits employed in the advance to the attack should be the trot, galllop and extended gallop. In the attack itself, to prevent dangerous collisions, the gait should not be faster than the extended gallop. To accust m the horses to the exercise it would be well to practice it at first at the trot.

A force of scouts under a chief of scouts should be employed to cover front, flanks and rear. They should move in groups of three, one scout acting as non-commissioned officer in charge of each group. The scouts should combine the duties of "combat patrols" and "ground scouts." To facilitate this exercise the scouts should at all times keep within 150 yards of the command.

The Outlined or Represented enemy should be placed under the command of a capable officer.

In describing this exercise the main force will be designated as "Blues," and the Represented enemy as "Reds."

.2. The exercise commences with the Blues moving at a walk over a predetermined route, the Reds concealed under cover. The formation adopted by the Blues should be such as will enable it readily to maneuver in attacking formation to the front, flank or rear. Supports should be employed.

In order that mounted action, exclusively, shall be used, attacks should be made at short range. The approach of the Reds being signalled or reported by the Scouts, the Blues turn in that direction. On the appearance of the Reds, the Blue commander gives the signal for the attack. Both Reds and Blues take up the increased gaits, pulling up so that the line will halt before collision. The umpire then sounds the halt and officers' call; and the exercise is discussed. The umpire explains the defects of the charge, suggests improvements, etc.

3. It will be found on practicing this exercise, that from the moment when the attack is sounded further maneuvering of the command as a whole is impracticable. The officer in command must practically give up control, until after the collision, to the commanders of troops. Squadron and troop commanders, on the other hand, while leading their troops so as to strike at a vulnerable point of the enemy, must at the same time support each other and move so as to carry out the main object of the attack. If a troop is on a flank and exposed to

a flank attack, it should front toward the enemy. If it is where it can make a flank attack with advantage, it should do so. If it overlaps the enemy's line and can develop it and attack it in rear, it should do so. If, on the other hand, it is threatened with attack from the rear, it should repel such attack. In the same manner platoons which at the moment of collision find themselves overlapping the enemy's line should wheel around in such manner as to envelop it, and attack the enemy's troops in their rear.

- 4. Generally speaking, it may be said that from the moment that the attack is sounded troops should be moved independently, at the same time supporting each other; and at the moment when the collision is imminent, or has taken place the platoons of each troop should move independently, supporting each other, but remaining near the guidon.
- 5. After the attack is sounded the principles of leading should be carried out to their fullest extent, the men following their troop and platoon leaders. The guidon should follow the captain and be a rallying point for the troop; the squadron flag should follow the squadron commander and be a rallying point for the squadron.
- 6. In the advance to the attack at the trot or gallop the opposing forces, when possible, should maneuver and change direction with a view of gaining the enemy's flanks.
- 7. When the discussion has been concluded time is given for the Reds to seek cover, when the Blues continue their march.
- 8. The attack of the Reds may occasionally, for the sake of variation, be made in swarm formation, the Reds galloping in extended order by the flank around the Blues and discharging their pistols or rifles. Or the attack of the Reds may be begun from such a distance that it can be opposed by the Blues by dismounted rifle fire.
- 9. The exercise may be varied by having either the Reds or Blues recoil after the collision, the opponents to follow in pursuit.
- 10. Instruction in this exercise should be progressive. Primarily the commander should explain exactly how the

attack by the Reds should be made, and how met by the Blues, and the reverse, practicing these attacks front, flank and rear, first at the trot and then at increased gaits. When officers and men thoroughly understand the principles involved they will be practiced without any warning of the approach or position of the enemy other than by reports of scouts, or by the enemy coming in view.

11. It is found that the practice of this exercise is a necessity if cavalry is to be prepared so that it can be handled in combat. Flexibility, independence of units, mutual support, and team work are taught by it. Without these things the the attack can never be a full success. The exercise also teaches leading, the use of scouts and use of cover. It gives an object lesson which enables officers and men to judge of the advantages and disadvantages of different formations, and of the comparative value in mounted combat of the saber, pistol. and rifle.

COMBAT EXERCISE NO. 12.

Mounted Attack of a Position:

- 1. It semetimes happens that a position may be taken with minimum loss by advancing at full speed in extended order, mounted, dismounting and attacking on foct when the enemy is reached. Some advantages of this mode of procedure are: by means of it a bullet-swept space of, say, 500 yards can be crossed in one minute, instead of by a slow approach; the enemy must fire on a moving target; the target, while larger than a dismounted man, is, when the horse is end on only a little more than twice as large as that of the fcotman; the fact that at least a portion of the force is likely to reach the trenches, resulting in hand to hand fighting, is liable to disconcert the enemy.
- 2. To accomplish this mode of attack properly demands special conditions and special peace training. While it is desirable that charging cavalry shall start behind cover, it is not likely, even on an open plain, that serious casualties will

be felt until the charging force arrives within 600 yards. The best formation would seem to be a succession of lines of foragers following at distances of 300 yards.

- 3. The Boers in South Africa adopted this form of attack with success. On reaching the trenches they turned their horses loose and the horses were trained to stand. While this plan may work with ordinary cavalry, there is some danger of a stampede. To prevent this the men of each four on nearing the enemy's trenches should close in on the horse-holders. On arriving at the trenches all dismount, including the horse-holders, and throw the reins over the horses' heads on the ground which are immediately gathered up by the horse-holders, the other troopers rushing to the front with their rifles and attacking the enemy. The first line of foragers is followed by a second line at 300 yards distance, and that by succeeding lines. All gallop up to the position of the horses of the leading line and dismount, reinforcing the leading line.
- 4. The conditions desirable for success are surprise, level ground free from obstacles, and a foe inferior in morale.
- 5. Before this form of attack will be available for use in war, proficiency must be obtained in its details by due practice. A portion of the command should act as an outlined or represented enemy, protected by obstacles, firing blank cartridges at the force as it advances, and retreating hastily as the treopers dismount for the assault on foot. The exercise will be concluded by a discussion.

COMBAT EXERCISE NO. 13.

The use of the Pistol Against an Outlined or Represented Enemy:

1. The pistol is a valuable adjunct to the mounted cavalryman. It is a formidable weapon when used properly. This is demonstrated by the records of the American Civil War. The present automatic pistol is a much superior weapon to the revolver, then in use.

- 2. We employ much time gaining accuracy with the pistol at target practice mounted and dismounted, but it remains to formulate a proper system of using this weapon in action.
- 3. In the shock attack, riding boot to boot, the pistol cannot be used. The use of the saber is essential. It is only necessary to practice the Combat Exercise entitled "The Mounted Attack of Cavalry Against an Outlined or Represented Enemy" to discover that at the conclusion of a charge, troops are so intermingled by flank movements, overlapping movements, rear attacks, and the movements of supprts and reserves, that this long range pistol, if used, will endanger the safety of our own men.
- 4. The pistol is a weapon for open order work. It is necessary to formulate a system of training that will enable us to use it in open order formations without confusion or danger to our own men, and with deadly effect to the enemy.
- 5. In considering its use by small bodies of troops, commencing with the platoon, we find there are, generally speaking, three methods of attacking.

First: The Swarm Attack, where the troopers, in open order, approach the close formations of the enemy and then flee from them, remaining a short distance in front of them and firing to the rear.

Second: The Encircling Attack, where the troopers circle around the close formation of the enemy, firing into their ranks.

Third: The Direct Attack, where the troopers, in open order, charge the enemy's lines, or columns, and ride through them.

To instruct in these various methods of attack the platoon can best be used.

6. The Swarm Attack: If the hostile cavalry is in close order and about to charge, a swarm attack can be used with advantage. The platoon, in open order, directed by its commander, who takes his place in the center, moves rapidly to the front at the command: "Raise Pistol; Swarm Attack; As Foragers; Gallop, March." When near the advancing enemy the chief gives the command, or signal, for moving to the rear. The troopers halt their horses, turn them on their haunches

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and gallop to the rear, riding in front of the enemy at close range (ten or more yards,) and fire into his ranks.

- 7. Encircling Attack: If the enemy is in close order and it is desirable to harass his column and break up his formations, using a small force, such as a platoon, the encircling attack may be used with advantage. The command is given: "Raise Pistol; Encircling Attack; As Foragers at Ten Yards Interval; Gallop March." When near the enemy the chief of platoon commands: "By the Right (Left) Flank; March; Follow Me," and leads the platoon in column of files at eight yards distance along or around the enemy's column, the men firing into his ranks.
- 8. The Direct Attack is also executed in line of faragers. The command should be given; "Raise Pistol; Direct Attack; As Foragers; Gallop, March." Troopers should wait until they are within a few yards of the enemy and then use the pistol, shooting to the right or left; never over the horses' head. This form of attack is particularly useful against artillery, convoys, led horses, and irregular infantry.
- 9. The pistol attack finds particular application as follows:

In the work of patrols. (Swarm Attack; Encircling Attack; Direct Attack).

When attacking close order formations of hostile cavalry superior in force, and who depend on the saber or lance, to break up their order and throw them into confusion, so that they may be open to the attack of the main force. (Swarm Attack; Encircling Attack.)

In pursuing fleeing troops. (Encircling Attack; Direct Attack.)

In attacking infantry. (Direct Attack; Encircling Attack).

In attacking artillery. (Direct Attack; Encircling Attack).

In attacking a convoy. (Direct Attack; Encircling Attack).

In attacking led horses. (Direct Attack; Encircling Attack).

To delay pursuit. (Swarm Attack; Encircling Attack; Direct Attack).

To charge through the enemy's lines and escape. (Direct Attack; Swarm Attack).

- 10. Troop commanders must train their men carefully in practicing these attacks, employing an cutlined or repressented enemy. Squadron and regimental commanders should also make use of this Combat Exercise. In no other way can the full value of the pistol be discovered or demonstrated. It will be found that a great advantage that the pistol has, when employed by troops in open order against troops in close order, is that the individual trooper has in his enemy an immense target; whereas the enemy, if he attempts to reply to the fire, has great difficulty in utilizing his full fire, and has a much more difficult target.
- 11. It should be clearly understood that what is said here of the pistol applies to the rifle, which, when used on horse-back, is found to be fully as efficient as the pistol. Further; the rifle can be utilized when pistol or pistol ammunition are lacking.
- 12. For more complete details as to methods of using the pistol, see the article in the CAVALRY JOURNAL of October, 1915, by Captain H. S. Hawkins, of this brigade.



CAVALRY INSTRUCTION.

The Editor:

The inclosed is an extract of a letter which I recently wrote.

Maybe some of the cavalry would like it.

From our vote on Drill Regulations, and from conversations with cavalry efficers, I am satisfied that for the last four years a certain element in authority were running after strange cavalry Gods. I refer, in particular, to the use of the horse as a weapon, and the use of a saber as a fighting arm. It is my opinion that the cavalry will have to lean more to the collective use of the rifle. We have not taken up the use of the rifle collectively as we should. In other words, we must get to use the rifle as the infantry are using it in the musketry exercise.

The School of Musketry has not, up to the present, given us any information that will enable us to improve ourselves in the collective use of the rifle. In my squadron I am taking up certain musketry instruction, and have adopted a set of hand signals for control of the firing line—a copy of which I am enclosing. They are just written off at random, and might be rearranged in a better sequence.

In addition to the control of the firing line, we must adopt methods of bringing effective fire on distant targets, and distributing this fire so that we can maintain a fire superiority during an advance. I am using the horizontal and vertical clock for the purpose of calling attention to a target. The horizontal clock is used to locate a distinct target or a reference point. It consists in an imaginary clock face lying horizontally in front of the line 12 o'clock is to the front; 3 o'clock to the right; and 9 o'clock to the left. To use this we say "Target platoon cavalry one o'clock at 700 yds;" or better yet, have the men set their sights and then call their attention to the target.

The reason for this is, that if, after having had the target pointed out, they lower their eyes to set the sights, they may not see the target when they look up.

To locate an indistinct target it is necessary to use both the horizontal and vertical block. After having set the sights, attention is called to the reference point like this: "Reference point a high peak on the sky-line at 1 o'clock;" or, "A church at 2 o'clock 700 yds. away." Having located a reference point, this reference point becomes the center of a vertical clock, and from it the indistinct target can be located in this manner. "Target concealed line of infantry trenches extending along a low ridge at 4 o'clock, three fingers to the right of the reference point." The vertical clock is not hard to understand because it is just the same as calling hits by the clock face on a bulls-eye target.

The use of the fingers is indispensable for locating a target to the right or left of a reference point; while the vertical clock gives the angle from the reference point.

The School of Musketry is beginning to talk in terms of mils, but the term to me seems to be too abstract for the comprehension of most enlisted men. The school takes the leaf of the rear sight as equivalent to 50 mils. Now it is possible to hold the extended fingers at such a distance in front of the eye, that a finger will cover the same number of mils as does the leaf of the rear sight—namely, 50 mils. Each man learns for himself the position of his fingers in front of his eye. Normally the distance is the same as that of the rear sight leaf: while the rifle is held in the position of aim.

These hand signals, taken with the flag signals, prescribed in Changes 2, Cavalry Service Regulations, ought to give us complete control of the firing line.

I might add that in getting distribution, there are two ways: one is by having the fire of the units overlap; and the other is by giving each unit of the firing line a distinct sector of the target. You will see that with the first method, when it is necessary to advance a squad or platoon, the enemies fire can be kept down by simply increasing the rate of fire of that portion of the line which is not advancing; while with the second method it is necessary to switch the fire on to that por-

tion of the enemies line which is not being fired upon by reason of a unit moving forward. These two systems are called the "overlapping system" and the "switching system." I should should say that the "overlapping system" is much to be preferred; and in using it a target would be distributed in this manner: If the target covered four fingers of front, we would assign to the right platoon two fingers on the right of the target, to the left platoon two fingers on the left of the target; and to the center platcon two fingers in the center of the target. This gives an overlapping fire, as you will see."

The Signal Corps is issuing EE type of glasses to troops. This glass has, I think, a mil scale. For troops armed with the rifle I regard a vertical scale of the inverted rear sight leaf as of much more value. This scale enables troops to aim at distinct objects above or below the concealed true target and get a fair precentage of hits.

I tried, at the School of Musketry, a glass so graduated, and its success is beyond doubt.

HAND SIGNALS TO BE USED IN THE FIRING LINE. PRECEDED BY A BLAST OF THE WHISTLE.

1. As skirmishers:

Move extended arm rapidly in horizontal plane in front of body.

2. Commence firing:

Simulate the motion of firing.

3. Fire faster:

Simulate the motion of firing rapidly.

4. Fire slower:

Simulate the motion of firing more slowly.

5. What range are you using?

Extend arms towards the person addressed, one hand open, palm to the front resting on the other hand with fist closed.

6. Platoon: See C. S. R.

Raise right elbow to height of shoulder, forearm vertical, fist closed.

7. Squad:

Extend arm toward squad indicated and move hand with vertical wrist motion.

8. Move forward by rushes:

Same as double time.

9. To the rear.

Same as for mounted drill.

10. Suspend firing:

Hold hand steadily in front of forehead, palm to the front.

11. Cease firing:

Same as suspend firing, swing hand up and down in front of face, also a long whistle blast.

12. To indicate range:

Hold up hand with thumb and all fingers extended for 500 yards; raise an additional finger for each 100 yards. A horizontal motion with the index finger adds 50 yards.

13. To raise the sights:

Hold up one finger for each 100 yards added. For 50 yards, hold thumb and forefinger at right angles and make a horizontal stroke with the forefinger, the thumb pointing upwards.

14. To lower the sights:

Point downward one finger for each 100 yards. For 50 yards, hold thumb and forefinger at right angles and make a horizontal stroke with forefinger, thumb pointing downwards.

15. All signals should be repeated back to show that they are understood.

ALONZO GRAY,

Major Fourteenth Cavalry.

MILITARY NOTES.

INTERFERING.

The Editor:

The following may be of practical interest to the mounted service as interfering is a frequent defect and sometimes is very hard to remedy.

This method of shoeing is based on the mechanical principle involved in interfering. It is a known fact that the pigeon-toed horse or a horse whose foot leaves the ground in a straight forward position pever interferes. It is the horse whose foot leaves the ground in a toe-wide position that interferes.

Most text books advise weighing, cutting away of the inside of the foot and shoe, leaving out nails on the inside or adding a trailer to the outer branch of the shoe.

For the past eight years I have been using a method not described in any text book on horse-sheeing. I think this method is more simple than most other methods and has given results that never were obtained by any other.

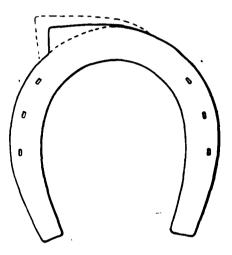
The foot is prepared as nearly normal as possible and a regular service shoe is used with the addition of a toe-bar on the cuter border of the toe. This bar is as of the same thickness as the shoe and is welded to the toe so as to form a right angle with an imaginary line through the center of the shoe. The object is to prevent the foot leaving the ground in a toe-wide position.

In some cases I have found it necessary to bring the outer extremity of the toe-bar slightly forward, forming an obtuse angle instead of a right angle. If the animal is inclined to stumble, roll the toe of the shoe slightly and weld the toe-bar further back from the toe, but plumb with the ground surface of the shoe.

If you have a combination of interfering and speedy-cut, thicken the toe-bar into a calk as the occasion demands. This toe-bar never extends beyond the inside of the toe of the shoe and forms a straight surface about one and one-half inches long on the outer toe of the shoe. The object of this bar is to

direct the feet of a toe-wide animal in a straight forward direction.

I have yet to find the animal that could not be cured of interfering by the proper application of this method. In a number of cases after having worn this shoe for six months or more, a regular service shoe was used with no further trouble from interfering, as nature seems to have been assisted in properly directing the feet of the animal.



The above cut shows a left fore shoe. There are no calks and the toe-bar is plumb with the upper and lower surface of the shoe. The toe-bar may be extended as indicated by the outer dotted line if the case requires. For knee cutting thicken the toe-bar into a calk to retard high going and cause the animal to pass the knee without cutting. The inner dotted line shows the outline of the regular shoe.

B. A. SEELEY, Veterinarian Fifth Cavalry.

MILITARY NOTES.

PREPAREDNESS.

THILE there is much discussion on the subject of preparedness and mobilization of our industrial rescurces, there is apparently little consideration given to the subject of mobilization of troops in so far as it pertains to rapid entrainment at stations both permanent and temporary. Trackage is generally located with a view to facilitate supply of posts or stations and is seldom capable of accomodating the trains necessary for the rapid entraining of troops and their impedimenta, and lacks the switching facilities for quickly making up the sections needed. I do not contend that these matters have been entirely neglected by the General Staff, since a War College Problem suggests the subject to me, but that the subject has not received proper consideration from the line cfficers point of view. Since he is the man who does the work let us see what difficulties he has to contend with upon receipt of orders for a rapid mobilization.

First.—He must determine the number and kind of cars needed and must order them delivered.

He must issue the order for entraining. This is where his trouble begins. He finds that there is not room on the sidings for his cars and that the switching facilities will cause considerable delay because they are not arranged properly. While he can handle two train sections at the post a large number of the cars will have to be left at a siding from three to ten miles away, and in all probability he will find himself short a few cars of the particular kind he needs because a certain number of the cars had to be left at the distant siding and the railroad wasn't particular about which kind it left. Result, confusion and delay coupled with much profanity and disgust.

He has designated the points where impedimenta should be placed prior to arrival of trains but due to insufficient and improperly located trackage he finds that the cars cannot be placed as planned and there results much needless handling of baggage with consequent delay. If there is a loading chute for stock, and generally there is none, he finds that but one car can be loaded at a time, more delay. As a rule he will have to improvise or construct chutes and they will have to be placed after cars are spotted.

There are no facilities for rapidly loading wheel transportation so there is still more delay. The designation of the kind and number of cars per section is often an intricate calculation based upon the number of cars that the railroad will take in a section together with the train tonnage which must not be exceeded.

To solve this problem he must know the train tonnage for each class of car.

From this brief outline it becomes evident that each post or station should be equipped with trackage, loading platforms, chutes, and ramps always ready for use and thoughtfully located with reference to spotting each train section for one unit whose size will depend upon the limitations of the railroad and the character and strength of organizations. At regimental stations it should be possible to load several sections at a time, with sufficient trackage for making up the succeeding sections and spotting them promptly upon the departure of the first sections.

Sections can be safely run at twenty minute intervals.

Field Service Regulations state that troops can entrain as fellews:

Infantry, one hour.

Cavalry and light artillery, one and one-half hours.

Heavy artillery and engineers, with bridge train, two hours.

With the details carefully worked out and all data always at hand our troops could entrain as contemplated in the above, but under present conditions it is not possible.

The basic principles of keeping units intact with their transportation and ten day's supplies must be kept constantly in mind.

The time is opportune for special appropriations for this purpose. The cost will be insignificant compared to the value of the result in time of impending danger.

MILITARY NOTES.

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Has each regiment a plan already prepared so that it needs but a signature to make it effective, or will it have to be made at the eleventh hour, just eleven hours too late?

Why should not the railroads have all the data needed to intelligently make up sections prior to delivery. And why should we not have the trackage to spot them upon arrival. Let anyone who doubts the wisdom or necessity of the preparation specified solve the following problem at any regimental or larger station in the army.

Situation:

Two days travel rations, ten days field rations and ten days forage will be carried.

Required:

- 1. Time from receipt of order until you order cars.
- 2. Same until you issue your orders.
- 3. Same until arrival of cars.
- 4. Your orders and telegrams.
- 5. Number of box cars.
- 6. Number of flat cars.
- 7. Number of baggage cars.
- 8. Number of stock cars.
- 9. Number of tourist cars.
- 10. Number of Pullman cars.
- 11. Number of train sections.
- 12. Hour of departure of each.
- 13. Organizations on and attached personnel each section.
- 14. Number and class of cars to compose each section.

The railroad company will haul train sections seven hundred and fifty tons maximum capacity, limited to eighteen cars of all classes, not to exceed eight Pullmans or tourists in any section at twenty minute intervals. Capacity and weight of cars, loaded is presumed to be known but might have to be obtained from the railroad company.

Pullman (twelve sections), two officers or four men per section, weight fifty-five tons.

Tourist (sixteen sections), three men per section, weight fifty tons.

Stock, twenty horses or twenty-two mules, thirty-five tons.

Baggage, ten tons; total weight forty-five tons.

Box, twenty tons; total weight thirty-five tons. Flat, two carriages; total weight thirty tons.

A. H. Murller,

First Lieutenant Tenth Cavalry.

HORSEMANSHIP.*

Dear Captain Eltinge:

REPLYING to your kind letter of the 5th, in behalf of the Field Club, please say to them that it was a very great pleasure indeed to me to come down and act as judge in their Horse Show.

When I was instructor in equitation at the Army Service School I worked very hard and was deeply interested, because I was conscious that the seeds sown there fell upon good ground and would surely bear forth much fruit; not only in mere riding, but in the care and management of the horse in the stables, his proper conditioning and sufficient training, so that the maximum use of him might be had with the least possible fatigue and injury.

Right now in Mexico the most serious problem facing our officers is the wear and tear on the horses, how to feed and water them, shoe them, weight of equipment, how the troopers shall ride, and at what gaits, the length of the days marches, how to cover the maximum distances and still be able to go at once into action, and afterwards maintain the pursuit, skill in the use of

^{*}Copy of letter from Captain Richmond who acted as one of the judges at the Seventh Annual Horse Show at Fort Leavenworth.

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arms (pistol and saber), sore backs and where the troopers ought to sit and the temporary makeshifts in adjusting the saddle and blanket to prevent or to cure them. All these things deeply concern the officer in immediate command of the troops. They ought also to be of concern and be likewise subjects of insight and sympathetic understanding upon the part of Staff Officers formulating orders and of Supply Officers forwarding supplies and establishing bases. So much so, that it is believed these subjects can not be accorded too much prominence in any course of instruction of officers.

It is believed, and stated here with all modesty, that the course for the Line Class, Staff Class, and even the Field Officers at the War College ought to be laid out with a view to bringing about that the student officers should spend at least two hours in the saddle each day of the whole year, either solving problems, on terrain rides, the service of security and information, covering long distances by the shortest routes and in the minimum time, conditioning and preserving the condition of their horses, with constant intermediate lessons and exercises in equitation and horse training under a competent instructor, in a word, to associate with all study the simultaneous development of health and hardihood in men and horses alike. This does not at all decry "bookishness." It casts no reflection upon learning, or the desire upon the part of those so devotedly engaged in furthering their theoretical education. It is merely an appeal that the courses be so laid out by the various faculties as to permit of two hours each day on horseback, and that an increased incentive to be given officers to perfect themselves in horsemanship and skill in the use of arms. making it an essential in their grading as Staff Officers and Higher Commanders as well as commanders of small units.

It was to me, as Senior Instructor in Equitation at the Mounted Service School, a very great satisfaction to see the Senior Instructor in Military Art and many of his Assistant Instructors appear in military events in competition with their juniors, on the horses owned by them and trained and kept in condition by them. It marks an enormous advance from the conditions that existed only a few years ago and sets an example that cannot but have much influence.

I have come down to Leavenworth three times now in succession on April 1st, and each time the progress shown by the personnel there has more than repaid me for the small trouble and expense of the journey, and returned me to my own work here with renewed energy and enthusiasm and increased faith in its usefulness and the true place it has in the school system of the army.

Therefore, please say to the Field Club that I appreciate the courtesy of their invitation and the kindness and thoughtfulness in offering to pay expenses, but the distance is so short that I much prefer to come, as heretofore, at my own expense, and will always do so when I can as a pleasurable trip and holiday among friends.

With best wishes always to you and yours,

Most sincerely,

H. R. RICHMOND.

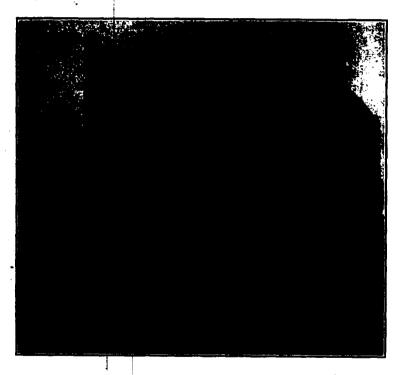
THE T-W GANGWAY AND RAMP.

THE cuts herewith show a loading ramp for artillery, cavalry and vehicles of all kinds. It is by far the best thing in this line ever offered the army up to date.



CUT No. 1.

It is so built that it will knock down; it is very portable and can be stowed away on a flat car under the loaded wagons, or it can be taken on the march as a trailer behind any wagon of the train. It fills a long felt want and the Quartermaster's Department should take steps to secure the right of manufacture for the army. This ramp or loader was devised and patented by two employees of the Quartermaster's Department at Fort Bliss, Texas. It has been used for loading animals, wagons, automobiles (weighing 5,000 pounds), as well as guns and limbers of cur field artillery. The time required to knock down and readjust it for use is ten minutes.

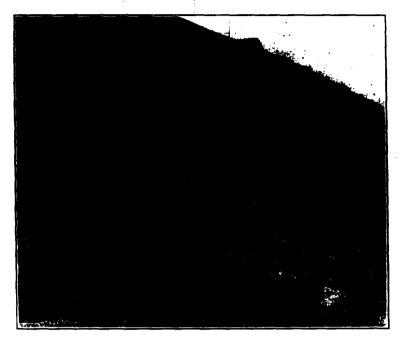


CUT No. 2.

Cut No. 1 shows the ramp knocked down with its different parts, consisting of three bottom pieces (two as ramps and one as a center, cleated for stock to secure a foothold), two side rails, wheels for transportation, tool box, (containing block and tackle, pick, shovel, ax and lantern.) The tool box can

be suspended underneath the platform or carried on top of the same.

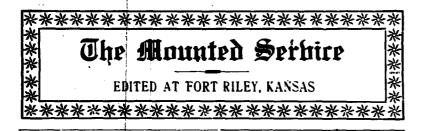
Cut No. 2 shows the ramp used in loading an escort wagen, the block and tackle can be used to draw the wagon up by mules.



CUT No. 3.

Cut No. 3 shows how the gangway can be used in loading and unloading stock.

L. M. KOEHLER, Lieutenant Colonel Eighth Cavalry.



CAVALRY EQUIPMENT.

BY MAJOR C. D. RHODES, U. S. CAVALRY.

FOR the past five months the Cavalry Equipment Board has been hard at work at the Rock Island Arsenal, carefully considering the reports received in regard to the present 1912 equipment; and attempting to remedy such defects as practical tests have brought to light.

Although many of the conclusions of the Board are as yet tentative, and in any event will ultimately have to receive the approval of the War Department, the lines of experiment and development by the Board as outlined below will doubtless be of more than ordinary interest to officers of cavalry and field-artillery.

- 1. Polo Saddle: The Board has recommended the adoption of the flat saddle to replace the so-called Ordnance polo saddle and to be possibly called a "training saddle." Models made at the Arsenal after French types, and tried out by expert horseman at the Mounted Service School, have proven very satisfactory as to type, workmanship, and comfort.
- 2. Officer's Saddle: Reports as to the 1912 officer's saddle have in general been adverse to this model, particularly as to the features of hinged side-bars. The Board will, in all

probability recommend the adoption of an officer's service saddle which duplicates the French field saddle, now used by many officers of our service. This saddle will have pommel and cantle-pockets, and the latter can with a few simple alterations be made from the present McClellan pockets. It has been tried out at the Mounted Service School for five years and by many officers under campaign conditions. The Rock Island Arsenal has completed ten beautifully fabricated models for the Equipment Board, and ultimately the Arsenal will be able to supply officers with a saddle, which is considered by the Board the best field saddle in the world.

3. Enlisted Men's Saddle: As with the officer's saddle, model 1912, so reports as to the enlisted men's model have in general been adverse to its adoption, particularly as to the hinged side-bars.

The Equipment Board's first experiments were with a McClellan superstructure upon side-bars similar to the French officers field saddle. While results were satisfactory, later and more encouraging tests have been made with a model nearly similar in outline and form to the French officers field saddle, but like the McClellan having a wooden tree consisting of two side-bars connected at pommel-arch and cantle by steel braces; the whole covered with a fine grade of leather. While similar in outline, it differs from the officer's saddle in having little or no padding, and has the advantage over the McClellan in not only having a seat more in keeping with the standards of equitation now taught to the service, but by reason of its extended and slightly rounded side-bars, better able to bear the weight of the pack under all conditions of campaign.

This form of saddle has given the Board more anxiety and labor than any other one thing connected with its work, but the Board is now throroughly convinced that it is working along the correct line of development and hopes that the final model will be the best enlisted men's saddle in the world. It is actually a McClellan saddle with a French seat and it is believed will not weigh more than the McClellan or exceed the latter in cost—a very important consideration in connection with army increase.

- 4. Canteen and Mess Kit: By the adoption of a mess-kit soemwhat similar to the Preston kit, and combining canteen, mess-pans, tin-cup, knife, fork and spoon in one package, the whole can be inserted in a pommel-pocket of the enlisted men's saddle, permitting use of the other pommel-pocket for the spade, curry-comb, brush, etc., devised by the 1912 Board and thus saving the space of one cantle pocket and the expensive device on the 1912 saddle for carrying the spade.
- 5. Bridle: The present model will probably be reported as satisfactory.

The officer's model will probably have a nose band. A combination halter-bridle is not deemed desirable for all purposes.

6. Halter: The Board is making some interesting experiments with a halter made of lariat rope with parts connected by one-piece castings of metal without buckles. The halter has a breaking strength of over 1,400 lbs., and is cheap, neat and very durable.

Experiments with halters of webbing were not entirely satisfactory.

- 7. Stirrups: Steel stirrups with rounded treads will probably be recommended for officers use in garrison; and leather hooded stirrups for both officers and enlisted men in the field.
- 8. Saber: Complaints as to the brittleness of the present new model saber will be corrected at the Arsenal. Effort is being made to improve the balance by replacing a portion of the steel grip with aluminum; and making the hilt less clumsy by narrowing it slightly. Its present length and straight blade will probably be retained; and the suggested changes, while making it only half a pound lighter, will render it much more handy and of better balance.
- 9. Sitrrup Straps: Tests are being made with the Kerr adjustable straps, which dispense with buckles and permit of quick adjustment from the saddle by an easy pull on the strap.
- 10. Rifle Carrier: The Board is not favorable to the Rifle Carrier model 1912; and on the other hand is convinced that with our present rifle, the latter cannot be carried on the

saddle without seriously disturbing the balance of the equipment, and rendering in a severe campaign, many mounts unserviceable. Neither the Army nor the Ordnance Department, it is believed is willing to adopt a carbine for the cavalry.

After very serious deliberation the Board is therefore conducting experiments, with the rifle carried on the trooper's back, as is the case in nearly all the great European armies of today.

After trial of various devices to hold the rifle rigid against the trooper's back, the board has found the following most satisfactory: The two sling swivels are removed and reattached to the *side* of the rifle so that the flat side of the arm comes next the trooper's back. At the rear of the right hip, a spring-clip is attached to the ammunition belt, and receives in its jaws the small of the rifle-stock.

Present experiments with this method of carrying the rifle have included three weeks trial at the Mounted Service School by the five instructors in equitation, riding at all gaits and jumping all obstacles on the Fort Riley reservation. Also by a squad of five enlisted men (cavalrymen) at Rock Island Arsenal, riding twenty miles a day at the average rate of six miles per hour.

Reports from both efficers and soldiers testing the device have so far been highly favorable.

While doubtless much prejudice exists in the cavalry against carrying the rifle on the trooper's back, the Board has had in mind the great need in present campaigns, of conservation of horse flesh; while consideration of the great weight carried by the infantry scldier on his person renders it no hardship for the cavalry man to carry the rifle in similar fashion if it will increase his mobility and ultimate usefulness for either mounted or dismounted action.

In this connection, the following interesting quotation from Lord Roberts' "Forty-one Years in India," is pertinent.

"It was on this occasion that I first recognized the advantage of having the carbine slung on the trooper's back while in action, instead of being carried in the bucket, as is the custom with our British cavalry. Several of the enemy's loose horses were going about with carbines on their saddles, while their dismounted riders were at an enormous disadvantage in trying to defend themselves from their mounted adversaries with only their swords. I saw too, of one Watson's men saved from a fierce cut across the spine by having his carbine on his back. More recent experience has quite satisfied me that this is the only way this weapon should be carried when actual fighting is going on."

11. Additional tests by the Board appear to suggest the continuance for cavalry of the cotton cloth bandclier, instead of a proposed woven belt; the discontinuance of the rifle cover and picket pin and possibly of the lariat. For the infrequent occasions when a lariat may be required, it has been proposed to combine the halter tie-rope and cooling strap.

The pistel holster will probably be of shorter type to be carried on belt without swivel; while spurs for both officers and enlisted men will be of the same design as now issued, except with rowels, the officers model to have chain and the enlisted men's a strap beneath foot.

The Board has had in mind retaining every possible feature of the 1912 equipment which has appeared desirable in tests under service conditions, and there has been much of the greatest merit in the results obtained by the previous Equipment Board.

The present Board's aim, however, has been to remedy such defects as the latest tests under service conditions have proven necessary; to reduce the weight and increase the simplicity of the equipment; and, having in mind the economy necessary in case Congress authorizes a larger army, to reduce the cost of the equipment to an amount consistent with the absolute needs of the service.

EXPERIMENTAL SHOEING.

BY FIRST LIEUTENANT I. S. MARTIN, U. S. CAVALRY.
In charge of School for Farriers and Horseshoers, Mounted Service School.

(With an Introduction by Major C. D. Rhodes, Commandant Mounted Service Schools.)

INTRODUCTION.

OR the past eighteen months experiments have been tried out at the Mounted Service School, Fort Riley, Kansas, in connection with the use of a modified, countersunk shoe, designed during ordinary work in garrison, or even under exceptional field conditions, to promote healthy frog pressure without having the horse actually barefoot.

Many mistakes as to the preparation of the foot and the form of shoe were made at first, which resulted in some lameness and consequent initial prejudice against the use of the shoe.

But by patient and persistent effort, some very interesting and valuable results have been obtained; and conclusions reached which seem to indicate that this form of shoe can be made to serve a very useful purpose, especially in garrison.

The shoe has been variously termed the "modified shoe" "tip," "three quarters shoe," etc., but in view of its principal use in garrison, the term "garrison shoe" seems most suitable and applicable.

The following report of progress rendered about March 1, 1916, to the Commandant, Mounted Service School, by the Officers in Charge, School for Farriers and Horseshoers, will doubtless be of interest to most officers of the mounted service.

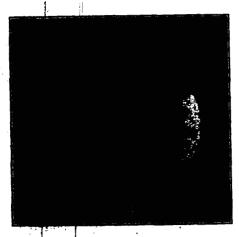
RULES PECULIAR TO AND GOVERNING THE USE OF THE NEW GARRISON SHOE.

(1) Selecting horses on which to use the shoe (best size of foot for horse of given weight and principles to be followed in determining its proper size); (2) Shoeing certain horses with a view to adopting the new "Garrison Shoe;" (3) Preparation of the foot for shoeing; (4) Selecting, shaping and fitting the shoe; (5) Nailing the shoe on.

DETAILS TO BE CONSIDERED UNDER THE VARIOUS STEPS INDI-

1. The most important feature to be considered in connection with the adoption and use of this shoe in each case and which must be settled in the beginning when the horse is looked over preparatory to shoeing is the character and condition of his feet.

The foot should be round, the border of the lower or ground surface should describe a circle as nearly as possible.



No. 3—TROOP "I," THIRTEENTH CAVALRY.
Showing foot which tends to be too long from toe to heel and is not round.

See photographs marked "No. 3, Troop I, 13th Cav.," "Iaconic," and "Iron Clad." The foot in the photograph marked "No. 3, Troop I, 13th Cav.," has a tendency to be long from the toe to heel; the one in the photograph marked "Iaconic"

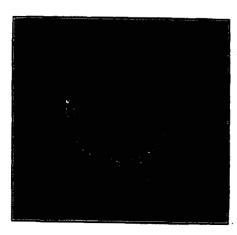
tends to have a greater diameter cross wise from the quarter on one side through the center to the quarter on the opposite side; while the foot in the photograph marked "Iron Clad," is practically round.



IACONIC.
Showing foot which tends to be too wide at quarters.

The foot should be of sufficient size to carry the weight and to withstand the great strain which is put on it.

The foot of a horse weighing 900 pounds should measure approximately 163/4 inches in circumference around its lower



IRON CLAD. Showing a foot of correct shape.

border; for one weighing 1,000 pounds approximately 17½ inches; for one weighing 1,100 pounds approximately 18 inches; for one weighing 1,200 pounds approximately 18¾ inches and for one weighing 1,300 pounds the foot should measure approximately 19½ inches.

Of course, in determining the suitability of the foot with reference to its size, the quality of the fiber in the walls, frog and sole and the thickness of the wall, the size of the frog and the shape and exact position of the sole should be considered.

Well bred houses (thoroughbreds) with long elastic muscles, hard wiry tendons and light limbs of fine quality usually have smaller feet than those outlined by the standard given above; and they are of unusually strong fiber of great wear-resisting quality. By practice, the eye finally becomes trained in detecting the degree of quality which the horse possesses throughout and with this important knowledge of the true quality, the automatic adjustment in the standard size of the foot can be accepted or rejected intelligently.

In viewing the foot from the side while it is on the ground the fiber of the wall should be parallel to the axis of the long pastern bone; the foot should not be "broken back" due to low heels and a long dished toe. (See No. 10, 11 and 12, Plates VII, Page 46—pastern axis, and Plate VI, Page 65—foot improperly shod and neglected. "Army Horseshoer.")

Horses afflicted with suppurating corns, quarter cracks, laminitis, side bones, ring bones, navicular disease; or horses which are chronically or periodically lame, from any cause; or which from their condition or quality would be prone to lameness, (for instance—horses with puffed joints, bursal enlargements, speedy cuts, poor control and faulty action of limbs; old horses without sufficient strength, etc.) should not be shod in connection with the experimental test of a normal shoe, as this would be a lack of precaution and judgment which would be a source of unnecessary and meaningless confusion due to the fact that the cause of lameness in such cases is hard to determine and agree upon. Invariably, young horses (colts) can be shod with this shoe without delay or without requiring any special preparation.

The advisable thing for one to do when first starting to work with this shoe, is to first shoe such feet with it as seem to offer the greatest number of chances for its success. In a short time, with the experience gained through working with the shoe, and studying every phase of it, inspecting, observing and handling as many feet as possible, including those on which the shoe has been applied (and, which latter, if every advantage was taken in selecting the most suitable feet at hand, should continue to withstand the wear while in use and improve in condition), the "tricks of the trade" will be picked up and the more undesirable specimens of feet will become less puzzling and it will now be discovered that the horseshoer can tackle these doubtful cases with more confidence and success than it would have been reasonable for him to expect in the beginning.

Innate common sense of the fitness of things and a desire to assist nature combined with industry on the part of one who has had the fortune to be associated with horses and to learn the principles of the construction and mechanism of the foot, are very essential qualifications for obtaining the best results in the beginning with this shoe. This shoe may be considered as an internal rather than an external remedy for foot disorders, in that it insures more perfect blood circulation for the foot by interfering less than the ordinary shoe with "expansion and contraction." By this precaution in shoeing to maintain "frog pressure," the blood circulation in the foot is kept up and internal treatment is effected with cures and prevents quarter cracks, contracted heels, etc.

The merits claimed for this shoe are clearly demonstrated if by its use the bad condition of a foot, which is the result of years of mistreatment, is materially improved within the space of a few months and the development of contracted heels, quarter cracks, etc., is avoided in sound natural feet.

2. The most serious drawback to the use of this shoe is the condition presented by contracted heels, diseased and shrunken frog, (diminished weight supporting area of the foot) and a long dished toe. Such a foot can be shod to advantage with a view to adopting the new Garrison Shoe by using a very thin steel shoe three-sixteenths of an inch thick which will allow as much frog pressure as possible. Of course, this shoe is very apt to

bend and break and cause trouble and for this reason it must be inspected and watched constantly. After this long shoe has been in use for about a month, if the frog has increased in size and a sufficient length of horn has grown out at the heel, it can be removed, the foot prepared and shod with a short shoe made from the original old long shoe.

No one should be so abrupt or impatient in their endeavor to improve condition and get results as to adopt this shoe (new Garrison) for use on a foot, which for instance, has a quarter crack or suppurating corn that causes the quick to be exposed directly to the ground or other object with which the foot may come in contact. Such cases should be shod with modified shoes in the best manner, with a view to the use of the new Garrison Shoe.

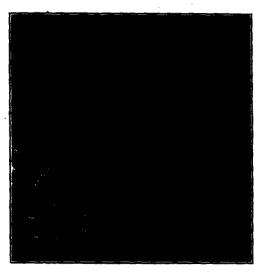
3. In preparing the foot the usual rules as to pastern and foot axes and levelling must be followed.

If there is any doubt as to whether there is sufficient horn, or not, to allow the shoe to be set in so that the ground surface formed by the shoe and the horn, at the heel, will be in a level plane and without causing the foot to be broken back, the preparation for shoeing with the short shoe must not be continued beyond a point where it would necessitate paring away the heels in order to apply the long shoe, if it is found in the end that there is not sufficient length of horn for the adoption of the short shoe.

The shoulder of horn or offset must be located just far enough back towards the heels to allow the shoe to cover all of the quarter, which due to its weak and non-strain resisting structure would break away if not thus protected. By making the shoe as short as possible while meeting the above requirements, the danger of it being knocked out of place, pulled off or broken is reduced to a minimum. In case of doubt at the first shoeing it is better to make the shoe a little long and thus increase the strain on the shoe rather than fail to prevent a portion of the horn breaking away just in rear of the shoe. It is found that at each subsequent shoeing a shorter shoe than the old one which is removed can be used, so far as reaching or joining the shoulder of horn and the end of the shoe is concerned;

the notch works forward toward the toe, much to the advantage and delight of the shoer.

Care should be taken in preparing the foot, not to allow the rasp to cut away the horn at the shoulder unintentionally. It is better to keep the rasp away when the shoulder is approximately located and to do the final fitting at this point with the knife. The final operations of locating the exact position of the notch or shoulder and of making the shoe of the proper length to insure a correct fit and close union, are dependent one upon the other and both progress together. The aim is to



SIDE VIEW.
Showing union of shoe with horn at heel by countersinking.

always leave a small margin on both the shoe and the notch to the last moment in fitting, which can be disposed of to a nicety by filing the end of the shoe, or by paring the notch or by a combination of the two, according to the desires. Care should be taken to prevent the toe of the shoe extending farther to the front than necessary. The ends of the shoe are sloped, the ground surface being slightly longer than the bearing surface and the wall or shoulder of horn at the notch is made to slope backward toward the heels of the horse's foot. (See photograph showing side view.)

4. The shoe must be thin in order to maintain a correct and safe pastern axis when viewed from the side. (Par. 42, "Army Horseshoer.") If the shoe is too thick sufficient horn can not be removed at the toe to prevent this part of the foot from being unduly raised and the heel will be too low in many cases to allow the horse to move at a rapid gait with safety to his tendons.

The great difficulty encountered in connection with the use of this shoe arises through its tendency to cause the foot to be "broken back," which condition results in increased weight and wear on the heels and excessive strain on the tendons.

Since the shoe must be thinned in order to meet the mechanical conditions imposed by the principle which requires the foot axis and the pastern axis to be parallel, it becomes necessary to increase the hardness of the metal in the shoe sufficiently to preserve the necessary resistance against the effects of wear.

The most satisfactory results as to both foot axis and wear resisting qualities in the shoe have been gotten by using shoes made from "Toe Calk Steel" of the following dimensions: Size O, one quarter of the shoes consumed, made of 1-8 inch by 1-2 inch and the remaining three-quarters of the quantity used, made of 3-16 inch by 1-2 inch Calking Steel; sizes 1 and 2 of 3-16 inch by 5-8 inch; size 3 of 3-16 inch by 11-16 inch and size 4 of 3-16 inch by 3-4 inch, bar steel.

Care must be taken in the case of each foot, when selecting the shoe, to see that the nail holes are not too far back along the quarters of the foot, for in most cases where this shoe is applied a great amount of "expansion and contraction" occurs and nails placed too far back have a tendency to pinch the sensitive inner structure and cause lameness.

For the reason indicated above it is often found advisable to use a shoe a size smaller than the foot to be shod. The shoe should be concaved sufficiently to prevent sole pressure and no more. Any tendency of the foot to flare should be corrected by taking off the necessary amount of horn near the lower border of the foot.

The shoe should be carefully fitted and should not have its outer edge extend beyond the line of the wall at the toe but instead it should fit rather close at this point. Old shoes which will withstand at least one month's wear should always be reset.

By using the old shoe, which due to being thinned by wear, the correct foot axis can be maintained with more certainty, and the labor and expense of shoeing will be reduced.

5. From four to six No. 3. nails should be used for size O shoe; six No. 4 nails in sizes 1 and 2 and from six to eight No. 4 nails should be used in sizes 3 and 4.

The "City Head Capewell" nail is the most satisfactory nail which has been found for use with this shoe.

Any portion of the nail head which projects beyond the ground surface of the shoe should be rasped off.

A horse should not be put to hard fatiguing work immediately after he is shod; it would be better to shoe him after he has been worked for that day (than before) and give him the advantage of as much time as possible from the time he is shod until he is put to work under new conditions of his feet, caused by recent shoeing.

THE FOLLOWING ARE SOME OBSERVATIONS MADE OF THE SHOE DURING THE EXPERIMENTS WHICH HAVE BEEN CONDUCTED WITH ITS USE UNDER THE CONDITIONS PRESENTED AT FORT RILEY, KANSAS.

- (a) With this shoe the foot can be kept in its normal and natural state as it is found in the case of the colt before being shod.
- (b) The frog, sole and bars, which do not need protection, come to the ground naturally. The frog is soft and elastic, which saves it from wear. The sole, bars and frog thicken under pressure and the latter expands, diminishing, as it increases in size, the concussion caused in galloping and the foot is healthier. This is established by observing the changes which take place when the frog and sole of the foot which has been shod habitually with a thick shoe, are brought down in wear. This, of course, is a provision of nature through which

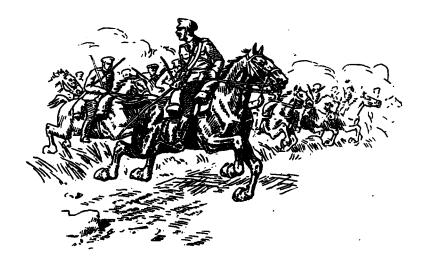
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she rewards correct functioning of essential structures and the use of faculties, by developing and preserving them.

- (c) By being vigilant and adopting a proper method of treatment, the ideal foot, which should be round, (should approximate a circle) on its lower border; should have a thick, wide, elastic frog filling up the space between the heels and extending down to a line connecting the two points on the lower edge of the wall at the heels, can be maintained.
- (d) A great deal of trouble and harm is caused by the ordinary heavy thick shoe of full length being loosened or even grabbed and pulled off. This shoe is very rarely cast or broken, because it is short, extending back just far enough to cover the thin weak parts of the wall, called the "quarters," and being let in (countersunk) at the heels; and consequently there is no projection left by which the shoe can be caught and pulled off or broken.
- (e) After the application of this shoe in the case of a horse which has been deprived of frog pressure for some time, moderate work only should be taken up at first and it should be increased very gradually in severity while the foot is becoming accustomed to the effects of expansion and contraction, due to frog pressure, and also of weight on the bars and sole. Bringing these structures of the foot into play under the great strain of the horse's weight, after long inactivity, has a tendency to make the horse flinch.
- (f) The use of the shoe prevents slipping on moderately smooth surfaces; the extreme lightness, about 5 ounces, causes less fatigue; the use of this shoe tends to reduce interference and over-reaching; the shoes are less expensive to make and transport (from 250 to 300 can be contained in a keg which holds approximately 100 of the ordinary service shoes), and they require less labor on the part of the horseshoer.
- (g) Smaller nails, (No. 4's) can be used than with the common shoe which is a decided advantage to the wall; the horn is never split and the wall which, with the frog and bars, carries the horse's weight and receives the strain from same, is kept stronger. Nails with "City Heads" which are flatter, (wider and not as high as the ordinary head) are, of course, the most satisfactory to use with a thin shoe.

In the foregoing, philosophical generalizations have been tied down to actualities, based on experimental knowledge. The expression, "I think" has been avoided, for it is superfluous and tends to weaken; when looked at calmly it will be found that "think" is very much under a cloud, since very few people think exactly alike.

As the experiment progresses, additional definite statements can be made concerning the subject.



THE DUTIES OF A REFEREE.

EXTRACTS FROM STANDARD WORKS ON POLO.

COMPILED BY FIRST LIEUTENANT INNIS P. SWIFT, SECOND CAVALRY; Instructor in Equitation, Mounted Service School.

[For polo to be a good game, every player should try his hardest to win; but nothing should ever be done contrary either to the spirit or letter of the Rules. There should be no quarreling, no grumbling at the Umpire's decision, and none of the "win, tie or wrangle" element. If played in this spirit, there is no game in the world like polo.—Captain E. D. Miller, D. S. O., (late 17th Lancers.)]

EXTRACTS FROM POLO BY S. B. DRYBROUGH.

N Umpire is useless if he can not hold his own. I will not go the length of saying that even if he gives a wrong opinion he should stick to it, but he certainly should not let players know by his manner that he has any difficulty in arriving at a decision. The Umpire who hesitates loses the confidence of the players, who are then apt to grumble about the "rotten umpiring." A good umpire knows when to hear as well as to be deaf; and although he will permit no liberties, he will make due allowance for excitement. Naturally it is difficult to find such a paragon. Some who would be excellent were they firm, are too good-natured and give in when they should not. The fact of having often officiated as sole Umpire is apt to spoil a man and to make him forget to keep a systematic position from which he can best co-operate with his confrere. It is not unusual to see an umpire coolly trotting about a hundred and fifty yards from anybody, where he cannot possibly see properly. Presently he will be in the middle of the game, galloping for his life, with the players shrieking at him to get out of the way. Occasionally his pony stops a ball, and of course fouls are called for when he has his back to the game and is riding in the opposite direction. Some men, during play, seem to make a point of riding to the pavillion for balls, and when they arrive there, they indulge in interesting conversations with numerous friends.

Nothing disgusts a good player more than having ridiculous decisions given against him by some youngster for whose opinion he has only contempt. Our best Umpires will be found among such men as the players in Champion Cup Teams (past and present), Captains of the best Regimental and Country Clubs, and playing members of the Hurlingham Committees.

An Umpire should be careful not to stop a game for "crossing" when it is done by a player on the same side as the interfered man.

As one Umpire cannot possibly follow all the phases of a game, it is always desirable to have two. Every time a player hits the ball, the Umpire is supposed to see the stroke made, so as to be able to say who hit the ball last, or to decide if the player in possession was fouled in any way, as by unfair crook, by cross, or by rough riding, etc. * * * When a Referee is chosen, he does not follow the game mounted, and is only referred to in cases of disagreement, or dcubt as to the application of the rules, or of usage. When necessary, he takes evidence on facts occuring in the game. Umpires carry whistles and spare balls, and should dress so that there can be no risk of confusing them with players. They should ride handy ponies. They may assist in getting the teams ready to begin, and usually superintend the tossing for choice of goals—a matter which is not mentioned in our rules.

A rule of the American Polo Association directs: "The choice of ends shall be determined by the toss of a coin between the field Captains." An earlier rule having already said: "There shall be a Field Captain for each team." * * * He shall have the sole right to discuss with the Referee questions arising during the game. * * *" (In America the Umpire is termed Referee.)

The Umpire throws-in the ball to commence the game. He is expected to take up his position punctually, so that players may have no excuse for being late, but unavoidable delays so often occur that he generally waits till the Polo Manager intimates that all is ready to begin. Having lined up his teams, he either waits to hear the bell ring before he throws in the ball, or, if it has already sounded as a warning to line up, he throws in without further delay. The Time-keeper then rings to intimate that the period has begun. To avoid confusion when teams line up, it is usual for the same Umpire always to throw-in the ball after goals are made, and invariably from the same side of the ground, usually facing the pavilion.

In cases of rough riding, doubtful crossing, etc., Umpires may caution players without inflicting penalties. But cases which admit of no doubt must be penalized. The Umpire may delay stopping the game if he sees it would be to the disadvantage of the side fouled. For example, if the attacking side had the ball and a clear way to goal, the Umpire would not stop the game because some player in the background committed a foul. * * * It would be at his discretion to inflict a penalty when the run was over.

A rule of the American Polo Association, says: "When a foul is allowed by the Referee, he may or may not stop the game, according to his judgment as to the advantage gained or lost by the foul."

Umpires (or goal-watchers) signal when goals are made. The Umpire can always veto the goal-watcher if an obviously wrong signal is given. The Umpire calls to the Timekeeper when the time allowance is to be made. He signals by whistle, the ends of periods, as sometimes, when the ball remains in play after the expiration of a period the players forget that the bell has sounded. The Umpire makes mental note of where the ball went out of play. After intervals he should be waiting where the ball is to again come into play, ready to throw-in, or to superintend the hitting-in, etc.

In case of hitting out from behind, the Umpire sees that the ball is placed according to rule, and satisfies himself that the players have had reasonable time to take up their positions. It might be better if the ball were not hit cut till the Umpire gave the word "Play." No player who has "sneaked" within the prescribed distance should be allowed to touch the ball or interfere with a player. Umpires intimate the penalty for "hitting behind." Umpires always stop a game by whistle. When not favoring an appeal they may keep silent, or say "No," or, "Go on," etc. When giving a "fcul," the Umpire should say "Against" (naming the offending player), and "for crossing," or whatever it is.

When throwing in the ball at the center of the ground. the Umpire should distinctly give the order "Line up," and see that the teams keep at either side of a center line which is marked or imagined; but he has no authority to place the players. Although he permits no delay, he will allow sufficient time for the players to take up their usual positions, and will then bowl or throw-in the ball between the players. It is best that no player be nearer the thrower-in than say ten yards from the center star. The ball should touch the ground before reaching a player and have strength to roll about twenty yards after touching the ground. Players should leave room for the ball to pass between them. In case of overlapping, the Umpire may delay throwing-in or recall the throw, and he may recall a faulty throw-in. He should not delay for restive ponies, or for players not ready or absent. When throwing over the boards or towards them, he can order players to stand back to give room for the ball to hit the ground before reaching them.

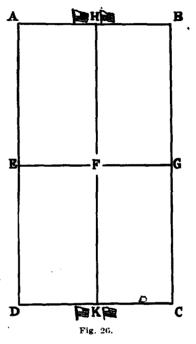
In case of a fallen goal-post, or one bent in by the wind, the Umpire judges by where the post would have been if in its proper position. It should be clearly understood that an Umpire has the unquestionable power of recalling a decision made by himself. It is also agreed that an Umpire may at his discretion take evidence; this is important, because many people suppose that an Umpire cannot give a decision unless he has actually seen the occurrence which is called in question. A player volunteering the statement that he had committed an unintentional foul is an example of evidence from an interested party which any Umpire would accept, even if he had not seen the act. Taking evidence from players is open to the objection of being injudicious, but it is within the discretion of an Umpire.

II. EXTRACTS FROM MODERN POLO BY CAPTAIN E. D. MILLER, D. S. O., (LATE 17TH LANCERS.)

An Umpire must not only have the rules at his fingers' ends and be in constant practice, but must also have quickness of eye, decision of character, application to his work, confidence in the correctness of his own opinion, and determination enough to stick to it. He should ride a good polo pony, work hard, never to a moment take his eyes off the game, give his decisions promptly and clearly. His verdict is final, and should be received in absolute silence, no matter what the opinion of the players may be. To question his decision, either openly or aside, is the height of bad form. Even if we think that he has made a mistake, we should loyally keep that opinion to curselves; for we must give him the credit of doing his best, and must remember that the smartest of Umpires cannot always correctly decide a close thing.

Two Umpires are necessary, as it is impossible for one man to cover the whole ground in a good match. The best way to divide the work of Umpiring is to quarter the ground in the manner shown in Fig. 26. The Umpires should keep to their own respective sides of the ground; the one remaining

more or less in quarter H B G F, the other in quarter E F K D, so that neither will go near the other's goal line. In this manner they can both obtain a good view of the game, and there will always be an Umpire handy to give a reliable decision on a close point. Roughly speaking, the Umpires should keep level with the two Backs.



In important matches a Referee (see Hurlingham Rule, No. 5) may be appointed; but his services are really never required except to decide a knotty point upon which the Umpires have disagreed.

I have sometimes heard the question discussed whether polo is a sport or a game. There is no doubt that it is a sporting game, and should therefore be played is a sportsmanlike manner. Anything in the least unfair should be rigidly excluded.

Such tactics as wasting time in hitting out from behind the line, when one goal ahead near the finish of a match, or in hitting the ball out at the side with the same object, is the very worst of form

A deliberate foul, even to save a goal in a close match, because the Umpire is not in a position to see, or because he is known to be inexperienced and may be bluffed with impunity, is utterly opposed to all the principles of fair play. Appeals for off-side or for a foul should not be made, unless the player is honestly of opinion that the appeal ought to be answered in his favor.

There can be no greater feather in the cap of a team, than for the members of it to be able to say that they have won a good cup, without having had a single foul given against them.

For polo to be a good game every player should try his hardest to win; but nothing should ever be done contrary either to the spirit or letter of the Rules. There should be no quarrelling, no grumbling at the Umpire's decision, and none of the "win, tie or wrangle" element. If played in this spirit there is no game in the world like polo.

III. EXTRACTS FROM THE GAME OF POLO BY T. F. DALE.

Nothing is more usual than to find a man very ignorant of the rules of a game at which he constantly plays, and the Umpire must do more than merely get a knowledge of the laws which govern the play. He must have studied them carefully and considered beforehand what his decision should be on doubtful points. To this end he should think out some of the more likely cases of infringement that will probably arise, and try to find out what are the opinions on doubtful points of the best players. Then he must have played the game so that he can readily place himself in imagination in the position of the players. No man can possibly make a good Umpire who has not played and watched good polo carefully for some time. Then last but not least he must be able to make up his mind quickly, and having done so must uplhod his decision

quietly but firmly. When a man is placed in a position in which a decision of doubtful points is likely to be asked of him, he should of course do his best to come to a right decision, bearing in mind that he *must* decide something, and that it is better even to come to a wrong decision than to none at all.

To be an ornamental dummy is only attractive in inverse proportion to the abilities of the man of whom action is demanded. To occupy a position respected for its authority and influence, and to become a power has its attractions in small things as well as great.

IV. EXTRACTS FROM AMERICAN POLO ASSOCIATION RULES. Field Captain:

There shall be a Field Captain for each team who shall have the direction of positions and plays of his men. He shall have the sole right to discuss with the Referee questions arising during the game and to enter protests with the Referee. Other players shall testify only when requested by the Referee.

Timer and Scorer:

The two Captains shall agree upon a Timer and a Scorer, who shall perform the duties under the direction of the Referee.

Goal Judges:

The home Captain shall appoint two Goal Judges, acceptable to the visiting Captain, each of whom shall give testimony to the Referee, at the latter's request, in respect to goals and other plays near his goal, but the Referee shall make all decisions.

Substitute:

When a player is replaced by a substitute he cannot return to the team the same day, except to take the place of another player who is disabled or disqualified.

When a change of players takes place after the game has begun, the handicap of the man having the highest number of goals shall be counted.

Clear Field:

Only players and Referee shall be allowed upon the ground during the progress of the game.

Ends:

556

The choice of ends shall be determined by the toss of a coin between the two Field Captains.

Ends shall be changed after every goal.

Throw-in:

The Referee shall instruct the Timer to give the signal for the commencement of the game.

The Referee shall then throw in the ball between the contestants, who shall each be on his own side of the middle line.

The Referee may impose a fine, nct exceeding \$25.00 each, on any members of a team, who are not on the ground ready to play at the time announced for the game to begin.

Time Limit:

At the end of seven and a half $(7\frac{1}{2})$ minutes' play the Timer's signal shall be sounded, but the play shall not stop until the ball goes out of bounds, or on boarded grounds, until the ball strikes the boards. Any excess of time in any of these periods, due to the ball remaining in play, shall be deducted from the succeeding period. The last period, however, shall terminate at the first sound of the final signal.

Tie:

In the event of a tie at the end of the last period, the game shall be renewed, after the usual interval, by the ball being thrown in at the center line, and the play shall be continued in periods of seven and a half $(7\frac{1}{2})$ minutes, or until a goal or safety is made or a foul penalized.

Out of Bounds:

Commence of the second second

When the ball crosses a side line it is out of bounds, and shall be put in play by the Referee throwing it between the contestants (lined up as at the beginning of the game) toward the middle of the field, and parallel to the goal lines, at the point where it went over the boards. He shall throw from outside the side boards.

Knock-in:

When the ball crosses an end line it is out of bounds, and the side defending the goal at the end in entitled to a knocking, the ball being placed on the line at the point where it crossed, but in no case nearer to the goal posts or to the side boards than ten (10) feet.

A ball must be over and clear of the line to be out.

When a player having the knock-in causes delay, the Referee shall throw a ball on the field and call play. No opponent shall come within fifty (50) feet of the ball, when placed for a knock-in, until the same has been hit by a mallet, or thrown in by the Referee. As soon as the ball has been knocked-in by a mallet, or thrown in by the Referee, it is in play, and subject to the rules of play.

Score:

- (a) A goal counts one.
- (b) A safety counts minus one-quarter.
- (c) A foul counts minus one-half and such other penalty as the Referee may impose.

Goal:

A goal is made when the ball goves over and clear of the line between the goal posts, or above the top of the goal posts between the center lines.

Safety:

Whenever a player, either accidentally or intentionally, gives the ball an impetus with his mallet which carries the ball over the goal line he is defending, and it touches nothing except the goal posts or the ground after leaving his mallet, it shall be deemed a safety.

Fouls:

The Referee shall declare any violation of Rules 26, 27, 28 and 29 a foul, when seen by him, without waiting to have it claimed; or, when not seen by him, upon evidence satisfactory to him.

He may suspend the player committing the foul for the match, but he shall also impose the usual penalty of one-half goal.

The Referee may stop the game on account of a foul, in which event the scoring time should be stopped by sounding the whistle, or he may permit the game to continue and declare the penalty to the player, and at the end of the period to the Keeper of the score.

In case of a player being disabled by a foul so that he is unable to continue, the side which has been fouled shall have the option of providing a substitute, or of designating the player on the opposite side whose handicap is nearest above that of the disabled player, and the former shall thereupon retire from the game. This penalty shall be in addition to those hereinbefore provided, and the game shall continue with each side reduced by the above withdrawals.

Dangerous Riding:

,26. Careless or dangerous horsemanship or a lack of consideration for the safety of others is forbidden.

The following are examples of riding prohibited under this rule:

- (a) Bumping at an angle dangerous to a player or to his pony.
- (b) Zigzagging in front of another player riding at a gallep.

Right of Way:

27. A. The right of way is given to the player who last hit the ball, or to the player who has entered safely on the line of the ball between it and the last hitter, or (as against players not in prosession of the ball) to the player who is following nearer than any other player the line of direction of the ball.

Crossing:

B. A player shall not cross the player having the right of way, except at an unquestionably safe distance; nor shall he pull up in front of the latter unless he is far enough ahead

to give the latter unquestionably enough time to pull up also; nor shall he pull up across the latter under any consideration whatsoever.

Meeting:

28. Whenever two players are riding in opposite directions for the ball, each shall leave the ball on his offside.

Other Prohibitions:

- 29. A. A player shall not strike an adversary or his pony with the hands or mallet, nor strike the ball when dismounted, nor hit intentionally with his mallet the pony he is riding.
- B. A player shall not crook his adversary's mallet unless he is on the same side of the adversary's pony as the ball, or in a direct line behind, and his mallet is neither over or under the adversary's pony. The mallet may not be crooked unless his adversary is in the act of striking the ball.
- C. A player in feaching across in front of or behind an opponent's pony to play the ball, shall not touch that pony with his mallet, nor shall he crook the opponent's mallet in so reaching across.
 - D. The cruel use of spurs is prohibited.
- E. A player shall not sieze with his hand, strike nor push with the head, hand, arm or elbow, another player, but he may push with the shoulder, provided the elbow be kept close to the side.
- F. A player requiring a mallet, pony, or assistance from an outside person during the game, shall ride to the end or side lines to procure it. No person shall come on the field to assist him.
- G. A player shall not hold the ball in his hand, arm, or lap, nor shall he kick or hit the ball with any part of his person. He may, however, block the ball with any part of his person or with his pony.

Fines:

The Referee shall also have the power to impose a fine (the amount to be determined by the committee) on any

team or member of a team failing to appear within reasonable time of the hour named for the events for which they have entered, or for any misconduct or violation of the rules during the progress of the game, and shall report the same in writing to the committee for enforcement.

. Accident:

In case of an accident to a player or to a pony, or to a pony's gear, which in the opinion of the Referee involves danger to a player, he may stop the game. It shall not be stopped for a broken or lost mallet, stirrup leather, curb chain, or martingale, unless liable to trip a pony.

Broken Ball:

When a ball is broken or trodden into the ground in such a manner as to render it unserviceable in the opinion of the Referee, or when it strikes the Referee or his pony so as in his opinion, to affect the game seriously, he may stop the game, and may substitute another ball by throwing it toward the middle of the field between the players at the point where the event occured.

Reserve's Whistle:

In all the above cases the play is not suspended until the Referee's whistle blows, but the game shall be considered stopped at the time the event occured. The ball, when placed again in play, shall be thrown by the Referee toward the middle of the field at the point at which the ball was when the event occasioning the suspension of the game occured.

Failure to Finish:

In the event of a game being stopped by darkness, or for any cause which prevents a finish the same day, it shall be resumed at the point at which it stopped, as to score and position of the ball, at the earliest convenient time, unless settled otherwise by agreeement between the captains, or it may be referred to the Referee, whose decision shall be final.

THE CAVALRY SABER.

BY MAJOR C. D. RHODES, U. S. CAVALRY.

THERE is probably no question which has caused so much controversy as the saber question, first, as to whether American cavalry needs any saber; and, second, as to the saber's proper form, weight, and material, if included in the cavalry equipment.

No one disagrees, however, with the statement that if armed with a saber, the latter should be the very best type obtainable, and that the cavalry should at least be reasonably proficient in its use.

The Cavalry Equipment Board has received some criticism of the present saber, principally with respect to the brittleness of the blades, the weight, the lack of balance, the straight blade, and the size of hilt, which are now receiving careful consideration by the Board.

Unusual interest therefore attaches to the following communication from Second Lieutenant George S. Patton, Jr., Eighth Cavalry, who organized the present course in swordsmanship at the Mounted Service School, and who is well known throughout the Army as one of the most expert all-around swordsmen in the service.

His letter was written at the express request of the Cavalry Equipment Board, and contains much food for thought:

Copy of Letter:

I have today received a letter stating that the Cavalry Equipment Board would consider my views on certain points connected with proposed changes in the present saber. It enumerates the subjects on which my opinion is desired. I copy them below as question, from (a) to (e), with my answer after each:

- Q.—(a) Is the present saber too heavy? Or keeping the same aggregate weight, is it posible to distribute the weight to better advantage?
- A.—(a) The present saber weighs within a few ounces of the old issue saber; it weighs two ounces more than the latest French saber; about the same as the present Swedish saber; and about an ounce less than the present English saber of the line regiments. The English Guards use a much heavier saber.

From the above it would appear that the present saber is not too heavy.

The present distribution of the weight was very carefully arranged to give the maximum effect to the charge with the point and to the lunge. By the weight being mostly in the forte great power is given in diverting the thrust or cut of an enemy while keeping the point in line for his chest. In this particular the present saber is the superior of any existing weapon in the hands of foreign nations.

The reason why, to the inexperienced or to those long accustomed to the old saber, it feels awkward is because the old saber was balanced like a polo stick and when once started swung itself, while the saber, model 1913, needs constant direction.

Now with the old pendulum balanced saber one could make very effective moulinets in thin air, but if confronted by the necessity of quickly stopping one of these moulinets in order to deliver a thrust or a cut, the operation is rendered very difficult by the pendulum motion just described.

- Q.—(b) Is the length satisfactory?
- A.—(b) The length is one and one-fifth inches shorter than the French and about one-half inch longer than the British, so it would seem to be about the average of those of well-instructed armies.
- Q.—(c) Considering the fact that in event of war, these sabers will be used by thousands of regular and volunteer recruits who as non-experts will be more apt to "cut" than thrust, should not a saber of the present length assume a

slight curve, say of one and five-eighths inches, at its point of greatest curvature from a straight line?

A.—(c) The idea that a slight curve aids a cut is without support by the facts of history. If we look back to the period 1150—1250 A. D., when chain armor was at its best, we find that chain armor was proof against the point but as it had no stiffness the edge was effective against it. But do we find curved swords? No. They were straight, single or double edged, weapons.

Plate armor started to appear before 1300, A. D., and it was strong against the edge but at first weak to the point. The point to be well directed must have a straight blade. It had; the straight sword continued in use with a slight decrease in width of blade.

The original claymore of the Scotch Highlanders had no point at all; yet it was the greatest cutting weapon of its time. In the English revolution the men both of Cromwell and of Rubert used the point; so did the dragoons of Charles XII and Peter the Great.

The idea of the curved saber came in vogue in Europe at the time when the improvement in fire arms made effective armor too heavy for mobile troops. So it was discarded by part of the cavalry, later by all. The first to discard it were called light cavalry, and since the only historic examples known to Europe of unarmed cavalry were the Turks and Arabs they thought it well to adopt the arm of those troops. Now in common with all orientals these people used the scimiter without a guard. But they did not use the European method of a charge in line. They charged in extended order on very handy horses and they fought always by circling and used almost always horizontal cuts.

For defense they trusted to a round target in the left hand and to the superior agility of their mounts.

For such tactics an extremely curved saber is advantageous as it gives, when used in a horizontal direction, a very much drawn cut which acts like a saw.

But I have been unable to fine evidence of troops so armed ever making a head-on charge against European troops armed with the straight sword. For such work they used the lance and the scimiter only in the mêlée. The reason for this is clear; close formation prevents the horizontal cut. The scimiter is too short for the vertical cut and besides when the object cut is approaching it is clear that a vertical drawn cut even with the most curved weapon is mechanically impossible because the draw to be effective is along the blade from hilt to point while in a vertical cut in a head-on charge the object cut would be travelling from point to hilt.

Now assume that we make a saber with a slight curve as described and make a cut at the head or the shoulder of a man the part of the blade that makes contact with the object cut is not over three inches in length. If you will apply any three inches of this proposed blade to an object it will be found to be straight so far as any drawing effect is concerned. Yet the curve is sufficient to interfere greatly with the use of the point.

Q.—(d) Cannot the hilt be improved so as to be less cumbersome and yet protect the hand and sword arm to a degree consistent with mounted as distinguished from dismounted work?

A.—(d) The hilt was given its present size in order to obtain the necessary balance described in (a). It is believed that this hilt is a little too large in the grip for some men but this can be corrected in the troop by simply removing the rubber grips and rasping about a sixteenth of an inch from the inner surface; then replace them and filing the ridge of back of the grip down flush. This operation takes about ten minutes with a rasp and screw driver.

The only other way to reduce the weight and size of the hilt is to reduce the weight of the blade. This could easily be done by changing the cross section to the "I" beam type used in France, but this would vastly reduce the value of the saber for cutting. The guard of the present saber is the lightest and most effective I know of. It was much admired by French officers that saw it.

The saber model of 1913 was never designed for use on foot.

Q.—(e) Your ideas of the best all around saber for an army

of volunteer cavalry sent into the field with say only six months training in all kinds of instruction.

A.—(e) I believe that the present saber or a similar straight saber is the best for cavalry of any period of training whatever. I base this view on the universal practice of all nations except Russia and Japan. I believe that their retention of the cutting weapon is due to oriental tradition. Also it should be noted that the Russian uses the lance for the charge proper using the saber only for the mêlée.

The theory often advanced that the edge is easier to use than the point is not well taken. If anyone will try to make a head cut at a dummy while at full gallop, using a regulation saber of any type, he will find that it is a much more difficult operation to deliver an effective vertical blow than it is to use the point.

I emphasize vertical blow, because the crowding in the ranks precludes any other sort of cut. Also the present position of charge saber with the point, which is approximately the position taken by all nations using the point, has a tendency to make the horse bolt at the last fifty yards when this position should be adopted. The French in fact say that this is one of the chief advantages of the position and add "That if at the last moment the gallant trooper overcome by emotion closes his eyes, if he but retain the charging position he is as deadly as ever."

Either Sherman or Sheridan once said that if the reins could be cut at the last moment all charges would succeed, which is exactly in line with the French idea. If on the other hand men are taught to use the edge they must sit erect and in that position the weaker spirits may be able to shun the impact by pulling up their horses, which when using the point they could not do.

History records in latter years very few mêlées. In them all men even the best trained would use the edge in at least fifty per cent of cases. But in such a mix-up instruction would not be needed as there would be neither time nor room for scientific cutting.

At this point it is well to remark that the scientific use of the edge is vastly more difficult to teach than a corresponding degree of skill with the point. To use the hand, a condition impossible to obtain with remount.

The use of the point on the other hand is best facilitated by going on at speed, lunging at whatever comes in the way. This also, spells safety, because for an unarmored man to pull up in a mêlée would be to court attack from the rear by some third party.

Troops can be trained to assume the present charging position in about six lessons of half an hour each; and for six months men this would be all that could be expected. And in view of the above stated scarcity of melées, all that would be necessary.

If anyone will try cutting with the old saber and the new straight one, it will at once be evident that as hard if not a harder blow can be struck with the new than with the old. Also the moral effect of a charge with the point is far greater than one with the edge. It looks, and is, faster and the notion of one of those points exploring one's interior is more disquieting than the thought of a split scalp.

From recent observations with troops I believe that the lack of cohesion sometimes exhibited in the charge is due to the fact that the advance to it is seldom over 200 yards at a gallop, while if it were made with war-wearied horses for the probable distance of 800 to 1,000 yards the effect would be much better, because when the horses are turned loose 50 yards from the enemy by the taking of the charging position their condition of fatigue would not allow much bolting ahead of the line in that short distance even when they were turned loose and turned loose they should be.

There is a general tendency to attempt to halt in line after a charge. This is unfortunate because to get the halt the charge is not made at full speed. Whereas in war if opposing bodies met there would be plenty of opposing force to stop the wildest horse. And if the enemy turned there would be no need of halting, as the pursuit would follow. Again, as noted above, horses in war would be very glad to stop.

Our possible opponents on the south and the west use the edge, so a charge against them with the point with our bigger

and longer men would be vastly more effective than a charge with the edge where length of reach is of no value.

I have been told by several officers, one of high rank, that the present method of using the saber was faulty because there are no "parries" taught.

This view is not correct because each lunge and the charge afford when properly made a perfect parry against either cut or thrust at the same time as they attack the enemy. This is the reason as stated in (a) for placing the weight in the forte—and also a reason why it would be bad policy to reduce the present weight more than five ounces.

2. As stated above all the nations except Russia and Japan use the point and it is a conclusion they have come to after much thorough study and experiment for they all have at one time or another reverted to the edge and all with the exceptions mentioned found it worthless. Now since they adopt our ideas in shooting it seems only reasonable that we profit by their work with the saber.



IDENTIFICATION OF PUBLIC ANIMALS.

By E. O. TROWBRIDGE.

PROPOSED system of identification, record compiling and keeping, of animals now in the service of the War Department, and of those to be hereafter purchased, based upon personal experience of eight years with the Army Horse Board at Kansas City, Mo., in identifying and shipping animals and record keeping of more than 40,000 head inspected by that Board during that time.

SYSTEM.

The proposed system of the first identification numbering is as follows:

For Horses:

A to	$\frac{A}{9999} =$	10,000 head. Using the 26 letters=	260,000
1A to	9 <u>A</u>	used as above you have identified2	,340,000

For Mules:

Same series as	for	horses	٠,	•	2,340,000
			,		
Total	•••••				4,680,000

The above series to be used in times of war, but in times of peace a three figure series should be used covering 234,000 head each, of horses and mules.

These letters and figures are to be placed on the right fore hoof, as is done in numbering animals at present.

The twenty-six letters could be used as follows, the letter "Q" with a square body that it may not be confounded with the letter "O":

- (a) Kansas City Zone—11 letters "A" to "K" inclusive.
- (b) Front Royal Zone— 3 "L" to "N"
- (c) Fort Reno Zone 3 ""O" to "Q"
- (d) Fort Keogh Zone 3 "R" to "T"
- (e) Q. M. G. Office. 3 ""U" to "W"
- (f) Animals in service 3 ""X" to "Z"

The letters "X," "Y," "Z," series (f), to be used exclusively in the four figure series as shown later herein.

Although four purchasing stations only, are mentioned above, the series may be distributed to 100 or more purchasing stations without any complications arising therefrom.

The three letters assigned, above, to the Q. M. General's Office, series (e), are for use in such small purchases as might be made at points not designated as purchasing stations. To illustrate, if Fort Leavenworth were ordered to purchase 100 head of animals, 100 numbers, following the last number used in the series ("U," "V," or "W,") series (e), would be furnished the purchasing officer, with the order for the purchase, and would be used in designating the animals.

All the series, (a) to (f), outlined above, to be used exclusively on matured animals when they enter the service for active use.

The connection of this series with the three Remount Depots is shown later herein.

ORGANIZATION.

Each officer throughout the army who is in charge of one or more animals will hereinafter be referred to as being in charge of an organization the same as though it were a troop, company, etc.

Each organization shall have an organization serial number to be placed on the left fore hoof of animal as is followed out in the cavalry organizations at present.

IDENTIFICATION OF PUBLIC ANIMALS.

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DESCRIPTIVE CARDS.

DESCRIPTIVE CAR.	
Shipping No.	Serial No.
21	A
Remount No.	234

A Organization No.
B-2-26.
etc.

etc.

GENERAL DESCRIPTION.
(To be filled in at time of purchase.)

Here follows the description as to age, sex, weight, color, height, breeding, sire, dam, name, by whom bred, when foaled, when inspected and purchased, from whom purchased, cost, etc., as on present cards.

SPECIAL DESCRIPTION.
(To be filled in at time of purchase.)

Here are three outline cuts of horses, showing views of front and each side, as in the descriptive cards now in use. MEMORANDUM.

DESCRIPTIVE CARD OF PUBLIC ANIMALS.

Shipping No. 21	Young Animal.
Remount No.	Matured Animal. Serial No
	(To be branded at
0	time of purchase.)

GENERAL DESCRIPTION.

(To be filled in at time of purchase.)

Here follows description as to age, sex, weight, color, height and remarks.

Inspected by					
Board convened					
Dated					
Purchased	.191	at	• • • • • • • • • • • • • • • • • • • •		
Ву					
From					
How purchased market)	(cont	ract	OF	open	

Signature of Inspector.

Shipped from: National Stock Yards, Illinois.

Date: January 5, 1916.

By: Captain C. E. Hawkins, Q. M.

Bill Lading: No. 234. Date: Jany. 5, 1916.

Shipped to: Depot Quartermaster.

At: Seattle Washington.

Remarks: Purchased for use in the Philippine Islands.

Shipped in: Arms Palace Horse Car.

(Double Leaf.)

(Single Leaf.)

The second, third and fourth pages of the Descriptive Card described above (double leaf) are the same as those now in use. The second page of the signle leaf Descriptive Card is not used.

There should be used by each Purchasing Officer an Original Descriptive Card, as above, now approved by the Quartermaster General with additions as follows and as shown on card above; double leaf. Left upper corner—"No.....," used in shipping in young animals to Remount Depots, and directly thereunder, "No....." used for Remount Depot's identification number.

Right upper corner—"No......" Serial number.
"No......" Organization numbers.
etc.

There should also be used a Memorandum Descriptive Card, as above, single leaf. This memorandum Descriptive Card to be entirely completed at time of purchase of the matured animal or at such time as the matured animal is shipped from the Remount Depot for active service, and forwarded to the Quartermaster General's Office for file, at the time the animal is shipped and invoiced to an organization.

The method of filing this Memorandum Card for ready reference and comprehensive information for the Quarter-master General's Office, is shown later herein under caption "Records."

METHOD OF OPERATION.

In describing this proposed method, one horse, one purchasing officer and one organization will be employed and as will be seen the method is equally applicable to any number of animals, purchasing officers and organizations.

An animal is purchased and given a serial number A-234, (see cut No. 1), on the right fore hoof and this number placed on the Descriptive Card (Original and Memorandum), at point indicated therefor, the original forwarded with the invoice to destination of the animal and the memorandum copy forwarded to the Quartermaster General's Office at the same time. Upon arrival of the animal at destination the Organization number "B-2-26" is placed on the left fore hoof and also on the Oirginal Descriptive Card at point indicated for same.

Your Original Descriptive Card will now read as follows:

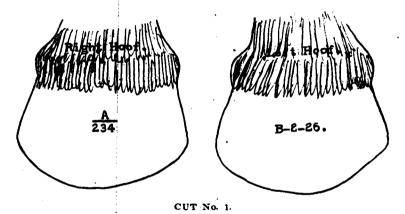
A -Serial number.

234

B-2-26 Organization number.

The purchasing number is now allowed to grow off the hoof, and in the future the horse will be known by his organization number which when identified on the Original Descriptive Card gives you at once the original serial number which is the same as that on the Memorandum Descriptive Card on file in the Quartermaster General's Office on which is detailed data—see Memorandum Card above.

This system prevents any duplication of serial numbers no matter how many have been engaged in purchasing animals.



An organization letter as shown above, (B-2-26), is not necessary in organizations where a letter would have no meaning. If a Quartermaster at a station has but two horses or two mules, they should be carried as organization numbers 1 and 2 and so marked on the Original Descriptive Card under organization number.

Orders could be issued assigning certain letters to cavalry horses, others to artillery horses, and still others to draft horses, and the record files of each class kept separate and distinct in filing cases in the Quartermaster General's Office.

YOUNG HORSES.

When young animals are purchased for Remount Depots they should be shipped from points of purchase to depots simply under a *shipping number*, which in no way would have connection with the system outlined above, but just carried on the Descriptive Card on the left hand upper corner as shown on above cut of card. These animals would not receive the general identification serial number until such time as they were issued for active service.

REMOUNT DEPOTS.

Each Remount Depot should be considered in the same light as a large breeding farm and its horse records kept separate and distinct from the general record of animals in active service as is now done, and have a connection only through the Descriptive Card on which there is the original purchasing and shipping number and the Remount Depot's identification



number and on which should be placed the general serial number used for horses in active service, when same is issued and shipped for such service.

At Remount Depots the following system can be employed as there are ample facilities and time so to do, using as follows:

Front Royal, $\frac{A}{O}$ to $\frac{A}{999}$ with 20 letters......20,000 head. Fort Reno, $\frac{O}{A}$ to $\frac{999}{A}$ with 20 letters.....20,000 head. Fort Keogh, A-O to A-999 with 20 letters.....20,000 head.

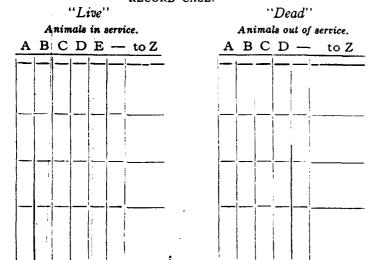
This brand is to be placed on the left neck of the animal in neat characters which would make a ready identification of the animals when ranging over the pastures at the depots, and furthermore make it always possible to identify a remount horse from one purchased matured, and also an easy index as to the station from which issued.

ANIMALS NOW IN THE SERVICE.

In order to bring all the animals now in the service under this system each organization now in possession of animals should report the number and kind on hand. Series (f), letters "X," "Y" and "Z", each used in the four figure series, one letter for cavalry, one for artillery and one for draft horses, each letter covering thereby 10,000 head, would be sufficient for all horses now in the service, and the same series (f) applied to the mules would dispose of them in the same maneer.

It would not be necessary for each organization to place the general identification serial numbers assigned them on the animals hoof, but simply place their organization number, now on the animal or to be placed on the animal, on the Descriptive Card, directly under the general identification serial number, properly fill out the Memoranum Descriptive Card, so far as possible and mail it to the Quartermaster General's Office for proper file.

RECORD CASE.



RECORDS.

A record case consisting of fifty-two perpendicular, subdivided compartments, each of sufficient width to accomodate a descriptive card, the first twenty-six compartments lettered from "A" to "Z." and the second twenty-six compartments lettered likewise, and with perpendicular height to accomodate 10,000 cr more cards could be provided in which to file a complete record of all horses now in the army or to be hereafter purchased.

Beginning with zero, file under each letter the Memorandum Descriptive Cards as fast as received. Assuming that all the horses in the army have been accounted for, the system works as follows:

A monthly report of all animals dropped should be furnished the Quartermaster General's Office, showing the serial number of each. The Memorandums bearing these serial numbers are removed from the "Live" case and filed under their proper letter in the "Dead" case, and a record of these numbers kept in a book used for that purpose.

Knowing the total number in the "Live" case, by deducting the number withdrawn therefrom and filed in the "Dead" case of which you have the record, the number in actual service can be determined in an instant.

At the end of each year the serial numbers withdrawn must be furnished each purchasing office to which the letters belong that they can again use them for future purchases during the year. This method keeps the series perpetual.

A record of mules (wheel, lead and pack) should be kept in a case similar to that for horses and in exactly the same manner.

This system, like all other record systems, to be made successful must have the support of all connected therewith, from the purchasing office to the organization commander.

BRANDING IRONS.

The present three-fourths inch numbers designated by order to be used on the hoof, are found by experience to be too small as it is impossible to burn the outlines of the figures without also burning the core.

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Numbers one inch in height, such as are used by dealers and commercial companies, have been found by experience to be much more satisfactory and more easily deciphered and consequently do not have to be burned in so deeply obviating possible damage to the animals hoof.

The equipment of branding irons required if the foregoing system is employed consists of "U. S.", numbers from "O" to "9", now in use and one or two letters in addition as (A), (B), or any other series that the purchasing officer might be using. The letter branding irons are to be constructed thusly: "A," "B," "C,"—letters with bar attached.

REMARKS.

Various systems have been outlined for indentification of animals in the service of the army but most seem to be more or less defective. One outlined in the CAVALRY JOURNAL some months back, appeared at first glance to be a very complete and satisfactory method, but upon analysis it apparently developes some unsurmountable obstacles. This is the system of alternating letters and numbers, viz:—"AOO" to "A99"—"OAO" to "9Z9"—"OOA" to "99Z," etc., to be placed on shoulders, hips and necks of animals.

A few of the defects this system developes are that C—D—G—O and Q are so similar in appearance that when branded on body of animal it will be impossible, after the hair has grown out, to accurately determine one from the other.

In purchasing animals in large numbers daily, as is done at times, it would be impossible to brand these animals without having specially constructed chutes and appliances at every point where animals are assembled for inspection. This of course is practically impossible.

Again "O" Zero, one (001) and Zero 0 one (001) are identical. In the third series the second horse would be Zero one 0 (010) the same as the eleventh horse in the first series, O, one Zero, (010), etc., throughout the entire series, making it doubly indefinate when C—D—G—O and Q are considered.

If the A—B—C series are used in the three characters mentioned for 1910 foals it would cover 900 animals. The 1910 foals would be nine years old in 1919 and not purchasable.

If A—B—C is again used for 1914 foals animals five years old and animals ten years old would bear the same brand, hence this system would fail to show the age of the animals as it is supposed to do.

COMMENTS.

I have very great satisfaction in having been the means of introducing Mr. Trowbridge's system of identifying animals. While watching remounts being bought and in conversations had with him, I had an opportunity to learn his ideas on numbering army remounts and was so impressed with their practicability and value that I persuaded him to put his scheme into writing for the Cavalry Journal.

Mr. Trowbridge is the Chief Clerk in the office of the Quartermaster, in Kansas City, where he has had eight year's experience in numbering about 40,000 animals and his scheme is the result of his experience.

If his plan is adopted, it will afford a splendid chance for the Veterinarian to obtain reliable statistics in regard to the breeding, diseases, causes of death, etc., of the animals of the army. This will enable him to adopt prophylactic measures to decrease the mortality in preventable diseases and accidents of which there are too many at the present time, and of which there is too much ignorance, owing to this lack of statistics.

With this plan a yearly report of deaths and their causes can be compiled at the War Department which will afford most valuable information, especially if a monthly report of diseases and accidents that have been cured, together with the treatment given, is added to the yearly compilation.

It is hoped that Mr. Trowbridge's excellent scheme will be put in use as soon as possible.

R. Vans Agnew, Veterinarian Fifth Cavalry.

I have examined the proposed system of keeping the record of horses purchased and consider it a practicable one.

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Mr. Trowbridge certainly deserves credit for working it up and and I hope to see it adopted.

The only changes that I would suggest are the following: Such an enormous number of horses can be designated by this system, without duplicating, that I would cut out some of the letters, which it is difficult to reproduce in perfect shape, by burning on the hoof.

For example, the letter "I" is like the figure "1." It might well be cut out. So also, I imagine that the letters "E," "M," "O," "W," might be cut out because of the difficulty of reproducing them. There would still be plenty left to give designations to over 2,000,000 head, which is more than we would use in any period of twenty-five years.

My second suggestion is that, at the end of twenty or twenty-five years, the designation shall begin over again. By that time, all horses which entered the service, in the first five years of the operation of the system, will be gone and there will be plenty of designations at the head of the list, to use, without duplicating any designation borne by animals actually in the service. I would not attempt to use "expired" numbers except by commencing again at the beginning, every twenty or twenty-five years, using the same set over again. To attempt to keep a record of what numbers are made vacant, through the deaths of the animals, to which originally assigned, would add much to the clerical work, without resulting, as far as I can see, in any compensating advantage.

If twenty years is not enough, make it twenty-five but I would not advise trying to keep any record of "deads" for the purpose of trying to fill up vacancies in any particular series. This would be bound to result, eventually, in what I propose: viz; starting over again.

Hoping that you will be able to get the system adopted and that my suggestions may prove of assistance.

N. F. McClure, Major Fifth Cavalry. This system of identification seems quite as accurate, elastic and comprehensive as one could wish. I do not know the present system and so have no standard of comparison, but this appears to be one fulfilling all requirements.

E. D. Scott, Captain Field Artillery.

I have carefully read Mr. Trowbridge's proposed system for the permanent identification of public animals and am much impressed thereby. It is clear, accurate, simple in operation and requires little paraphernalia in the field work or office organization. Once well understood in the army, this system would become permanent thus giving us a set of records that would be equally serviceable in peace or war and that would soon work almost automatically.

The system now in use is not well understood throughout the service, but so far as I can make it out, it not as simple accurate or complete as the one proposed by Mr. Trowbridge. The latter seems to cover every contingency in a satisfactory manner.

I hope Mr. Trowbridge will be encouraged by the acceptance of his system, so that he may feel repaid for his unselfish labor in spending his time and ability in devising so excellent a system for the good of the government we all would like to serve acceptably.

LEROY ELTINGE, Captain Eighth Cavalry.

I have read Mr. Trowbridge's system of identification of public animals with great interest. In my opinion it is worthy of careful study with a view to adoption.

Because:

1. It is the result of practical experience.

- 2. It enables a troop commander to know at a glance whether or not the mount is from a depot or not, and which depot.
- 3. A continuous record of the horse from purchase to death or discharge, easily traceable, should give valuable statistics.
 - 4. The system is elastic.
 - 5. The system does not admit of duplicates.
 STUART HEINTZELMAN,
 Captain Sixth Cavalry.



General Subjects # 6

CAVALRY.

BY CAPTAIN HAMILTON S. HAWKINS, THIRD CAVALRY.

I T has become necessary at this critical period in the military history of the United States for those soldiers who have studied the subject to place before the army and the people the facts concerning cavalry, especially American cavalry, and to show that a large force of this arm, properly trained, armed and mounted, with reserves both in men and horses, is indipsenable in our plan of defense.

In advancing the claims of our cavalry our motives may be attacked and self-interest charged. But this is the most obvious and the cheapest form of attack against army officers who advocate preparedness in any of the military branches, and we must disregard it and do our duty.

American cavalry, not European, is an indispensable arm of our service. Cavalry is more useful in America than in any country in the world. But so many erroneous impressions exist that, in discussing the subject, we must name them and show their falseness both in theory and in fact.

The prevailing idea before the European war was that great masses of cavalry would precede their respective armies into the theater of operations, and that great and spectacular battles with charging lancers and slashing swordsmen, would ensue.

Had this occurred our newspapers and journals would have bristled with conspicuous headlines, and the words, "Cavalry," and "Great Charges," would have made an indelible impression upon the minds of the world, without regard to whether or not these spectacular affairs had made any real impression on the issues of the campaign. Great spectacles are what was expected and wanted of the cavalry by the world at large. They did not happen. Doubtless there have been many small mounted actions, but there were no war correspondents to report them, and the numbers engaged were so small compared to the vast masses of men on the far-flung battle lines that they have been completely lost sight of in the general and necessarily superficial view of the war which we yet have or which we shall have for many years after its close.

But we American cavalrymen knew better. We did not expect anything of this kind to happen. We knew that the great work of modern cavalry would not be done in the limelight, that it would be non-spectacular and silent, and that of all branches of the army it would make the least noise and be the least observed. We are not surprised. And, knowing the false theory on which European cavalry has been trained, we feel that the war has demonstrated the superiority of our own theories. Our only surprise has been that European cavalry has rendered such valuable services. This it has unquestionably done, but we do not yet hear much of them.

War correspondents do not accompany modern cavalry to the front. They are, in the first place, probably not permitted to do so. And secondly, the work of the cavalry involves great hardship, constant strain, much sacrifice and little to write about from the standpoint of a journalist. He does not find it worth his while, his time, his exposure to the elements and the dangers, merely to accompany and chronicle the experiences of a small unit of cavalry when, instead, he might be viewing thousands of men and thousands of guns in desperate battle. The roar of modern artillery attracts the observer as nothing else. Shells burst near him and he is tremendously impressed. To read the writing of some of our journalistic observers, one might believe that nothing but artillery played an part in battle. The thousands, millions of infantry are there; we might believe, to afford targets for artillery. We get nothing else in our papers, and it is only the students of war who read between the line. The cavalry work is unobserved and is, therefore, not reported and remains unheralded.

Details of cavalry work are always meager during a war. It was so in our Civil War and it was so in the Russo-Japanese War.

It was only after many years of study and sorting of official reports and documents, private journals or diaries, and an unbiased study and review, focused from the long distance made by years, that the work of our cavalry in the Civil War has been brought to light and its value recognized.

The Russian cavalry was charged with failure in the war with Japan. Yet it performed valuable services for which it has as yet never received proper credit. It failed as far as we can see. But so did the Russian infantry, and the Russian artillery.

The whole army failed. Had the whole army succeeded we could, in the course of time, find that the cavalry had had successes also. It is, however, a perfectly just statement that the Russian cavalry failed even though it performed many valuable services. But we do not know just what it did, except by its own accounts. No war correspondents accompanied it. The only military observer who risked his skin with it was killed. We in America should have sent a cavalry observer to accompany the Russian cavalry and to study it and possibly to learn as much from its failures as he might have learned had it been successful. Instead of that, we sent only general observers. General observers learn very little unless they turn themselves into special observers, as some of our military observers did in regard to infantry, artillery and engineering work. But no one observed the cavalry. It would have taken an active man, and one ready to endure the greatest privations and hardships. Probably the observers would not have cared for that. It has been so in all modern wars. Observers, civilian or military, are either not permitted to accompany the cavalry or do not care to do so. Cavalry work is, therefore, not observed, and the cavalry does not get due recognition.

Our whole people, statesmen, legislators, professional, commercial, derive their military ideas of the war from what they read in newspapers and magazines, and to a very limited extent from books published during the war. But this is not sufficient to equip a man's mind to properly solve the military problems with which we are confronted. Only he who has previously made a study of war can now be prepared to estimate at its true value what he can read of this war, or to give wise advice to the nation. We have some such men. Not all of them, by any means, are military officers. Military men are usually engaged in their various grades in working out their problems with what our government has given them. The training of soldiers in their small units, and their use, is quite sufficient to occupy the officers of inferior grade. Their business is to make fit tools for the higher command. Only those who have been through this mill and have then found time to study war in its broader aspects are competent to advise the nation on broad subjects. We have some civilian students of war who have given the subject profound study, and who, while they have not learned the officers profession in making efficient tools out of soldiers and the various units of command, have nevertheless qualified themselves to advise on broad lines. The late John C. Ropes, was one of these. He was perhaps a greater student of military history than any military man now in the service. Col. Theodore A. Dodge, who retired from the army soon after the Civil War, was another profound student of war, whose opinions would now have been of great value. Professor Johnson of Harvard is another example of a civilian student of war capable of giving to America wise counsel on military subjects. And of course there are a few others.

But it is not from such as these that are derived the opinions of the laity. They believe what popular writers tell them. Successful literary men are very dangerous when they write of serious subjects about which they know little. The better they write the more dangerous they are. Thus we read and article from the pen of Professor Eliot of Harvard who, though he has never made a study of military subjects, now essays to give us information along these lines. And the power

of his name and of his pen is great. He tells us that cavalry is a thing of the past, that aeroplanes have completely displaced cavalry for reconnaissance, that automobiles filled with infantry can travel faster and longer than cavalry ever could, and that mounted riflemen are, therefore, no longer needed. And he concludes that cavalry is useless.

Without stopping just here to discuss these observations and to show how superficial they are, we can compare them with other statements made during other wars by noted literary men who had but a smattering of military knowledge. After the Boer War, A. Conan Doyle, with the notoriety of his name and the brilliance of his pen, assured his countrymen that professional soldiers were not again to be trusted to command armies, that the frontal attack was a thing of the past; that troops could not approach each other nearer than six hundred yards in the face of modern rifle fire; that the pistol and the bayonet or any close fighting weapon should be hung in the museum. All of which was completely refuted in the Russo-Japanese War, in the Balkan Wars, and now, more than ever, in the great European War.

It is from our statesmen and our legislators that action must come and plans be formulated for a proper defense of our country. But when the strictly military questions of deatil arise their answers should be determined by the most expert men we have. Our congress, representing our people, must determine the political expediency of national defense. This once determined, the military structure should be made by experts. And these experts should be men who have studied war and are not merely specialists on some particular phrase of war.

The mind of an Edison runs to things mechanical. His advice on mechanical questions is valuable. But as he is in no way a student of war, his advice as to our military organization is worthless. Left to him we should have all sorts of mechanical and electrical devices for our defense, and no soldiers. He would be useful to the military and naval experts as a means of accomplishing the devices they want, or, by his invention, to suggest mechanical contrivances in some of the military or

naval fields of operation. Hudson Maxim is an inventor of high explosives and machine guns. These are very necessary to an army, but Mr. Maxim's mind is not trained to advise us as to what kind of troops we need, nor as to what we should expect to do with them. Such a man is extraordinarily valuable as a specialist in making arms and munitions, but he does not belong to the class of military students and men of experience that should form our war board of experts.

In other words, only those trained soldiers who have studied war in its broadest aspect, and those civilian students of war before mentioned, are qualified to determine the numbers and organization of the army. Railroad men are very valuable, also, to advise and determine how troops are to be transported by rail. But they do not belong to the class of military experts. The opinions, then, of any person, however successful as a lawyer, doctor, mechanic, electrician, manufacturer, politician or business man, is to be taken with great reserve unless he is also known as a student of war.

Yet many of our successful men will, after but a moment's reflection, give us their opinions as to the proper proportions of infantry and cavalry and artillery, or as to the organization and training of an army. As Americans venerate the successful man these opinions become very dangerous to a proper and adequate means of defense. Americans love a mechanical device and can understand it, but they fail utterly to understand a regiment of soldiers. They would like to believe that what we need, is a sufficient number of mechanical devices for throwing enormous quantities of high explosives, and that we need little or no infantry. Of what value, then, is the opinion of any one of these specialists or non-military students as to the value of cavalry? They judge, as does every layman, by what they read in the magazines and newspapers. What they get about cavalry from these sources has already been discussed.

Now, to make our point clear it is necessary to briefly describe the differences-between European and American cavalry. I have already hinted that there was a difference. I spent a year with the French cavalry and one month with the German

cavalry. At the end of that time, just one year before the great war began, I reported to the War Department that, in my opinion, European cavalry would in war fail to perform that which was expected of it. I anticipated, therefore, that a European war would damage the prestige of cavalry, and that in this country the importance of cavalry would be doubted by many ill-informed persons, notwithstanding the great difference that exists between the organization and training of our cavalry and that of Europe. In other words, I felt that European cavalry would fail where ours might succeed. But it was only partially correct, because European cavalry has rendered most effective service in spite of its poor armament, false theories of cavalry use, and faulty organization, as I propose to show.

When I returned to this country I found the cavalry in a turmoil of argument between some few, who would have thrust upon us the faulty European organization and armament and their false theories of cavalry tactics, and the great majority of American cavalrymen who held that our organization and our arms and our theory for their use were much superior to those abroad. The whole matter is now receiving reconsideration by a board of officers, and it is confidently hoped and expected that the opinions of the majority will prevail in their council.

The main points of difference between our cavalry and European cavalry are as follows:

- 1. A European cavalry regiment has only from four to six troops or units commanded by captains. Our regiments has twelve of those units organized into three groups of four troops each. Each of these groups is called a squadron and is commanded by a major. Thus our regiment is larger than the European regiment and is organized in a manner similar as the organization of an infantry regiment. Therefore our cavalry organization is much better suited to dismounted fighting than is that of European cavalry. It is also better suited to open or less dense formations for mounted attack.
- 2. The European cavalry soldier is armed with a very small carbine which is very inferior to the rifle with which our troopers are armed. This is another reason why we can expect

better dismounted fighting by our men. Many of our cavalry officers believe that our rifle could be shortened somewhat, so as to give us a carbine for cavalry use that would be but little inferior, if any, to the infantry rifle. I share this opinion, but we should never carry this idea so far as to make our rifle as inferior as the European carbine.

- 3. A large part of the European cavalry is armed with the lance for mounted combat. We in America are unreservedly opposed to such a weapon, and believe that the automatic pistol is the weapon, par excellence, for the mounted soldier. In other words we believe in modern firearms instead of spears.
- 4. That part of the European cavalry not armed with the lance is armed with the sword, or saber, as the weapon for mounted action. We still carry the saber, but there are many of our officers who believe is should be discarded. In fact, many officers have believed this for a long time. It is not yet settled amongst us, but many are convinced that it has had no real value since an efficient pistol has been in use, and that it must soon be discarded. Various opinions exist, however, in our service.
- 5. European cavalry has been trained to rely almost exclusively on shock tactics—the charge in mass using lances or sabers. Our cavalry has also been trained to do this. But for mounted combat we place great reliance upon open order and the use of the pistol, and the majority of our officers do not believe in shock tactics unless accompanied by the element of surprise, or against fugitives, or inferior troops.
- 6. Our men are drilled carefully in dismounting to fight on foot, and probably get more of this instruction than of any other kind in offensive tactics. Once dismounted our cavalry is trained for attack and defense in the same manner and following the same principles as infantry. European cavalry, on the contrary, has received very little training along these lines. The English cavalry was probably better trained in this respect than the continental European cavalry. But the English organization, modelled after the European, is defective for dismounted work. It was planned for mounted attack in close masses.

The above are the principal points of difference. We have, to our advantage, borrowed from the French in some things such as leading and simplicity of movement and command. Our equitation has been improved by studying and borrowing from the French. These differences show us that our cavalry ideas of organization, training, and use of cavalry, are vastly superior. They justify the belief that, in the same field, in the same numbers and with the same attention given to supply of men and horses, and to training, our cavalry, when the facts became known, would have won the applause of our comrades in other branches and the grateful consideration of our people.

But, as already pointed out, cavalry in any war will not, until the facts become known and understood, receive its proper share of credit from those who are impressed by nothing but the boom of great cannon. Artillery needs no advertising. Its wonderful power and effect are manifest to everyone, and we cannot begin to soon to provide ourselves with the necessary guns and munitions. But there are other arms of the service which are also indispensable.

In spite of its faulty organization and training the cavalry of Europe has performed most valuable, most indispensable service. Our information is as yet inadequate. But let us briefly review some of those facts which we do know.

At the outset the German cavalry was sent in great numbers in advance of the army. The country of Belgium and northern France fairly swarmed with Uhlans. They most efficiently screened the movements of her troops in spite of the aerial reconnaissance of the allies. This is a fact which will be brought forth some day by both the Germans and the French. It is already revealed to all close and unbiased students of the war. Aerial reconnaissance accomplished much, but, until the trench warfare began, it did not do as much as some people believe. While the armies were moving, and had not come to locked horns and mutual besieging in long continuous lines of trenches, the cavalry performed very great and invaluable service in both screening and reconnaissance.

In western Europe the most critical period of the war was that in which, at the beginning, the great German drive swept through Belgium and northern France towards Paris. The only hope of the Allies was to avoid becoming too seriously engaged and compromised until they could meet their enemy with the advantage to themselves. Had they been unable to do this Paris would have fallen to the Germans, and the political, moral, and economic effect of this would have paralyzed France, at least for some time. Had the allied armies been unable to retreat fast enough to avoid decisive battle the cause of France would have been lost. Who can say, then, that modern war is fought entirely in the trenches? The use of trenches is not new. Grant's army remained all winter in trenches opposed by Lee's long intrenched lines near Petersburg.

Every war will be begun by a series of maneuvers and tremendous marches and battles in the open, such as occurred in western Europe and in Poland and Galicia. This will always be the critical period. The reason for the deadlock in France, with the armies intrenched before each other in lines which have moved but little in over a year, is found in the peculiar geography of the theater of operations. Switzerland at one end of the line, and the sea at the other end have barred any flanking movements since the battle of the Marne. Hence the deadlock. But before that battle, and during the anxious days of the great German drive, flanking movements were attempted and pushed by the Germans with a fierce and stern determination which threatened the life of France and the hopes of England.

There was heart-breaking marching then, indeed. The sorely tried infantry was pushed with relentless fury. The artillery horses were driven mercilessly to save the guns. Every modern means of transport was used; but it was marching, almost to exhaustion, which was the principal means of movement both for the Germans and for the Allies.

The tremendous attempt to outflank the Allies was frustrated. And in this the cavalry played a large part. In the retreat from Mons the English cavalry nobly did its share, and it was by its use that the hard pressed British infantry, fighting with unsurpassed gallantry, was enabled to escape the deadly clutches of the overpowering Germans. Had the British army

been overlapped and turned the whole French army might have been ruined. The cavalry that assisted in preventing this was worth its weight in gold.

In spite of these things we are informed by some persons that cavalry is useless.

Later on, the French cavalry joined the British in opposing the German attempt to outflank the Allies. Its services, like those of the British, were invaluable and cannot be measured. The Germans also sent cavalry around their flank, and their patrols penetrated far to the southward towards the Seine. This reconnaissance was made because aerial reconnaissance alone was not reliable or sufficient. Aerial reconnaissance and cavalry reconnaissance should work together, hand in hand. Each augments the other, but neither can supplant the other.

The presence of the German cavalry on their right (western flank increased the difficulties of the Allied cavalry. On both sides the cavalry was called on to march great distances and incessantly. So great was the demand for cavalry that many units were unable to unsaddle their horses for as much as five days at one time. So great was the demand, that horses and men became exhausted. I have heard it stated as reproach to cavalry, that the horses became exhausted and that the loss amongst them was heavy. Instead of a reproach the statement is a testimonial to the indispensability of cavalry. Had other troops been able to do what was desired, surely the cavalry would not have been used to exhaustion. But the work demanded was cavalry work. No other troops could perform it. It had to be done, even if it killed every horse in the command. If every horse in the French cavalry had been killed during the movements before the battle of the Marne, it would still have fully repaid France for their cost in time of peace, because, the life of the army and of France hung in the balance, and it was the cavalry whose work added the little which tipped the scales in favor of the allies.

Was it the cavalry, then, that saved France? No, it was not the cavalry. It was not the infantry. It was not the artillery, nor the transport, nor the supply, nor the staff, nor General Joffre. It was the whole team. But we can claim for the cavalry that it was indispensable.

It is true that we hear stories that the French cavalry did not take kindly to fighting on foot. This was the fault of their organization and training. They might have done better. It is believed that the same criticism can be applied to the whole European and British cavalry. What they did do was in spite of their false theories.

It has been said that infantry transported in motor cars can do the cavalry work. This is ridiculous. Infantry has been transported by motors in great numbers, and motor cars will probably always be used for this purpose. But, railroad cars, also, carry infantry. Motor cars carry infantry where railroad cars cannot, but both have their limitations. I have also heard it said that infantry of the future would not be required to march, but that they would travel in motor cars and fight in trenches. Such are the emanations of uninformed minds which presume to inform the world on military subjects. Groups of infantry can be transported rapidly in motor cars on good roads, and tremendous use of cars for this purpose will always be made. But when the enemy is encountered they are anchored to the spot, and their limitations are obvious. Germany has made use of armored motor cars for reconnaissance, but they have in no way supplanted the cavalry.

After the battle of the Marne, and the opposing armies were entrenched on long lines facing each other, the Germans found it necessary to heavily reinforce Von Hindenburg on the eastern frontier. Vast numbers of troops and munitions were transferred all across Germany. The greater part of the German cavalry in the west was transferred to the east. When the pressure was so great in the east and the railroad resoucres were so strained, does any one imagine that Germany would have further strained her sorely taxed railroads by adding hundreds of trains of cavalrymen and horses, had she found in the great western campaign that cavalry could be supplanted by other troops and means, and had therefore become useless?

All European armies have, for some years, maintained great corps of motor cyclists who can travel faster than automobiles and go into places where automobiles cannot. Yet they have not been able to do the essential cavalry work. This was

proved in maneuvers, and recognized many years before the present war. The use of motor cycles and of motor cars was anticipated long ago. The idea was not born in this war. Germany, for example, had planned it very carefully as a preparation for what she believed was coming. Every motor car in Germany has been subject to the call of the military authority. Yet, German infantry has had to depend on marching quite as much as of old, and the art of marching was not neglected in that service. Nor should it be neglected in ours.

Germany foresaw that great numbers of motor cars could be used to rapidly convey bodies of infantry to important points, but she did not expect that these troops should supplant cavalry, and she did not neglect her cavalry. Neither should we neglect ours.

Some persons in considering motor cars for transportation of troops, forget that large numbers of the available cars must be used for carrying supplies, and that all cannot be used for carrying troops. They further fail to appreciate the tactical inconvenience of motor cars, and the great road spaces required for them.

Motor cars therefore, must be considered as of greatest importance under certain conditions which soldiers must study. But they cannot absolve the infantry from the duty of learning how to march and of constant training and conditioning the troops for that purpose. Nor can troops conveyed in motor cars replace cavalry.

Motor cars may be used for small bodies of infantry in reconnaissance. But their vulnerability in case of attack by groups of the enemy, and their inconvenience on certain kinds of ground limit their use for this purpose.

Although the most stupendous military operations of the war have occurred on the eastern frontiers of Germany, and in Poland and Galicia where Germany and Austria have faced the hordes of Russian soldiery, we have heard little of the details. In fact, it is because the operations have been on so grand a scale, that only the greatest battles and the general results have been reported to the world. Naturally enough, we do not get the details of the work of special troops.

Why, then, should we be surprised that we have not yet heard more of the work of the cavalry? And why should we conclude, therefore, that the cavalry has not performed important duties?

But with insufficient information superficial minds are prone to jump to conclusions and to base formulas on incidents of isolated cases.

There is not the slightest reason to doubt that in the eastern theater of operations the cavalry has performed indispensable services. We have heard of great movements of cavalry on both sides, but we have not, with our meager information, been able to understand just what missions were assigned to these troops, nor how they performed them.

A great cavalry force, reported by the press as thirty thousand strong, was sent by the Germans, under a General Von Buelow, to cut off the Russian retreat in the north of Poland during the great German advance toward Dvinsk in August, 1915. It would be interesting to know the experiences of this cavalry corps and what its mission was in detail, and how much it contributed to the successful advance of the army of this region. Apparently the Germans hoped to block the retreat of a Russian army corps and to capture or annihilate it before it could escape. Now, to be able to do such a thing by sending a body of troops in rear of the enemy, the troops pressing the enemy in front must hold so tight to them that the enemy is unable to break away in good order or at such a distance as to be able to turn on the troops in their rear and overwhelm them. The Germans following hard after the retreating Russians were unable to advance with sufficient rapidity. The Russians broke away in good time and seem to have swept the cavalry corps from out of their path. This does not mean that the plan was unsound. Extraordinary exertions on the part of the enemy and an inability of our troops to hold him fast enough for such a maneuver may make a failure of our attempt to destroy him, however well laid our plans. The movement in this instance promised the greatest success, but the Russians by very skillful maneuvering and extraordinary exertions burst out of the trap and escaped.

Such a use of cavalry will often bring the most satisfactory results. The failure of the Germans in this case seems to have been due, not to a failure of their cavalry, but to the inability of the pursuing troops to keep close enough to the retreating Russians. Just what influence the cavalry corps had in this incident on the strategic situation we do not know. Probably it was very great.

But it will be interesting here to speculate a little. We are told that the Russians swept the German cavalry out of their path. Ought this to have happened? The answer would depend on the numbers of Russians who were to be held and the numbers and equipment of the available German cavalry. But let us suppose that the cavalry corps had been American, with its superior regimental organization for dismounted fighting, and its superior rifles and practice in their use. As I have already pointed out our cavalry is undoubtedly superior in these things. Let us further suppose that this American cavalry had kept abreast of the times and was well equipped with machine guns organized into efficient units. And, also that the command included a sufficient quanity of mobile field artillery able to march with a large cavalry command. It is possible that 30,000 such troops might have succeeded where the Geremans failed. It is possible that such a force might not have been swept out of the path of the retreating Russians until the pursuing infantry divisions had caught up. And thus the trap might have caught the Russians and their army might have been annihilated. Who knows? Certainly such things are possible. A well planned military operations may fail, but we should not conclude that a similar plan will always fail, or even that it will usually fail.

Let us turn to the other flank on this great eastern front. We have scarcely any information at all. But from what we have heard it is certain both Russian and Austrian cavalry have been very active in this theater. In the early part of the war, when the Austrians were driven back towards Cracow, we heard of attempts on the part of the Russian Cossacks to invade the plains of Hungary. They seem to have been only partially successful. The great Carpathian range of mountains with its

easily defended passes was a great obstacle. Still, the Cossack cavalry did occasionally penetrate this natural defense, and, sweeping down into the plains of Hungary, terrorized the inhabitants and made the political situation for Austria very difficult and dangerous for a time.

But let us speculate again. Suppose that the Carpathian range had not existed and that no more physical barriers existed on the frontiers of Austria than are found on those of eastern Germany. The early defeats of the Austrians might have been fatal, and the cavalry might have been able to go further into Hungary and to have maintained itself there in prolonged raids, with no mountains barrier to prevent their escape when necessary towards their advancing army. Who knows what a large force of American cavalry, organized, armed and trained as I have indicated might have effected in the precarious polical situation?

It is a pity that we do not know more of the cavalry operations in this theater, so that we could make comparisons between that which has been done and that which might have been done.

But we may be assured that cavalry has not been idle or ineffective in this region. It will take a long time, however, to ascertain the facts.

We are not without certain material evidence to prove the importance of the cavalry operations. Certain journals, which have contained articles under captions allaying suspicion, have escaped the censors, and we gain from them certain facts which are iluminating. We learn that every available horse of a type permitting its use for cavalry purposes has been requisitioned by the Germans for the cavalry and not for traction or any other purpose.

After a year and a half of war in which Germany has defeated her enemies in every theater of operations, even though she may have failed to destroy them, she still continues to make great exertions to mount her cavalry. Germany certainly should be a good judge of the wisdom of maintaining cavalry in great numbers. She is fighting desperately for her very existence. The Germans have proved themselves too good as

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soldiers, and her General Staff too efficient and practical in its work, to allow us to make the supposition that she is maintaining useless cavalry for sentimental purposes or on account of archaic tradition. Just how she is arming her cavalry, and just what rôle she intends it to play, are quite different matters.

The different nations allied against the Teutonic powers have their agents in this country buying thousands of horses to mount their cavalry. They, like Germany, have no intention of neglecting this important arm.

Let us speculate still again. Let us suppose that the allies in France finally break the deadlock and hurl the German army back towards Berlin. The Germans say this is impossible. The allies have been predicting that it would come to pass. Even if the deadlock remains to the end, this fact would not argue that all future wars would end in a similar manner. It is quite possible for us to conceive of smaller wars in which our troops may be engaged and in which no similar deadlock would occur. Let us suppose then, that the deadlock is broken with advantage to the allies.

Now, if at such a time the cavalry hs been preserved in numbers sufficient to play its proper rôle, we may be entertained by the acrobatic performances of those prophets who, having foretold the passing of cavalry, may be turning back summersaults to cover up their tracks.

If the Russian offensive, which now seems to be preparing on a gigantic scale, is successful, we shall find their cavalry playing an important rôle, even though, at the time, we may receive scant news of it in the press which will naturally be reporting only the most prominent operations of the whole gigantic team of which the cavalry forms only a small, if indispensable part.

Before the great war cloud descended over the European Continent, and, bursting asunder, spread war over all lands. we were beginning to get details of the Balkan wars of 1912 and 1913. We were commencing to find out that cavalry had played an important part, although during the war we heard little of it. Thus is must always be, because cavalry is but an auxiliary branch of the great team. The airmen are seen flying high over head. The artillery is heard by the boom of its great cannon. The infantry, always the main portion of an army, occupies great spaces and is the center of action from which despatches come to the outside world. But the crack of the cavalryman's rifle or pistol, and the rattle of his machine guns will not be heard and will not be reported until the war is over. The captain of the team knows what all parts of his machine are doing. But the spectator only sees and hears the rush of the whole team or its most prominent parts.

In discussing cavalry, and speculating on its possibilitities and its limitations, it is proper to consider only a cavalry organized, armed and trained in the most scientific and up to date manner. To consider and to theorize, to make predictions and to draw conclusions concerning cavalry as an arm of the service, having in mind all the time a cavalry falsely trained, improperly organized, and armed with ineffective weapons, would not only be a waste of time, but would lead us far astray from the truth. And, casting disrepute upon the arm, it would be responsible for the neglect to utilize cavalry to its fullest extent, and perhaps for the loss to the army of a most important element.

It is for this reason that I have pointed out the difference between European and American cavalry. The important services that the European cavalry has rendered or may render in coming campaigns, have been and will be effected in spite of fautly theories and faulty organization and faulty armament. American cavalry is superior in these respects. But it, too, has fallen behind the times, and needs to realize that modern inventions have called for change, and that these inventions can and should be utilized by the cavalry as an asset to make cavalry, not less, but more important and more useful than

ever before. Modern inventions and improvements in weapons of war have increased the importance of cavalry, if we but realize it and seize the opportunity to utilize them. On the contrary, if cavalry holds fast to archaic principles and arms it will gradually decline, and its services will fail to justify its existence.

Notwithstanding the undoubted effectiveness of the services of European cavalry, we in America must not follow them blindly where they may lead as a result of their experiences. There are certain things which they have never tried and probably will not try in this war, although highly thought of in America. For example, how will Europe arm its cavalry if it finds the sword and the lance ineffective? For mounted action we would substitute the automatic pistol. But they in Europe have never tried this weapon and, believing it impracticable to teach their men, will probably still cling to an "Arme Blanche." If so, then the prestige of their cavalry and, therefore, of cavalry in general, will suffer.

We must look closely, therefore, and, keeping our eyes open, follow the footstpes of Europe in these matters only where we can see. There are already some things which we can see with great distinctness. One is, that the cavalry must take advantage of the improvements in fire arms to increase its efficiency. We already have the automatic pistol, a wonderful weapon for the mounted soldier. We must also take full advantage of machine guns. This is so important that we must pause here to consider it.

Of all the arms of the service the cavalry is most to be benefitted in its efficiency by machine guns. The war in Europe has proved their great power. Heavier than rifles, it is the cavalry that can most easily carry them. To the mobility of cavalry on all sorts of ground, in any weather and any place, add the immense power of fire action given by a large number of modern machine guns, and who knows but what such a cavalry shall not only be able to defeat ordinary cavalry, either in mounted or dismounted action, but may, also, be able to make a successful mounted attack on unshaken infantry, with or without the element of surprise and all the other things which are supposed to be necessary before cavalry can successfully

attack infantry? Dismounted, it would be more than a match for an equal number of infantry. Of course, infantry regiments also may be equipped with machine guns. But the large mass of infantry regiments must be infantry and not machine gun units. Cavalry on the contrary should make a specialty of machine guns.

Suppose, for example, that in each squadron of four troops, one troop is armed with as many machine gun's as it can operate. That would be far better than giving each troop a few guns. We would thus have three machine troops in each regiment, and nine troops without machine guns. The guns should be carried on small wheels and we should discard for ordinary units the pack animal idea except for ammunition and spare parts. The machine gun troops should be organized on far more economic principles than our present machine gun units, so as to have more guns to a given number of men.

But it is not intended here to discuss the matters of detail in organization or in tactics. It is merely desired to point to the obvious necessities of cavalry and to suggest the course we should pursue. The possibilities of cavalry, with powerful machine gun units, attacking the enemy in flank, pursuing, delaying, reconnoitering, seizing of positions, supporting, and reinforcing the battle lines in criticial positions, are alluring and promise the brightest future for the arm in both mounted and dismounted action.

Our organization for modern cavalry is far superior to that abroad as already stated. The principles of this organization should be maintined, and only slight modifications would be necessary to establish the necessary machine gun units.

A word as to reconnaissance is also necessary here. We hear it stated, with irritating frequency, in lectures and essays, that reconnaissance is the most important duty of cavalry. It is not so. To fight the enemy in battle is cavalry's most important duty, and the sooner we get this idea fixed as a basis of our organization, training, and armament, the sooner we shall progress in cavalry matters.

Reconnaissance is only one of the important duties of cavalry. In the popular imagination aerial scouting has sup-

planted cavalry in reconnaissance. Aerial reconnaissance has proved in the war to be of special value in the trench warfare so prolonged in the western theater. In this phase of warfare aerial reconnaissance is especially valuable to artillery. It is also valuable to observe and discover the masses of troops assembling behind the hostile trenches or some sudden or offensive movement. Cavalry cannot be used here for reconnaissance, as is perfectly obvious.

But in that phase of warfare which must occur in the beginning and at the end of every war, wherein the armies are moving aerial scouts can discover large bodies of moving troops. But the scenes are so shifting, and the purposes of certain masses of troops, here and there, so confusing and obscure that aerial reconnaissance cannot be depended on alone.

Backed up by cavalry, organized and armed as I have suggested, aerial reconnaissance becomes easier and more dependable. Cavalry reconnaissance supplements it and supplies the missing data. Reconnaissance is thus made more sure. The effect of the enemy's resistance to aerial scouting is lessened.

The duties of the cavalry in reconnaissance are made easier by the aerial scouts. In this phase of war scouting is a better word than reconnaissance in its application to aviation. Certain information can be obtained only by reconnaissance in some force. Military aviators may do the scouting in these cases and the cavalry may supplement the scouting and supply the force.

Thus, aero squadrons and cavalry work hand in hand, and each increases the efficiency of the other. Aeronatuics has, therefore, not detracted from the importance of cavalry in reconnaissance, but has come as a wonderful assistant, and has increased the efficiency and magnified the possibilities of cavalry reconnaissance.

Dark nights, fogs, storms, rain, mists, and finally anti-air craft guns and the resistance of the enemy's aircraft, must always limit the possibilities of aerial reconnaissance. And so, cavalry must be depended upon to fill the gaps.

In discussing cavalry with uninformed or unthoughful persons, one always hears something like this. "Cavalry is no longer as useful as formerly!" "Why?" "Because it cannot charge against troops armed with modern fire arms." As if the mounted charge against infantry and artillery in position, and all set to receive it, was the rôle and the only rôle of cavalry!

Such has been the everlasting influence of tradition which the cavalry of Europe has labored under, and which it has cast over the world, even in America where Stuart, and Sheridan, and Forrest, and Wilson, sounded the true note, over fifty years ago, for all people with ears to hear. The Germans and French in 1870, had not heard it, and it is only lately that a faint sound of it has reached Europe.

We are in danger even in America, of losing this note, and it is only by taking advantage of modern improvements and moving boldly forward in thought and action that we shall avoid losing it altogether.

The usefulness of cavalry on our southern border, and in minor wars such as we are peculiarly liable to, is obvious to unprejudiced persons. In such wars the comparatively small numbers engaged allows cavalry the opportunity, when in cooperation with infantry, to reach the flanks and rear of the enemy and to bring about a complete success.

Its mobility on rough and difficult ground allows it to pursue such a campaign, often alone, with speedy and decisive results. This is always with the proviso that the cavalry leader shall be a man of great energy, activity, determination and a knowledge of how to take tactical advantage of the peculiar qualities of cavalry. Such men are not always found in command. This in as unfortunate drawback, or what might be called a disability of cavalry. Both infantry and artillery may accomplish something with only average leaders. But cavalry must have a leader peculiarly qualified or, as an arm, it accomplishes very little. There is little doubt that in the Russo-Japanese War, these facts were responsible for the so-called failures of the cavalry. If an infantry leader fails the responsibility is properly placed with him, and not upon infantry as an

arm of the service. On the contrary, if a cavalry leader fails the whole cavalry service receives a black eye, and, though the leader may receive his share of criticism, there are always scores of persons who are ready to interpret the causes of failure as a proof of the ineffectiveness of cavalry as a military arm.

An army commander who wishes to utilize his cavalry to the fullest extent, and to profit thereby, should bear these facts in mind.

Cavalry, properly led, is peculiarly efficient in fighting bands of irregular troops or troops composed of morally inferior material. Let us suppose that a force of fifty of our cavalrymen encounters in the brush one hundred and fifty of these inferior troops. If our leader is bold and holds to mounted action, promptly charging and recharging in proper tactical formation and using automatic pistols, it is more than probable that he will defeat and route the enemy with severe loss. On the contrary if he hesitates, and then dismounts to fight on foot, he loses the advantages that cavalry has here over dismounted troops. Dismounted troops, either cavalry or infantry, could in this instance expect only one of two things. The enemy would exchange a few shots with us, with perhaps as many casualties to us as to himself, and then withdraw and escape. Or, he would remain and fight long enough to determine whether his superiority in numbers was giving him the advantage, recollecting that every hit he made in our small force was worth three hits made by us upon him. And if he was lucky in hitting a number of our men early in the fight it is quite possible that his fire superiority would become manifest to him and his morale thereby strengthened to a degree which might enable him to inflict upon us a very severe defeat if not to destroy us entirely. We can apply the same line of thought to a squadron or even a regiment.

Dismounting to fight on foot is one of our strongest and most useful cards, but there are times when it completely loses to the cavalry those peculiar advantages over dismounted troops which it possesses in many easily imagined circumstances.

At the outbreak of the Filipino Insurrection in 1899, General Otis would not ask the War Department for any cavalry

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and did not want it because he believed that American horses could not be useful in that climate, and because, furthermore, he believed that cavalry could not operate successfully on that terrain. This betraved a total ignorance of the qualities of our cavalry and of the possibilities of its use. Later on cavalry was hurried over to the islands with untrained horses and untrained men. Horses were shipped in as large numbers as possible, and proved so valuable that in addition to the cavalry each regiment of infantry was supplied with fifty horses to mount special detachments. Had General Otis been supplied on the day of the outbreak with a large force of our cavalry, properly trained and properly led, or, still better, had his whole command consisted of cavalry, supported by artillery, with leaders like Generals Lawton, Young and Bell, the Filipino army would have been routed and scattered in every direction in ten days. And the Filipino leaders, including Aguinaldo, would almost certainly have been captured or killed in ten days more.

As it was, the Filipino troops were able to withdraw when beaten and to finally scatter in small bands with the loss of scarcely a single leader of importance and without the surrender of a single important command. The insurrection was prolonged with immense cost to our government and the devastation of a great part of the Filipino country.

Had the insurrection been forseen and had our authorities been wise enough to have sent over in time large forces of cavalry and to have provided proper leaders, the value of cavalry for such warfare would have been proven in an incontestable manner.

I have said that cavalry is especially necessary to the United States. This is so, not only because of the minor wars we are liable to, with the attendant need of cavalry more than any other branch of the service, but also because in our country, in fact in all of North America, the dimensions of plains and plateaus, rivers and mountains, are so vast that an invading enemy would be particularly affected and disabled by flanking attacks, raids on depots and attacks on lines of communications.

A cavalry properly equipped for modern work is therefore a necessity. To properly maintain it we must have reserves in men and horses.

We cannot expect to keep abreast of the times and to be thoroughly efficient if we still continue to have no person specially detailed to look after us. We are an auxiliary arm and all such arms should have a chief. We should have a brigadier general as Inspector of Cavalry, and he and his assistants should inspect every regiment at least once a year. The Inspector of Cavalry, who must be a cavalry general, should with his assistants have charge of all cavalry matters, and be responsible to the Chief of Staff of the Army for the efficiency of the cavalry.

Important matters such as organization, equipment, armament, the rôle for cavalry in all kinds of warfare, should no longer be left to boards of officers appointed haphazard by the War Department. Nor should the majority vote of the officers of the cavalry service be given too much weight, because the majority opinion is itself likely to be haphazard. If all officers could be collected together for long periods of time in a sort of congress, there the majority opinion, gained after discussion and debate, would be more valuable and should control these matters.

We should have under control of the Chief of Cavalry, a Cavalry School, where special cavalry subjects should be taught. Military Art as applied to cavalry should be the most important of these subjects, and this school should work in harmony with the Army Service Schools at Fort Leavenworth and with the War College.

The School of the Line at Fort Leavenworth is primarily an infantry school and its teachings pertaining to cavalry are archaic and not satisfactory. The field artillery has its own school andt he teachings pertaining to artillery at Leavenworth are made to be in accord. The cavalry should also have its school and work hand in hand with the schools at Leavenworth.

Cavalry officers having original ideas could write them up and send these to the faculty of the cavalry school where such ideas should receive consideration in every case. Thus we could have a uniformity of thought on tactical matters taught to our officers. This school would assist the Chief or Inspector of Cavalry in forming a policy for the training of our arm and for bringing it to an efficiency and a usefulness to our country not possible to a body stumbling blindly on without a head and without guidance.



THE BEGINNING OF THE AMERICAN CAVALRY.

BY MAJOR C. D. RHODES, U. S. CAVALRY.

THE intense excitement which followed the battle of Lexington, brought to the vicinity of Boston as many as 14,000 men of the colonies, animated with an intense spirit of patriotism. But they were totally unorganized; they had little or no artillery; and no cavalry whatever.

But some form of organization was quickly effected. A committee of Congress, of which Doctor Benjamin Franklin was chairman, formulated a plan by which the Continental army was to consist of twenty-six regiments of infantry, of eight companies each, besides riflemen and artillery. Guns for the latter were to be purchased or captured. But on account of the difficulty of training and equipping cavalry, it was a long time before the organization of such troops was even thought of by the colonial leaders.

On the other hand, the British also, were slow in employing cavalry. "The rough and unimproved face of the country" says Fenimore Ccoper, "the frequency of covers, together with the great distance from their own country, and the facilities afforded them for rapid movements to the different points of the war by the undisputed command of the ocean, had united to deter the English from employing a heavy force in cavalry, in their early efforts to subdue the revolted colonies."

But the great value of cavalry in securing rapid concentration of troops and thereby to a degree compensating for disparity in numbers, was soon appreciated by the colonial organizers of the little army.

We find in the American Archives that at Lebanon, Connecticut, July 2, 1776, the Governor and Council of Safety passed a resolution that "the three regiments of light horse lately established and on the west side of the Connecticut

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River," set forward equipped for the "succor and assistance" of the American army near New York.

But even earlier than this, in the month of April, 1776 General Charles Lee, of Virginia, issued the following proclamation:

To the Young Gentlemen of Virginia:

As an army without cavalry is in all countries a very defective machine, but in this Province, circumstanced as it is, it is impossible to carry on the service with any tolerable degree of credit without a certain proportion of this species of troops, General Lee begs leave to address himself to the young gentlemen of the different counties, entreating that they will form themselves into companies of Light Dragoons, consisting of one Captain, one Lieutenant one Cornet, two Sergeants, two Corporals and a Trumpeter or Horn Sounder. As it is intended and hoped that the whole will be composed of gentlemen volunteers, it will not be expected that they should receive pay, but at the same time, as it is not reasonable that they should put themselves to the expense of maintaining their horses, they are to be allowed rations for them as well as for themselves.

Their arms should be a short rifle carbine, a light pike of eight feet long, and a tomahawk. General Lee is confident, if the young gentlemen approve and adopt this scheme, they will not only do very great honor to themselves, but very important service to their country.

Following this proclamation, we find the following resclution among the records of the proceedings of the Virginia Council. May 20, 1776:

Resolved, That four regiments of horse be raised for the better security and defense of this colony; that the officers and troopers at their own expense brovide their arms, horses, and accouterments, and be allowed a reasonable pay and proper subsistence; and be paid for such horses as are killed or taken by the enemy.

The scarcity of arms and accouterments for the Continnental army was one of the most pressing needs of the time, and together with the lack of suitable mounts, seriously affected the prompt organization of cavalry.

In this connection it is interesting to note in the American Archives of May 20, 1776, that the schooner Franklin, a Continental cruiser commanded by Captain James Mugford of Marblehead, took one of the enemy's tranpsort ships bound from Cork to Boston, and having on board 1,000 carbines with bayonets, scabbards, and steel rammers, 1,000 carbine cartouchboxes, and 1,000 slings. Alittle later, in November of the same year, Congress directed the Secret Committee to provide arms

and equipage for 3,000 horses, and that a committee of five be appointed to consider and report upon "a proper method for establishing and training a cavalry in this continent."

Although isolated companies of partisan cavalry were raised by the colonies about this time-among which may be mentioned the company of dragoons raised and commanded by Richard Henry Lee, of Virginia ("Light Horse Harry"). and the Georgia Light Horse Regiment known as "Marbury's Regiment," it was not until the spring of 1777 that four regiments of Continental horse were enlisted, commanded by Colonels Bland, Baylor, Sheldon and Moylan.

One of General Washington's orders of this period is of unusual interest, not alone as showing the status of the American cavalry but for its military completeness:

Recruiting Order to Elisha Sheldon, Esquire, Lieutenant Colonel and Commandant of a Cavalry Regiment to be raised:

SIR: You are to immediately to repair to the State of Connecticut, and as soon as possible nominate your officers and send them out on recruiting service. They are to be particularly attentive to take none into the corps but young, light, active men. The privates are to receive twenty dollars bounty and a suit of clothes on entering the service, and pay as per schedule annexed. They are to be raised to serve during the war unless sooner discharged by Congress.

Each non-commissioned officer and private is to be furnished with a good horse, saddle, bridle, and other accouterments belonging to the Horse Service, at the expense of the continent; and I will recommend to Congress that the commanding officer be also furnished at the publick expense with the same, but cannot absolutely engage it, as I believe it is not customary.

In procuring horses, you are to have no stallions, mares, white or gray horses, but likely, serviceable trotters, of sufficient size. It is expected that you will purchase them at the most reasonable rate, and not upon an average to exceed one hundred dollars per head, carefully describing and keeping an exact account of the cost of each horse.

Saddles, bridles, carbines, broadswords, pistols and every other accouterments necessary (agreeable to a pattern herewith given you), you will procure as cheap as possible.

Your regiment is to consist of one major, an adjutant, surgeon, and mate and six troops; to each troop one captain, one lietutenant, one cornet (commissioned officers), one quartermaster, two sergeants, two corporals, one trumpeter, one farrier, and thirty-four privates.

Given at Headquarters, this 16th day of December, 1776.

Go. WASHINGTON.

To Lieut. Col. Elisha Sheldon.

When on the 24th of August, 1777, Washington's little army moved from Philadelphia to Wilmington, with a view to intercepting Sir William Howe's northward march from the Chesapeake, we find Bland's and Baylor's cavalry regiments forming the advance guard; and Sheldon's and Moylan's the rear guard. Howe's pickets were constantly harrassed by the American cavalry, and the advance of the British force was marked by a number of spirited skirmishes.

In his description of the battle of Brandywine, Theodore W. Bean says: "In advance of Maxwell, there were employed four regiments of cavalry, composed of nine hundred men, including persons of every description. These partisan soldiers, composed of independent organizations, occupied the country as far as Iron Hill, and did good service in watching the movements of the enemy and reporting same to the commander-in-chief." In the subsequent battle of the Brandywine, the cavalry seems to have taken little part.

After this battle, Count Pulaski was made a brigadier general in the Continental army and given command of all the cavalry—an honor which had already been offered to Generals Cadwallader and Reed, and which by the latter had been declined. But Pulaski did not long remain in command of the combined cavalry, but after a few months resigned to take command of an independent organization composed of "68 Herse and 200 Foot," raised chiefly in Baltimore in the year 1778. The records also show that on the 10th of May, 1777, Congress gave another foreign efficer, Charles Armand. Marquis de la Rouarie, permission to raise a corps of not more than 200 men—part of which was a company of cavalry termed Marchausée, whose duties were those of a provost-guard.

Immediately after Brandywine, a small detachment of American cavalry had an experience with the British, which became famous in revolutionary annals. It seems that Washington had stored a large supply of provisions in an old flour mill near his headquarters. Howe sent a detachment to seize the stores, but a troop of cavalry despatched by Washington, under Lieut.-Colonel Alexander Hamilton and Captain Lee, reached the stores first, and successfully destroyed them. But in so doing they were surprised by the enemy and nearly cut off. Hamilton and a portion of the cavalry hastily crossed the Schuylkill River in a flat-bottomed boat, while Lee with four

dragcons galloped safely across a neighboring bridge, followed by a shower of bullets.

In the subsequent battle of Germantown, the little cavalry command appears to have taken little part. During the day, Captain's Lee dragoons acted as body-guard for the commander-in-chief; and after the battle, Pulaski with his legion covered the retreat of Generals Greene and Stephen from the field. And again, the northern campaign against Burgoyne, appears to have been made with almost nc cavalry whatever, although one troop of Sheldon's regiment is mentioned as being under Gates command.

The winter of 1777-1778 is memorable in the war of the Revolution for the awful sufferings of the Continental army while wintering at Valley Forge. Much of the cavalry appears to have been sent to parts of the country where they could be subsisted more advantageously than with the main army, but the horses which remained suffered most severely. On the 12th of February, 1778, General Varnum wrote to General Greene. "The situation of the camp is such that in all probability the army must dissolve. Many of the troops are destitute of meat and are several days in arrears. The horses are dying for want of forage."

The distressing poverty of the Colonies at this crucial time in the progress of the war, and its effect upon the American cavalry, is reflected in a resolution of Congress, dated September 11, 1778.

Resolved, That it be submitted to the consideration of General Washington, whether a considerable part of the cavalry now in the army, can, in the present seat of war, be employed with an utility adequate to the great expense and difficulty which occurs in supplying them with forage; and if he shall be of opinion that the duty of the whole or any part of them may be dispensed with at camp, that he be directed to order such of the cavalry as he shall deem proper, to such parts of these states as they can be best subsisted in.

It is certain that although the cavalry had probably done all of its share of hard work, it had not been distinguished by any marked efficiency, if we except some creditable skirmishes by Captain Henry Lee's dragoons. In September, 1778, when detachments of Cornwallis' troops were scouring the country in the direction of West Point, Colonel Baylor's regiment of

light-horse was surprised at Old Tappan by the British under Major General Grey, and out of 104 Americans 69 were killed or wounded. |Among the latter was Baylor, who was taken prisoner.

In contradistinction to this humiliating experience, may be mentioned the highly successful attack made by Major Lee upon the British post at Paulus Hook, now Jersey City, and used by the British as an outpost for New York City. The assault was made by 300 men of Sterling's division and one troop of dismounted dragoons under Captain McLane. For this service, Lee received the thanks of Congress and an emblematical gold medal.

And, so far as the writer can learn, this was about the limit of achievement by the American cavalry or "horse," throughout the War of the Revolution. Its numbers were necessarily meager, by reason of the scarcity of suitable horses, and the expense of maintenance; and even when organized, it was usual to find it attached to dismounted troops—the whole unit being designated a "legion." There were doubtless a few good roads—even those utilized by the stage-coaches and "diligences" of those days being poor; and off the few available highways, the virgin forests doubtless limited the use of cavalry to small clearings connected by woodland trails.



FIELD TRAINING FOR CAVALRY.

TRAINING SCOUTS AND PATROLS.

BY LIEUTENANT COLONEL DEROSEY C. CABELL, TENTH CAVALRY.

N training scouts, as in the training of other parts of a cavalry command, what we need is a practical, progressive system, if we really desire to make progress and to accomplish practical results.

There is a most excellent little book entitled, Aids to Scouting, by General Baden-Powell of the British Army. This book can be obtained, I believe, from the Cavalry Association.

The ideas and suggestions in this book are good and evidently are the product of a trained scout. And yet the book is lacking in one essential if we are to use it as a guide in the actual training of scouts. The methods for accomplishing the results aimed at and in the shortest time are not definite enough.

Taking this book as guide and with what little additional knowledge I may have on the subject I have prepared a series of exercises which we are now trying out at this Post and which I believe will go a long ways toward making scouts of our men.

My object has been to translate the ideas and suggestions of General Baden-Powell into simple practical exercises that will help to turn our men into scouts.

It will be seen that I have freely used his ideas and in many cases his words; so I claim little originality for what follows.

Patrols are small detachments usually named in accordance with the duty expected of them, as reconnoitering, visiting, connecting, flanking, etc.

Small patrols are mobile, easily concealed and economical of fighting strength.

Hostility of the natives, presence of the enemy, necessity of sending messages make stronger detachments necessary.

The distinction between patrolling and scouting is little.

We speak of individuals as well trained scouts; of patrolling well done by a detachment.

Scouts work singly or in pairs; patrols usually consist of three or more men up to a troop.

The best patrol work will be done by well trained scouts.

SCOUTS-THEIR QUALIFICATIONS AND TRAINING.

Qualifications:

A man before being trained as a scout is selected for having the following points:

A smart, active, intelligent and trustworthy soldier.

Good eyesight and hearing.

Good rider and able to swim.

A willing man.

He must then be taught:

- 1. The duties of reconnoitering and combat patrols.
- 2. Map reading.
- 3. Sketching.
- 4. Writing messages.

After this he must pick up the following which alone can make a scout of him. These points can be learned; they are difficult to teach.

To succeed the man must work at them in his own time. The man selected as a scout should during the time of his training be excused from as much other duty as possible and encouraged in every way to practice the points I will now mention, and which I shall go into in some detail.

These points are:

1. Trailing.

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- 2. Finding your way in a strange country.
- 3. Using eyes and ears.
- 4. Keeping hidden from the enemy.

TRAILING.

This cannot be taught theoretically. It must be acquired by actual, long continued practice. If this practice be intelligently directed the time necessary to learn trailing is of course shortened. In this as in most arts, it is well to begin with the simplest exercises and progress to more complicated ones gradually. Remember to secure results takes time, work and patience.

I do not say that there is a rigid academic method of teaching trailing; and only suggest the following as an acceptable outline.

For the earlier exercises use the best ground obtainable, ground on which the hoof-prints are easily distinguishable, the soldier working dismounted.

- 1. Have a horse walked slowly over good ground, the student following closely enough to see and distinguish the front from the hind foot tracks. By noticing closely whether the front and hind foot on each side over-lap and how much, any peculiarities in the shape or size of a shoe, etc., the trail of this horse can soon be distinguished from that of another.
- 2. Have the student measure the distance between the pairs of front tracks—the stride—then the number of tracks made by this horse in a given distance, say 10 yards.
- 3. Have a second horse led out parallel to the trail of the first one and have the student carefully compare the two trails. He will notice a difference in size of the tracks, a difference in the over-lapping of the feet, a difference in the length of stride, etc., perhaps peculiarities in the shape of the shoes, one horse may drag his toe in putting the foot down. Then out of his sight have both horses led side by side and let the student pick out the trail made by each, telling you clearly how he distinguishes them. Repeat this lesson many times with many horses being careful in the earlier lessons to have horses with marked differences in their tracks.
- 4. Have a horse led slowly along good ground followed by a second on the same trail. The student follows closely noting the difference between this trail and that made by one horse only. He finds it more difficult to locate the front and

hind track of both horses; but if he has learned the trail of both horses thoroughly he can do this partly by observing the individual hoof marks of each foot and partly by observing the difference of stride of the two horses.

- 5. Now make parallel trails of one horse, of two horses, of three and of four, all in view of the soldier and let him carefully compare them. He will notice the principal difference in the four trails lies in the amount of ground untouched. Then make these trails out of his sight and have him tell you the number of horses on each.
- 6. Increase gradually the numbers on the trails, first in sight of the soldier, then out of his sight, having him estimate them. He will notice that on soft ground as the number of horses increases there is all the time less untouched ground the trail becomes deeper, it is more readily seen at a distance the tracks are more scattered laterally.
- 7. Gradually work in all the above cases on more difficult ground.

Finally on the hardest ground, even on stone; there can be distinguished marks made by iron shoes and a guess may be made at numbers.

The above exercises will have shown the soldier clearly that on certain ground the trail is much more readily seen than on other ground, so he will learn that in following a trail he need not look for every hoof-print nor at every yard of ground but often a trail may be rapidly followed by noting the direction taken on a soft spot and looking ahead to where the ground is again favorable for a continuance of the trail.

- 8. Make a plain trail of a certain number of horses, a second parallel trail of half the number going over it in both directions. The soldier will see little difference in the distinctness of the two trails, but should pick up the difference between the two.
- 9. Make parallel trails of the same horse going in the same direction at a walk, a trot and a gallop, all in sight of the soldier. Have him note carefully the differences in these trails. Then let him practice in picking out the gait when he has not seen the horse moving.

- 10. The above exercises should now all be repeated with the soldier mounted. The main difference in reading a trail mounted, is that the trail is most clearly seen not by looking down on the ground at your horses feet but by looking a certain distance ahead, depending upon the light, etc. This distance may be as great as twenty or thirty yards, on certain ground even further.
- 11. Practice in determining the age of tracks may be had by using one part of the ground one day, another nearby the second day, etc., and comparing the appearance of the tracks. This may be important. In this connection other indications as to age of the trail may be seen in appearance of the droppings along the trail; of upturned stones, broken bushes, grass, etc.
- 12. You are now ready to give various exercises in trailing such as sending out small parties which at first go at a walk on the best ground, keeping together; then at different gaits on more difficult ground; finally which endeavor to conceal their trail by separating and meeting at a fixed place, keeping on hard ground, etc. Besides simple trailing these exercises may be used to teach other parts of scouting—the pursued endeavoring to ambush the pursuers, etc.
- 13. Besides trailing horses, there is the trailing of dismounted men, which is much more difficult, yet quite possible. I once followed an officer who was lost in the mountains 250 miles; 125 while he was mounted I trailed him with Indian Scouts; 125 dismounted with a civilian scout. As long as the man is moving on a road or beaten trail he may be readily followed; outside these it requires a very expert trailer.
- 14. The reading of the trail of different kinds of vehicles should also be taught, light wagons, escort wagons, loaded and unloaded, artillery carriages with the directions and to some extent the numbers may be discovered
- 15. Practice your soldier in picking up a lost trail. Suppose he is following a trail on good ground and suddenly loses it. Let him look ahead in the direction it has been going; often twenty, thirty yards or more ahead he will see grass stems bent down. If no sign is visible from where he loses the trail and the probabilities point to a continuation in the same direc-

tion let him go ahead till he gets on better ground. Often a stream bed or soft ground of considerable extent lying across the general direction may enable him to pick up the trail by going along it on both sides of the point the trail might have struck it. Finally make a "Cast" around the point the trail has last been certainly seen. Mark the place with a handker-chief, etc., and make circles of thirty, fifty, one hundred yards etc., around it, examining the ground for the trail.

If you have lost the trail altogether, put yourself in the place of the party you are following and think where or in what direction you would have gone. In this way many parties of Indians were located after they had skillfully hid their trail. A waterhole was remembered in convenient reach and the Indians found there.

Many years ago there was a hold-up and robbery near Tombstone, Arizona. The three robbers were mounted and were followed by a posse with Mexican trailers. After a certain time the trail was lost and the robbers escaped. About a week later one of the Mexican trailers was walking along the principal street of Tuscon. Using his eyes as he had been trained to habitually do, he noticed among the many tracks of all kinds in the street, a peculiar horse track. He followed this until it lead him into a Blacksmith shop and there he found, as he had anticipated, the pony of one of the robbers. The owner was arrested and conducted a posse to the retreat of the gang in the mountains, where they were captured.

FINDING YOUR WAY IN A STRANGE COUNTRY.

Map Reading:

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Instruction in map reading begins in the N. C. O. School. It must be supplemented by practice on the ground. Take the soldier to a high point evorlooking the country. Teach him to orient the map by compass and by two known points on the ground and map.

Have him point out on the ground certain hills, roads, houses and streams as shown on the map, and vice versa.

Have him estimate distances to visible points on the ground and check them up by measuring on the map. Have him describe certain roads on the ground by distances, changes of direction, grades, etc., getting the necessary data from the map.

Then go on the road with the map, having him point out hills, roads, houses, etc., as shown on the map.

With a good map, a man may with certainty find his way through a country without other help, if he knows map reading. This too comes with practice.

Points of the Compass:

"The most reliable and necessary assistance in finding your way with or without a map is the direction of the points of the compass.

The compass itself is the surest means for determining direction accurately. You should know the variation."

Other means are:

The Sun:

With some practice a man can tell the direction within a few degrees as well as the time within half an hour.

We are told also the use of a watch and the sun in telling direction, a thing to make an experienced trailer laugh. He will tell as accurately by the sun alone.

At night, the North Star; also Orion and other constellations.

The Moon:

Its phase and position, helps determine direction and time even more accurately than the sun.

Vegetation:

This is more difficult and less reliable. It is stated that moss grows thickest on the northern side of trees.

The direction of streams may in some cases give help. But whatever be the means you are using to keep direction, they must be constatuly used as you move along, if you are depending upon direction to find your way.

A winding sream or ravine you are following may easily throw you out of your direction unless you note its changes of direction.

FIELD TRAINING FOR CAVALRY.

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Landmarks.

Mountains, peculiar trees, streams, houses, etc., should be noticed as you go along and you should note their appearance as you look back on them if you are to return by the same route.

A failure to note landmarks is responsible for more getting lost than perhaps any other carelessness. Most older officers can recall cases of men lost under circumstances that would appear impossible.

When lost the first impulse is to hasten. It should be curbed. The man should be taught to sit down and calmly think the situation out. If this does not clear matters, he should follow his back trail, if he do so certainly. Otherwise his best course may often be to stay right where he is till found.

To teach a soldier to find his way have him practice in:

- 1. Noting by compass or by some distant lankmark the direction he starts in.
 - 2. Note small landmarks.
- 3. Often while going along note the directions of distant landmarks.
- 4. If he is to return over same route, let him by blazing trees, make his own landmarks. This particularly applies to night work.

USING YOUR EYES AND EARS.

Baden-Powell says:

"Quickness of eye and ear give a scout great advantage. Quickness of eye is a matter of training. It means an ability to see an object the moment it is within possibility of being seen, whether before or behind you, far away or near."

A moving enemy is easy to see. Common sense and a little reflection will often suggest to you the most likely points to look at to find him.

A wisp of smoke, the glint of a rifle barrel has often betrayed the presence of an enemy.

To see these things the eye must be alert and continually on the lookout.

Another point to remember, when you see a suspicious sign, do not stop to look at it but go on so as not to arouse suspicion.

Training in looking at distant objects is necessary. Cattle may be reported as horses, walls as troops, etc., etc., by an untrained observer.

Besides looking at distant objects watch also for those close by.

The ground under your feet may have its footmarks, hoof prints, wheel-ruts, trampled grass, ashes of fires, etc., which will tell their tale like a book.

Hunting an enemy is like hunting game. You must learn all you can of the ways of the enemy.

At night especially, the sense of hearing is most useful, when the hoof-beat of a horse, or the tones of the voice carry further. The sense of touch may also help you at night. You are following a trail; it is dark, you do not want to strike a light: you feel in the trail for hoof-prints."

Exercises in teaching yourself these points may be devised. •

- 1. With a pair of field glsses get on a high point, look at distant objects, see what you can make of them, correct your estimates with the glass.
- 2. With the glasses find some object in the far distance, then gaze at it until you can see it with the naked eye. After wards try to find objects at the same distance with the eye.
- 3. Ride along a road trying to take notice of unusual objects. Question each other as to when and where certain objects were seen.
- 4. In a party let each individual try to be the first to point out certain classes of objects, as for instance all living creatures that may be seen.
- 5. At night walk out and practice listening for sounds and interpreting them.

KEEPING HIDDEN FROM THE ENEMY.

- "1. While using your eyes keep yourself hidden.
- "2. You can see twice as much of the enemy's doings if he does not know he is being watched.
- "3. All your movements should be carried out as far as possible under cover.

- "4. In open country move quickly from one shelter to another.
- "5. Back-ground: When standing still select your back-ground.
- "6. When close to an enemy learn to walk without noise. Avoid breaking twigs, kicking stones, knocking over loose stones, etc.
- "7. You may often hide your horse in a ravine in bushes, etc., and go to a good lookout nearby.
- "8. In selecting your lookout see that there is more than one way of getting out. If in a tree stay near the stem or lie along a branch.
- "9. Do not show yourself on top or sky line of hills. In war keep yourself and your intentions as much concealed from the enemy as possible. Go nearly to the top of a hill then look over it."

Practice:

- 1. Divide your scouts into two parties. Nos. 1 are sent out along a road to go a certain distance only, say one-half mile. Each is to hide his horse within a certain distance of the road, say 200 yards, and himself within, say 50 yards, at a point whence he can see the road and those who pass on it.
- Nos. 2, ride along at a walk looking out for Nos. 1 and their horses. After passing over the one-half mile, observations are compared as to what each No. 2 has seen. If necessary ride back and have each man and horse pointed out and discuss why each was seen.
- 2. Practice the above by having the Nos. 1 within sight but sitting perfectly still with a protecting background. Try both the above with Nos. 2 moving at a trot.
- 3. Nos. 1 ride together across country. They dismount and conceal their horses; then walk back 100 or 200 yards along the trail and lay in ambush with in 30 yards, say, of it. Nos. 2 follow the trail and endeavor to prevent being fired upon within a certain distance.
- 4. Have a small party go into bivouac within one mile of the starting point, concealing themselves and horses and

establishing a lookout. A second party endeavors either by trailing or simply by searching to locate the bivouac. Any member of this party who approaches with 50 yards of the bivouac or the lookout without discovering either to be captured. Many other exercises on these lines may be devised.

Practice in sketching and writing messages must not be neglected. You can easily get up courses in these.

A man who is skillfully trained on the above lines can if he be a good subject and devotes much of his spare time in practicing become a valuable scout.

Leading a patrol of such well trained men becomes with some practice easy.

Much is said of patrolling in the Field Service Regulations and in the Tentative Cavalry Service Regulations.

You will note that reconnoitering patrols are usually small, that they fight only when necessary for self defense, that they endeavor to sneak through the country without being seen, that they must constantly keep in mind their mission, the kind of information they were sent out to get, that they travel in a formation to prevent all being captured at once.

Larger reconnoitering patrols are used when it may be necessary to push through enemy patrols to get the information desired, but they too must remember that the killing of enemies is no part of their mission unless this be necessary to get on or get away.

A patrol once discovered is greatly hadnicapped in its operations. Concealment and a firm determination to get the information at any cost are the main things to remember.

In selecting your men to train as scouts it will be a great help to take the men who did well in this work last year. Their education was at least begun; it may not even then be finished this year.

But even when discovered a patrol may often by putting up a bold front accomplish its object. In 1900, in China, I was sent with six men to connect with our forces a mile to our left. At this time the American Army was advancing on Pekin and had arrived about five miles from the city. The British Army was on a parallel road a mile to our left. The country was flat, covered with high corn, with small villages every few miles.

The weather was hot and this with the high thick corn made it impossible to remain in the corn for any length of time.

I had arrived near the point where I expected to find the parallel road and the British. I saw some 400 yards ahead the trees indicating a village and heard loud talking by many men. I could not tell whether these were Chinese troops or British East Indians. So I dismounted and crept forward. When within 200 yards of the village some eight or ten dismounted Chinese soldiers came out toward us; and seeing us ran back into the village. Concealment was no longer possible; I did not know how many Chinese there were; and I considered I ought to find out before going back. I ran back to my horses, mounted and charged through the village. There were about 200 to 300 Chinese soldiers in it, very much alarmed and being uncertain how many foreigners there were coming, they confined their efforts to a few scattered shots and to getting mounted and leaving.

I do not think we could have found out their numbers in any other way. Of course this would not have been practical with good troops in the village.

The scouts of the Tenth Cavalry are now being trained by the method outlined above, and we shall give it a fair trial, with what results remains be to seen, but at least we think that there will be results superior to any hap-hazard system or to no system at all.



THE CAVALRY IN THE PRESENT WAR.

BY LIEUTENANT ELBERT E. FARMAN, JR., SECOND CAVALRY.

"HE cavalry has been little heard of because it was always well out to the front where correspondents could not see it," said, in substance, an American War Correspondent, who had just returned from the western theater of war. This, and the magnitude of the armies engaged which has delayed the detailed reports of operations, have prevented our hearing more of the work accomplished by the cavalry.

The lack of publicity given to the cavalry in this war has been most unfortunate for that branch of the service in this country. People are much influenced by what they read in the daily papers and magazines. They have been filled with sensationally illustrated articles showing combats between aeroplanes and dirigibles, armored automobiles charging down a road, and similar things to appeal to the popular fancy, always more interested in something new and unexpected.

While no one doubts the great value of the motor car and the aeroplane in modern war, much has been written that was greatly exaggerated and some absurd ideas have been advanced. Writers were naturally influenced by what they saw and, during the days of the advance and retreat, being confined to the rear, they saw a great deal of the use of automobiles, something of aeroplanes and heard the firing of the artillery, but they were rarely allowed where they could see anything of the cavalry operations.

We have all read General French's tribute to his cavalry during the trying days of the retreat from Mons. Again during the battles in the north arcund Ypres when the cavalry corps, supported by a few other troops, held off for forty-eight hours the attack of very superior German forces, it is said: "The cavalry saved the Allies from disaster on this day. No lan-

guage can express the debt which the Empire cwes to Allenby's men."

The limited data available shows enough to make it certain that when the story of this war is known, it will be found that the cavalry played an important and at times decisive part. The absurd statements as to the day of the horse having passed are belied by the facts. Cavarly, of ccurse, never was intended for the attack of intrenched positions and the fact that after several menths of war, the limited extent of the western front caused the opponents to settle down to siege operations, does not effect the value of the work of the cavalry during the early stages of the war and only enhances its value under the conditions which exist in this country.

In time we shall know in detail from our observers and from the official reports all about the rôle played by the cavalry in this war, but meanwhile it is thought these notes may be of interest. They were obtained from many different sources German, French, English, from official reports, notes of correspondents, and from the writings of those who actually took part in the operations.

The cavalry has fought both mounted and dismounted. But charges of large bodies were not usually successful, were little used, and often costly to the attacker. It appears that both sides soon realized that the true rôle of cavalry was far more that so successfully used in the American Civil War than that which has been taught us lately. The Germans seem from the very beginning to have profited by the teachings of Bernhardi. We hear French officers, from the earliest days of the war, complaining that the German cavalry would not meet them in the open but always retired behind a firing line. There are several examples on both sides of cavalry defeated or feigning defeat, fleeing and leading their pursuers under machine gun or rifle fire.

A German officer gives an account of such an action at which he was present. German cavalry charged French cavalry. The French were overthrown, "many of their men had lost their lances by running them through the bodies of their opponents, so they drew their sabers and used them effectively in the mêlée." The French supports then charged.

The German commander at once rallied his men and fled before the advancing French horsemen. These followed and were brought under the fire of dismounted cavalry on the edge of the woods.

A French cavalry officer says: "There are no longer massed charges in which thousands of men collide in a formidable shock, but engagements in detail in which ruse and decision play the greatest part. The side which succeeds in surprising the other obtains the advantage."

In small bodies charges seem frequently to have been successful. A force of a platoon or two when coming suddenly upon the enemy by resolutely charging frequently came out ahead in cases where to dismount to fight on foot would have meant disaster. There are many cases of this. The first cross of the war was given to a French cavalry officer for just such an action.

Charges of large bodies were less frequent. Although there are no details at hand of the actions, the reports mention two successful mounted charges of British cavalry brigades against German cavalry during the retreat from St. Quentin. In general, however, cavalry fights are merely mentioned by stating that "our cavalry met, and, etc.," without giving the details of the methods of fighting.

The British cavalry, as a result of their African experience took more readily to dismounted action than did the French. The English, both in official dispatches and the reports of correspondents were loud in their praise of their cavalry.

German reports state that "cur success at St. Quentin was mainly due to our cavalry which attacked the British with energy, detained them until the arrival of one ccrps (infantry)." Further, they state that "our movements (before the battle of Mons) were completely covered by our cavalry which spread out over the whole ccuntry."

Such instances might be multiplied to show that those who have thought that the cavalry have accomplished little have made no effort to inform themselves correctly.

We find repeated and typical examples of the employment of cavalry in all of the uses laid down in our regulations, except in that of a raid on a large scale, which the comparatively 628

limited field for action did not permit. The Germans, however, in the earliest days of the war, appear to have attempted such a raid with a large force of cavalry which descended through Luxemburg and attempted to pass by Longwy with the apparent intention of cutting the railway to Verdun, but the whole country was too densely covered with French troops and they were driven back.

In the work of reconnaissance the task of the cavalry has only partly changed. The aeroplane appears to have only partly taken the place of cavalry, which has never been much used to determine what was going on behind the enemies' lines and at a great distance. On the other hand for near by reconnaissance the cavalry seems to have been continually used. At times because the hostile airmen prevented aerial reconnaissance, at others, and this was especially the case during the late September and October campaign in northern France, because the weather rendered aeroplanes useless. It appears also that both sides quickly learned to conceal themselves from aeroplanes so that only the movements of large bodies could be ascertained. The instance of a French patrol covering 180 kilometers in 49 hours to obtain some valuable information, for which its commander was decorated, shows that cavalry was still used to reconnoiter even at a distance.

The pursuit of a defeated army and the covering of a retreat have been regarded as among the important duties of cavalry. That the cavalry on both sides was extensively and effectivey used for this purpose we have excellent examples. The work of the British cavalry from August 24th to September 3d and of the German cavalry, especially of von Marwitz's corps, from September 6th to the 15th are splendid examples of the latter, while those same forces showed that they were invaluable at the former during the same period, the rôles being reversed.

As a mounted reserve to quickly reinforce the firing line, the English gave an excellent example at Mons and again at the Aisne on September 14th, and later in northern France, there are many examples of this.

To seize and hold important positions until the arrival of the main forces is another important use of cavalry. There

As to the effect of the use of automobiles upon cavalry, it is apparently not nearly as great as might at first thought seem probable. It must be remembered that for the effective use of automobiles roads are required, this notwithstanding the fact that especially constructed cars can go across ploughed fields and over very rough ground. This limits their employment to any great extent to the rear of the fighting forces. They were extensively used to transport troops, taking in this respect partly the place of railways. But in the pursuit of an army, when as invariably happens, the bridges and roads will be destroyed, the automobiles cannot for years take the place of cavalry. The delay occasioned by the destruction of a single bridge over a river which cavalry could swim or ford would far more than compensate for the advantage of the motor car.

THE ENGLISH CAVALRY.

The records show the following cavalry in the British army before the war: In Great Britian and Ireland—three guard and sixteen line regiments—some 12,000 men according to the British authorities, (Loebell gives 14,000); in Egypt and South Africa—three regiments; in India—nine regiments, (in addition to native regiments.) The Yeomanry, according to Loebell, consisted on paper of fifty-five regiments of four squadrons. These were of no value for immediate use. The British cavalry outisde of Great Britian and Ireland numbered

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about 5,000 and elsewhere 2,000. The strength of the cavalry of the army reserve was about 10,000, a total of nearly 20,000 trained men. Some regiments had to be left in India.

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The cavalry of the expeditionary force consisted of five brigades of three regiments each. The cavalry division under General Allensby consisted of the First-General Briggs, Second—General De Lisle, Third—General Gough, and Fourth -General Bingham, and four batteries of horse artillery. The Fifth Brigade—General Chetwode—was an independent brigade. Each regiment had three squadrons and a depot squadron, and each also had two machine guns. The squadrons were supposed to have 150 men each although Loebell gives the war strength as being much more. The peace strength of each regiment included the depot squadron which was left behind. The strength of their cavalry division being 10,000 men, would show that, even with a large allowance for artillery and noncombatants, about 650 men to a regiment. According to German reports, the original expedition had eighteen regiments of cavalry. Each infantry division had, according to some authorities, a squadron, according to others, a regiment of divisional cavalry.

On August 22d the British army was in position at Mons. Its right was covered by the Fifth Cavalry Brigade towards Binches. The cavalry division in rear formed a strong mobile reserve and also provided detachments to cover the left and front. The British cavalry patrols covered the roads as far as Soignes, twenty-five kilcmeters to the northeast. There was a considerable gap between the French left and the English right which was covered partly by the British and partly by the French cavalry. There were no allied troops near the British left.

From reports received from General Joffre it appeared at first that there were only small forces in front of the British, however, before the battle, reconnaissance and reports had shown that a considerable force was approaching. Although it does not appear that the British were surprised by the German attack, they certainly did not expect it in such strength. The Germans give great credit to their cavalry which they say: "Under von Marwitz spread out over the whole country from

the moment they crossed into Belgium and effectively covered their movements." The Germans attacked with great vigor. Among the incidents of the battle was a mounted charge by German Cavalry which appears to have been unsuccessful.

On the 24th the hard pressed British began to withdraw. Then was shown the value of the cavalry reserve. General French to cover this rereat sent the cavalry division against the German right. The cavalry had commenced the attack when it was called to the aid of the Fifth Division of Smith-Dorien. By energetic work they succeeded in disengaging the division and then covered the retreat of the whole British army. It was during these efforts to relieve the Fifth Infantry Division that occurred the famous and unfortunate charge of De Lisle's Brigade. The order was given to attack the German guns. The ground seemed ideal for a charge. When within a short distance of the Germans they were received by the fire of some twenty concealed machine guns. Most of the British gave way to one flank but the Ninth Lancers continued straight ahead and ran into a barbed wire entanglement concealed in the grass. Although they suffered very heavily, a third of them were able to answer at roll call on the following day. A few days later this brigade successfully charged and drove back a German cavalry brigade.

On the 22d General French had requested assistance from the French Cavalry Corps under Sordet which was billeted at Avesnes. Sordet gave valuable aid but on the 26th his horses were so exhausted that he could do nothing. This Cavalry Corps had been doing heavy fighting and long marching in Belgium since the first French troops entered that country.

On the 26th, the most critical day of the retreat, the cavalry did splendid work but became much shattered in the course of the day. The retreat continued on the following day, new greatly aided by Sordet's cavalry which relieved the pressure on the British.

The Germans state that: "The signal victory over the English at St. Quentin was largely due to our cavalry which pressed on and held the British until the arrival of one corps (infantry)."

de de la reserva

On the 28th the British were retreating towards the line Compiegne—Soissons, their rear being well covered by the cavalry. The German cavalry was pursuing in two columns. The western column at the head of which were Uhlans was charged by the Third British Cavalry Brigade and completely routed, while the Fifth Cavalry Brigade attacked the eastern column and by a mounted attack drove it back "the Twelfth Lancers and Royal Greys riding down the enemy and killing many with their lances." On the following days, the English retreat, covered by the cavalry, continued.

On September 1st (some reports say August 29th), a German cavalry force under von Marwitz, (a corps according to some and only a division according to others), was met in the forest of Compiegne by the British First Cavalry Brigade and some infantry. At first the Germans were successful in capturing a British battery, but were finally defeated with the loss of many prisoners and guns. The Germans mention this only as the engagement of a detachment of cavalry, but they later admitted the loss of ten guns.

On September 3d, the retreat really ended. The armies being in close contact the cavalry forces withdrew to the flanks of their respective armies. The British, however, especially on the left, continued to withdraw so that for a day only the cavalry remained in contact. The British Cavalry Division was on the right of their army, connecting with Conneau's Second French Cavalry Corps which had been moved up from Lorraine and filled the gap between the British and the Fifth French Armies. The Third and Fifth British Cavalry Brigades were on the left flank.

Sordet's Cavalry Corps moved in rear of the British and joined the new Sixth Army.

Von Kluck, who was not in close contact with the British on the 5th, sent his Ninth Cavalry Division west of Crecy, his Second Cavalry Division towards Coulommiers to feel for the movements of the British.

On the 6th the advance of the latter began by their cavalry attacking the Germans. In the forest of Crecy they defeated the Ninth German Cavalry Division while the Second German Cavalry Division was also driven back near Coulommiers.

On the following day occurred a tremendous cavalry fight near the Grand Morin to which the British had advanced. The Second and Ninth and Guard German Cavalry Divisions (72 squadrons), under Marwitz had been ordered by von Kluck to hold off the British advance to enable the withdrawal of his right which was being driven in by the Sixth French Army. A glance at the map will show the critical position of the Germans and the importance of the task assigned to Marwitz. The attack of the Sixth French Army had obliged von Kluck. to send troops from his left to his right on the 6th. This resulted in his two fronts, which were nearly at right angles to each other, having a considerable gap between them, thus nearly exposing two flanks to the advancing British. The Second, Ninth and Guard Cavalry Divisions and perhaps others, with some infantry supports and artillery, had the difficult duty of covering this salient and the withdrawal of the German Armies.

Von Marwitz was holding the line of the Grand Morin from Pommeuse to Chauffry, north of Coulommiers; one of his divisions was at Boissey-le-Chatel and Chauffry, one at Pommeuse and Mouron, a third six kilometers north of Coulommiers. At 10:00 A. M., the First British Corps was at Maisoncelles the Second at Coulommiers and the Third at Lagny.

The British cavalry was to press the Germans back, giving them no chance to take up a good position and to sieze the bridges before they could be destroyed. The reports say: "Our cavalry (the British) acted with great vigor, especially General de Lisle's brigade." It is worth noting that this was the brigade which had been in the charge near Valenciennes.

The cavalry on both sides fought hard. By noon von Marwitz had retired across the Grand Morin, closely followed by the British cavalry who pursued him on across the Petit Morin. By night the German cavalry was near Bussieres with rear guards near Orly on the Petit Morin. The British cavalry which had tried to turn the Germans on the northeast, had their headquarters east of Choisy.

On the 8th the Germans were retreating everywhere. Von Marwitz was still doing his utmost to hold off the pursuit by the British cavalry and their advance detachments of in-

fantry. After a severe engagement the cavalry crossed the Petit Morin above La Tretoire north of Rebais.

Von Marwitz then tried on the 9th to hold back the British advance towards Charly and Nanteuil-sur-Marne, but after severe fighting near Montreuil-aux-Lion, he was obliged to retire, and at daybreak, on the 10th, the British reached the line of the Ourcq. The Second French Cavalry Corps on their right passed Neuilly-Saint-Front and Oulchy-le-Chateau

The First and Second British Corps with the Cavalry Division on the right and the Third and Fifth Cavalry Brigades on the left (the Third Cavalry Brigade had about this time been detached from the cavalry division and with the Fifth Brigade soon was known as the Second Cavalry Division) continued to drive the retreating Germans northward.

On the 11th the advance cavalry of the British reached the line of the Aisne. The Third and Fifth Cavalry Brigades scuth of Soissons, the First, Second and Fourth Cavalry Brigades at Courcelles and Criseuil. On the 12th the Cavalry Division drove the Germans out of Braisne after a hot fight and followed them to Bourg. On the 13th, at Bourg, an infantry brigade had crossed to the north of the canal. They were hotly engaged and a cavalry brigade hurried to their assistance. Two regiments had crossed the pontoon bridge when the Germans began shelling them. After remaining a me three hours, being no longer needed and finding no cover for their horses, they withdrew across the bridge in full view and under severe artillery fire of the Germans. Yet only a few were wounded and one killed. By night, the entire First Infantry Division had crossed, supported on the right by the cavalry division.

On the 14th occurred and excellent example of the value of a cavalry force to reinforce rapidly a part of the battle line. Part of the British army only had crossed the Aisne. The First Corps was directed to seize certain positions beyond the north bank which were later of great importance to the Allies. At about 1:00 p. m., after severe actions lasting since early morning, the Third Division had been held up near Troyon, the Second Division, the Guards Brigade which had crossed at Chavonne, had encountered severe opposition and could not advance. The Germans were assuming the offensive and suc-

ceeded in penetrating, to the left of the Guards Brigade, between the Second and Third Divisions, threatening to cut the latter's communications. Sir Douglas Haig, commanding the corps, had no more reserves and appealed to General French who sent the First Cavalry Division. After severe dismounted fighting, they dreve the Germans back with heavy losses. The cavalry then extended the infantry line and by night the British held positions from northeast of Troyon through Chivy. The work of the cavalry on this occasion was of the utmost value and their prompt arrival and hard fighting saved the very critical position of the First Corps.

The rôle played by the German cavalry during the retreat to the Marne had been of the greatest importance. The safe withdrawal of the Germans depended largely on von Marwitz and another force of cavalry on the extreme right. On von Marwitz's cavalry, assisted by some infantry detachments, fell at all times the force of most of the British Army against the salient and scuthern flank of von Kluck. At the same time the British cavalry must be given credit for a vigorous pursuit which gave the Germans no rest.

Both sides now took up strong positions and the trench warfare began.

The cavalry which during the rapid movement of the last menth had contributed so much to the operations of both sides, sacrificing itself during the trying days of the retreat to save the hard pressed infantry, and always foremost in the advance, was now called upon for no less arduous and far less interesting work in the trenches. Here they fought on equal terms with the infantry, until the following month when the operations called "The race to the Sea" required all mounted troops and they were once more given an opportunity for the sort of work to which every cavalryman looks forward.

The battle line was being rapidly extended northward. The British which originally held the extreme left were now near the center. Their communications crossed those of all the French troops to the north. At General French's request, General Joffre agreed to transfer them to the north where they would join with the British forces under Sir Henry Rawlinson.

Hardly had the Germans held up the Allied pursuit from

their strengly intrenched positions when both sides began to attempt to turn their opponent's northern flank.

One army after another was successfully formed to the north, the Germans trying to extend their lines westward so as to reach the Channel ports, the Allies attempting to throw the Germans back into Belgium. In all these operations rapidity was of the greatest importance. The force which could arrive first on the scene and seize strong strategical positions had the advantage. Hence the importance of cavalry in this section. Both sides immediately began to transfer all available cavalry organizations to the north. But this could not always be done at once as the cavalry held in many cases important parts of the battle line. They were relieved by new organizations as soon as they could be brought up. The Cavalry Corps of von Marwitz which had moved to and remained on the German northern flank, as it was extended, had taken up a position just south of Arras towards the end of September. From this he was relieved by an infantry corps on September 28-30 to enable his and other cavalry divisions to form in the region between Lille and Roubaix. Here some German Cavalry Corps were formed early in October to take the offensive in the direction of Hazebrouck and St. Omer and cover the detrainment and formation of the German army which was to cut off the retreat of the Belgians, isolate the forces of Sir Henry Rawlinson and secure the road to Calais and Dunkirk. Not only did the Germans transfer most of their cavalry from all along the western fronts, but they brought from Germany with the greatest haste all formations which could be obtained, not only reserve cavalry regiments are found fighting here but Landwehr cavalry regiments, Lanstrum, Eratz and reserve Ersatz Abteillungen were all hurried to northern France.

By the middle of October they were reported to have four corps of cavalry near the Lys. The German records show at least seventy active regiments, twelve reserve regiments and twenty-four squadrons of Landwehr, Landstrum, etc., as having taken part in the actions in northern France and Belgium between October 12th and November 30th. Behind these large cavalry forces the armies were safely brought up to their

positions. Meanwhile the Allies were also concentrating their cavalry to drive out the Germans.

Soon after the armies reached the Aisne, the Cavalry Corps of Conneau was sent north. It, with Mitry's Cavalry Corps, were gradually moved north as the line was extended, so that by the latter part of October the ten French cavalry divisions, with the possible exception of the Second, were in northern France. The Algerian cavalry had joined by the middle of October and the Indian cavalry division of the British army also took part in the fighting around Ypres. With the arrival of the British early in October there were concentrated in northern France tremenduous forces of cavalry, equalling in numbers entire armies of the last century.

From the beginning of the race for the sea the cavalry played a most conspicuous part. These great forces of horsemen engaged in innumerable actions varying from the encounters of reconnoitering squadrons to pitched battles in which whole corps of cavalry and horse artillery fought. It is to be regretted that so far few details of this fighting is available, but from the few reports avilable it is certain that the cavalry of both sides showed, as they had during the previous month, that the cavalry is as necessary to the success of military operations as ever.

THE OPERATIONS OF THE BRITISH CAVALRY IN THE NORTH.

Before describing the operations of the British cavalry in the north, a glance at the general situation is necessary.

After the early fighting around Arras and along the Scarpe in which two French Cavalry Corps and two or more German Cavalry Corps took part, the continuous battle line was soon extended to this place. Von Marwitz occupied an important place in the line and could not be relieved by infantry until September 28–30 to again take his place in leading the extension of the line northward, although there were other forces of cavalry on the German flank. The line had been gradually extending itself nearly due north. In other words, the results of the efforts of the two armies was practically a draw. A greater effort was necessary as the line neared the sea, since the final result of this campaign depended so much on which way the line could run from Arras. In other words, whether

the Allies could turn it eastward to include possibly Antwerp, or the Germans could reach the Channel ports. If they could do this the Belgian army would be cut cff and the shortest line of communication of the English cut, to say nothing of the obtaining of bases for the much talked of, although perhaps never seriously considered, attempts at the British Isles themselves.

By the beginning of October, the Allied left was near Bethune, the German right opposite them at La Bassée. A little north of here runs the river Lys from west to east. Part of the river is canalized and canals run from near Aire to the Channel ports. North of the river and canals extends a range of hills running from the south of Yyres through the Mont-des-Oets. Here would be an excellent position for the Germans to turn the Allied line at right angles and run it due west.

The task of preparing the way for this move was assigned to von Marwitz. As we have seen at the end of September, he had formed three corps of cavalry to the south of Lille. On the 3d, the Germans occupied Ypres; on the 8th there were cavalry forces at Cassel and Hazebrouk, and outposts along the Lys. By the 10th, infantry forces were forming in rear, under the cover of the cavalry, and on that day Lille was cut off and bombarded. Could von Marwitz establish himself firmly along the Lys and hold until the arrival of large forces which were being hurried forward, the road to the Channel ports would be secured and the Belgian army and the English forces of Sir Henry Rawlinson cut off.

This force disembarked at Ostend and Zee Brugge on October 6-8. It consisted of the Seventh Infantry Division and the Third Cavalry Division (Sixth and Seventh Cavalry Brigades under General Byng). It has been sent as an aid to the Belgians but arrived too late and was too weak to do more than cover their retreat. Antwerp fell on the 9th, most of the garrison retreating westward. General Rawlinson's problem now was to prevent the Germans from the south cutting off the retreat of the Belgians and also separting him from the Allied left.

General Joffre, forseeing the importance of the German move near Ypres and along the Lys, had started the formation of a new army to fill the gap from his left to the North Sea.

General d'Urbal, who was to command, had at this time only small forces of infantry and some cavalry at his disposal.

To prevent the Germans from advancing through Ypres towards Bruges, General Rawlinson moved towards the former place. On the 9th the Third Cavalry Brigade concentrated at Bruges and on the following day moved towards Ypres, the Sixth Cavalry Brigade reaching Thourout and the Seventh Rudderwoorde to cover the advance of the Seventh Infantry Division from the direction of Ostend. By the 12th the cavalry held the line of the river from Isegbem through Rooles to Oostmiewkerke. On the following day they reconnoitered towards Menin and Ypres, patrols reaching nearly to Comines and Wervicq. The cavalry division then held the line from Iseghem to Dadizcele to cover the entry of the infantry into Ypres.

On the 14th, it having been reported that considerable bodies of the enemy were retreating eastward towards Comines and Wervicq, the cavalry division passed through Ypres (French cavalry from the northwest on the 13th), it being the intention to cut off these forces. The Sixth Cavalry advanced to the line La Clytte—Lindenhoek, the advance parties keeping on towards Neuve-Chapelle, capturing many Germans, but no large bodies were met, although firing could be heard in the direction of Bailleul. That afternoon contact was established with the patrols of the Second Cavalry Division. The German forces escaped in time to the southeast. The Sixth Cavalry Brigade was billeted that night at Wystchaete, while the Seventh Cavalry Brigade on the north was at Kemmel. The marching had been very hard, many organizations having covered over fifty miles this day.

The transfer of the British army from the Aisne had begun on October 3d with the departure by marching from Compiegne of the Second Cavalry Division (Third and Fifth Brigades). The British army was to take position with its right resting on the Bethune—Lille road, connecting with the left of General Maud'hey's army. The first corps to arrive, the II, was to form on the right with Conneau's cavalry corps on its left and the British cavalry corps on Conneau's left. The British cavalry was to move north as the other corps successively

arrived, leaving Conneau between the II Corps and the next to arrive, the III. The British army had detrained in the direction of St. Omer and were ready as planned beforehand on October 11th. The plan was for the II Corps, with Conneau's cavalry corps on its left, to swing on its right, clearing the Germans from the region south of the Lys, and then, by an advance eastward and southeastward, through the German position at La Bassée, the present right of their line. The III Corps and the British cavalry corps, two French divisions and a French cavalry corps (De Mitry's), were to advance north of the Lys and drive the Germans from the region of the Ypres and join with General Rawlinson.

Two days before, on the 9th, Conneau had sent a force of 2,000 Dragoons from Aire to drive the German cavalry out of Merville and Estaires. The river was deep and the current swift but a troop swam across, west of Merville, with a rope which was stretched from bank to bank and aided by this the whole force swam across during the night and drove the Germans eastward towards Estaires. There appears to have been but a small force at Merville, the Second Uhlans and perhaps one other regiment (German reports).

The real advance began on the 11th by the Second Cavalry Division driving the German cavalry from the woods on the north of the Bethune—Aire canal. Part of the division crossed the Lys and continued on the north side, connecting with the divisional cavalry of the III Corps near Hazebrouck, while the remainder on the south joined with Conneau, who during these days did splendid work (French statement.)

On the 12th the Second British Cavalry Division (the detachment south of the river joined it), continued its advance, passing through Fletre and attacking the Germans on the Mont-aux-Oets and continuing on the 13th, on which day they had engagements in which they defeated the Germans. During this day, a British cavalry patrol came suddenly upon a German detachment and at once charged and captured it.

On the 14th, the First Cavalry Division, having joined the Second on the north, the whole corps of cavalry advanced and, after a hot fight, seized the ridge near Westourte. There were numerous engagements on this day, the Germans retiring

everywhere, and towards evening contact was established with the Third Cavalry Division's patrols northeast of Neuve Eglise. Thus were the armies from the south and north joined. The rapid work of the cavalry had prevented, just in time, the Germans from strengthening their positions and holding the line of the Lys on the ridge to the north.

On the 15th, the Third Cavalry Division remained in the positions of the night before and on the 16th it was sent back to the northeast of Ypres to guard against the advance of the Germans from that direction. German cavalry was already holding the forest of d'Houthust. Around here the Seventh Cavalry Brigade had small engagements during the day. At night it was relieved by the French and remained at Passchendaele, the Sixth Brigade of Cavalry being at Nieuwemolen to the south, while the Seventh Infantry Division held the line Zonnebeke—Gheluvelt. The cavalry corps was further north on the Lys.

On the 17th, General de Mitry's Cavalry Corps, on the north of the Third Cavalry Division, drove the Germans out of the forest and occupied Roulers after an engagement with the German cavalry, which returned with reinforcements the following day and retook the town. Meanwhile, on the 15th, the cavalry corps having established contact with the Third Cavalry Division the night before, advanced towards the Lys below Armentieres and by night all the bridges above this city were held by the Allies who also occupied the north bank for several miles below. The Germans held Armentieres on the south bank and Warneoton on the north. On the 16th the British cavalry drove the Germans out of Warneoton during the night but the bridge here had been partly destroyed. During the day the bridge at Armentieres was seized before it could be destroyed and the Germans retired from the city. Thanks to the rapid advance of the cavalry corps nearly all the bridges over the Lys were seized before they could be destroyed.

General French now proposed to seize Menin and the line of the river as far as that town. Rawlinson, leaving the Third Cavalry Division to cover his left, which was dangerously threatened by the Germans who were near Roulers, was to advance from his positions at Zonnebeke-Zandwoorde on to Menin, the Third Corps was to move along the south bank of the Lys while the Cavalry Corps operated on the north bank. During the 17th, 18th and 19th, the whole British Army, less the corps just detraining to the rear, with Conneau's Cavalry Corps was seriously engaged, partly on the offensive, but on both flanks the Germans were the assailants. The attempted advance had exposed the left of Byng's Cavalry Division. His left brigade, the Seventh Cavalry Brigade, was driven back by forces coming from Roulers, and the Sixth Brigade, after severe fighting, drove the Germans from Ledegehem and Rolleghemcapelle. The retirement of the left so exposed them they were obliged to fall back when reinforcements for the enemy began to arrive from Courtrai, and they finally spent the night at Poelcapelle, their withdrawal being covered by the Seventh Cayalry Brigade which retired to Zonnebeke, the French troops covering their left. Thus the attempt to take Menin was unsuccessful.

The Cavalry Corps, II and III corps, could only remain on the defensive, meanwhile the I Corps which was near St. Omer and Hazebrouk, was to attempt to advance on Burges to cut the communications of the enemies forces on the Yser. The Third Cavalry Division was to cover their right flank Mitry's Cavalry Corps their left.

The strong offensive of the Germans completely stopped this movement before it was really started and the Allies were placed on the defensive.

The line from the sea to Switzerland was now formed and has varied but comparatively little since the armies of both sides dug themselves in and the cavalry as such could be little used. During the strenuous weeks passed it had suffered severe losses in horses as well as in men and by the end of October the cavalry corps had only some 4,000 troopers.

From now on it again had an opportunity to show that besides doing the work of cavalry it could fight dismounted as well as the best infantry. The cavalry did splendid work in the trenches, second to that of no infantry organization both on the defensive and offensive. It had a few more rare occasions for mounted work to reinforce quickly the firing line and in at least one instance were engaged in a successful mounted action on

the 31st of October near Hooge when the Sixth Brigade drove out the Germans who had entered the forest.

It was during these days of the fierce battles around Ypres that the Cavalry Corps won such praise for its fine work in holding out for forty-eight hours against two German Corps.

In the latter part of October the Indian divisions were first employed. They had a cavalry force, several brigades, which went into the trenches along with the infantry. At least four Yeoman regiments also arrived about this time.

[To be continued. French and German Cavalry.]





CAVALRY IN THE EUROPEAN WAR.

THE daily official bulletins, issued from the military headquarters of the warring European nations, are so brief that they afford little information of value, but in the German army there are issued certain reports from General Headquarters in the form of a field periodical called the "Parole," that are frequently of great interest. The following translation from No. 145 of the parole gives proof that on the Eastern front, (that is, where warfare is not confined wholly to trenches) the cavalry is fully as effective as in wars of the past.

German Army Cavalry East of Wilna:

The following is communicated from the Great Head-quarters:

As the ——— Army was working toward Wilna after the fall of Kowno, its advance was accompanied on the left wing by a streng German Cavalry Corps along the Wilkomiers—Uzjany road.*

It will be worth while to follow these movements of our Army Cavalry, to gain a picture of the great and varied problems imposed upon the mounted arm in the present war and to appreciate fully the achievements which will remain a glorious recollection of the splendid deeds of the cavalry spirit.

On September 9th the Cavalry Corps, consisting at first of three divisions, appeared on the right wing of the Niemen

army in order to operate tactically with it in the advance against Dünaburg. Chains of lakes, rolling and wooded terrain and numerous water courses on both sides of Dünaburg road constituted the natural means of defense for the successive and closely spaced Russian positions. A close net of rifle trenches and wire entanglements made all movements difficult. Under these especially extraodinary difficult circumstances for the employment of large cavalry masses, a double task was imposed upon the cavalry corps; to facilitate the advance of the right wing of the army by constant flanking threats and to drive the Russian cavalry off the field.

Difficult but thankful tasks for the German Cavalry leaders and their splendid arm of the service.

The first problem was solved by fighting on foot with firearms. Constant menace against his flank by our Cavalry Corps induced the enemy to evacuate his strong positions, generally after short combat with the infantry attacking in front. Under the pressure of the flanking cavalry, positions were given up which otherwise could have been taken only after bitter attacks with heavy losses.

Even the unusually strong section of the lake defiles at Antalogi* could be held for a short time only against the flank attack of a cavalry division made on September 11th from the scuth via Pokolne, the enemy soon retiring in haste. The infantry of the Niemen army greeted joyfully and thankfully this success of the sister arm which spared the blood of many a brave rifleman.

At the same time Russian cavalry masses south of the great highway were driven back on Kukuzischki, the second problem makes the heart of every German mounted man beat faster. It meant: Forward—at the hostile army cavalry! But the warm desire to be permitted to attack and defeat on September 12th, the cavalry assembled at the lake defiles of Taurogina* and north thereof was frustrated by the enemy. The Russian cavalry masses hastily pulled out before our cavalry divisions breaking forward over the line Dawgeli-Taurogina. The corps now received orders to support the operations of the ———— Army east of Wilna, in the

^{*}Seventy kilometers northwest Wilna, Uzjany half way Wilkomiers to Dunaburg.

^{*}In environs of Uzjany.

first instance, by a strong pressure against the Russian north wing and later by a wide reaching movement against the enemy's rear. Under the flank protection of one of its divisions the Cavalry Corps at first advanced via Kukuzischki-Labonary* on Mal. Meshany,* twelve kilometers west of Swenzjany on the Wilna-Dūnaburg railway and via Taurogina on Koltyniany.

The forested terrain, intersected by numercus lakes and swamps, of itself already afforded weaker detachments the possibility of a stubborn resistance. The problem, however, demanded a rapid gain of ground in a scuth-easterly direction. Without any hesitation the defenders of the railway west of Swenzjany and at the lake defiles at Kottynjany were attacked and beaten. In spite of the hostile resistance, in spite of unfavorable terrain with its heavy and soft roads, the Cavalry Corps crossed the railway line as early as September 13th, cut it at important points and on the same evening, reached the vicinity of Lyntupy.† The occupied chateau property was attacked and a sotnia of cossacks driven therefrom. A number of these mounted people were captured without trouble. They lay about in piles, drunk, among the buildings of the distillery. They had carried out with thorough zeal the orders of their leader and let run away the alcohol stored here, but had put their own interpretation upon the proper carrying out of orders received. Be that as it may more than 40,000 liters of alcohol were seized.

At Lyntupy measures were at once taken for interrupting the railway line Molodeczno-Poloczk. For this demolition detachment under Rittmeister von Pappenheim consisting of two squadrons, cyclists, four machine guns, one field gun and picneers left the same night to destroy the railway at Krzywicze.‡ Rittmeister von Pappenheim reached the railway at the directed point, attacked without hesitation a Russian battalion coming from Molodeczno, and drove it back and broke the line. A long train loaded with material for ramps was burnt while a loaded Russian gun, which could not be taken along, was blown up.

The 14th of September brought for the Cavalry Corps the continuation of the march directed in a broad front against the rear of the Russian Army and its communications over the line Zodziszki—Dubatowka*—Nowy—Miadzjol (east of Lake Narocz.) This undertaking was as bold in its decision as it was regardless in its execution, a mounted advance directed against the life arteries of any army threatened on both flanks, a dash of the dreaded black-white lance pennons far behind the Russian front! While the tongue of an iron pincers in the shape of the infantry divisions of the ——— and the ——— armies were being applied about the flanks of the Russian forces in the north and the scuth, the German Army Cavalry commenced its fresh and insistent work in the east in rear of these forces.

There appeared but a single escape for the enemy—the section between Lake Swir and the Berezyna swamps south of Wischnew.⁺ This section as also the railways leading from Molodeczno to Wilna, Lida and Minsk, and from Minsk to Smolensk formed the new objectives of the boldly planned and brilliantly executed movement of our Cavalry Corps.

Two cavalry divisions moved against the aforementioned railways over the Wilia on Soly and Smorgon. The third division was at first directed against the railway Wilejka—Poloczk.

Our cavalry made its presence felt behind the enemy very soon and very effectively. Already at Lake Miadziol a column of some 500 wagons with provisions and equipment was captured. A Jager battalion, detailed to the cavalry, was placed upon the wagons in order better to be able to follow the rapid movements of its cavalry division. At Babatowka a number of Russian Intendance officials were captured. They had with them a treasure chest containing 4,000 rubles public money. Cattle depots and supply camps of every kind were seized. The Russian Etappe district furnished the German cavalry all it needed.

The Wilia was crossed fighting, Smorgon taken by assault, the station at Smorgon demolished. The Cavalry Corps de-

^{*}Northwest of Swenzjany.

[†]Twelve kilometers southwest of Swenzjany.

tOne hundred and thirty kilometers east of Wilna.

^{*}Southwest of Narocz-Sees (lakes).

[†]Eighty-seven kilometers southeast of Wilna.

flected from Smorgon to the south-west and from Zodziszki in the direction Soly—Shuprany. It was next deemed expedient to hold together the main force of the corps in the region Soly—Smorgon against strong Russian Army Cavalry reported west and northwest of Soly and estimated at four divisions. The railway between Soly and Smorgon was interrupted by blowing up a crossing. A train which had just reached Smorgon was chased under a full head of steam into the blown up ruins.

The succeeding days witnessed heavy combats in the region Smorgon—Soly—Shuprany. On September 16th, the strongly held Soly was taken by assault. The town and country seat was taken with the bayonet by our cavalry. Meanwhile a hostile attack south of Shuprany was repulsed in which a resolute charge against advancing Russian infantry yielded 4 officers and 300 men as prisoners. On September 16th alone the following welcome booty fell to the lot of one cavalry division: 1 machine gun, 5 provision columns, 1 bakery column, more than 1,000 other wagons and 17,000 rubles public money. A patrol despatched for demolitions against the section of railway Molcdeczno—Lida succeeded in making an effective demolition while a heavy train traffic was under way.

In the meantime, another cavalry division had attacked and assaulted the hills and occupied the town of Wilejka. Here also the charge came into importance and honor. Here a Hussar regiment charged a Russian company and took over 100 prisoners.

The road Wilejka—Molodeczno has on both sides mostly low swampy ground which renders an attack on a broad front almost out of the question. Furthermore, the road itself was stubbornly defended by Russian infantry defeated at Wilejka and now retreating step by step. The Division Commander, therefore, ordered the main attack from a westerly and northwesterly direction, the advance of part of his force along

the road and the despatch of a demolition detachment against the railway line Minsk—Molodeczno.

As foreseen, the attack against Molodeczno encountered the expected obstacles in the difficult, swampy terrain. The attack could be carried forward only with effort and literally step by step. The railway station could eventually be laid under a strong artillery fire, but against the strongly occupied town and the newly arriving Russian battalions, which were disembarked in the open fields and marched forward in counterattack, the attack did not promise any success. For this reason the division fell back September 18th before an overwhelming suppriority of the enemy. The fact alone, that the ---- Dragoon regiment required sixteen hours to fight its way single handed across a five kilcmeter wide morass, finally getting through with a negligible loss in horses and without the loss of a rider and joining the division, speaks for the quiet and deliberate withdrawal of the division whose individual units were seeking a common junction.

In the meantime the demolition detachment against the Minsk—Smolensk railway was advancing on its objective by forced marches. Rittmeister Lohmann was the keen and able leader of his squadron, strengthened by one field gun and two machine guns. He carefully avoided all main roads and large villages. In perfect quiet the little body of troops carried out its movements in secret night marches. Horse and man put forth their utmost endeavors, but finally their capacity was exhausted. In Molode (some twelve kilometers northeast of Logoisk*) the leader had to leave his troops behind with but forty of his best mounted Jägers and with several picneers, Rittmeister Lohmann forced his way through all obstacles toward his objective Zodzino (east of Smolewicze). In the night of September 19-20th he here reached the railway and cut the line effectively in several places. The lights of the Zodzino station loomed up out of the darkness of the night and Rittmeister Lohmann could hear plainly the songs of the Russian soldiers of the troop trains stopped at the station. Closely pursued by Russian cavalry the bold cavalry officer luckily reached his

^{*}Seventy kilometers southeast of Wileika.

squadron and together with it effected a junction with a cavalry division newly detailed to the corps in the vicinity of Orpa.

In order to ward off a catastrophe the enemy had meanwhile assembled strong forces at Oschmjana and Soly and was marching in a northeasterly direction. With daily increasing superiority he advanced in this direction against the main body of our army cavalry.

In a bridge-head like position around Smorgon this veteran cavalry division awaited the attack of the far superior adversary. Earlier combats at Meyszagola and Jawiuny had demonstrated that this cavalry division was in the position to await with confidence the attack of an entire army corps. On that cocasion the Russian Guard Corps itself had to desist from further attacks after several days of hot fighting against this division.

The expected infantry did not appear, whereas the enemy renewed his exceedingly violent attacks on September 20th and enveloped the left wing of the division which had to be drawn back finally before a crushing superiority. Towards evening the bridge-head position became untenable. After two days' hard fighting against the troops of almost an entire army corps, a brilliant achievement of our cavalry on the defensive for which its character is so little suited, the division withdrew to the north bank of the Wilia.

The enemy did not push on during the night but contented himself with feeling his way with patrols over the stream where an infantry division had meanwhile arrived in the region Zcdziscki—Dubatowka.

New directions of the army commander-in-chief imposed new strategical tasks and objectives on the Cavalry Corps for the following days.

In that time leaders, subordinates and men achieved what was demanded and expected from their prudence and boldness

and from the indestructible Geramn cavalry spirit. The recognition of the supreme commander-in-chief served as a spur to fresh and similiar achievements.

An extraordinary distinction was to fall to the lot of our cavalry. The hostile army commander who must have felt the terrible pressure of the German cavalry masses on his flank and rear issued the following order captured by us in the trenches:

"The cavalry should set itself an example from the energetic, courageous and free action of the German cavalry; for the present I consider the following sufficient in order to recall to the cavalry detachments, especially the Cossacks and their leaders, the heroic courage of their predecessors—the accurate and bold reconnaissance under the nose of the enemy especially in his rear, full freedom to cause havoc in his batteries and columns and to fall upon his tired front line infantry—this is the action of which every cavalry leader must know shining examples in the history of the Russian cavalry, which the German cavalry is now so successfully emulating."

TACTICAL HANDBOOK OF THE WAR.

SCHMID'S Tactical Handbook (Taktisches Handboch—H. Schmid) 15th Edition, Vienna, for the year 1916, has just appeared on the market and contains in its first pages a succinct compilation of the more important lessons of the present war. While perhaps somewhat premature these lessons are based on the actual experience of the Austrians against the Russians, Servians and Italians and are for this reason instructive. The following is a translation of the compilation:

COMBAT.

Insignia of rank to be covered in combat!

Leaders not to differ conspicuously from subordinates in uniforms.

Orders clear and precise; clear statement of mission.

Strive to partially envelope the hostile supporting points by threats from flank and rear even with inferior forces of infantry and cavalry.

^{*}Twenty kilometers southeast of Smorgon.

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artification states

Take the greatest care against surprise in villages.

Optical signal men to be well covered from hostile view.

Enemy has sought to deceive with white flags and cloths, therefore do not cease firing until weapons have been thrown away. Enemy also uses our uniform. Be careful!

Apply the regulations for the service of security on the march and at rest.

INFANTRY.

Combat reconnaissance: at first by patrols; when the enemy is in position then by very thin skirmish lines, about two platoons per battalion with ten paces interval between skirmishers.

Patrols to reconnoiter terrain, roads and bridges as well as enemy and to send back information at once.

Movements in hostile artillery fire: very thin lines with 500 to 600 paces distant.

Attack: After thorough reconnaissance, advance in very loose skirmish lines. Flanking positions in front or to one side of the frontal position, as well as weaker advanced lines must be thoroughly reconnoitered and taken from the flank if possible.

Detachment in front to entrench at once.

A slow and well considered advance, proper fire discipline, slow firing, not too hasty in fire surprises.

Reserves: Bring forward by collecting them to the front in small groups and thin lines.

Continuous security of the flanks, also after occupation of the hostile position.

Keep up connection of units by telephone as far as possible. Keep oriented as to the situation of adjoining units.

Frequent reports of the situation. Trustworthy orderlies.

Defense: Sunken trenches to the depth of a man, covered by the minimum parapet, screened and on the slope toward the enemy. Artillery support. Dummy works.

Every man an entrenching tool, longhandled preferable! Officers and non-commissioned officers must be instructed with the handling of explosives and means of ignition.

TACTICAL HANDBOOK OF THE WAR.

Combat in woods: Observation of the trees since hostile riflemen or machine guns are frequently installed in them, security at audible distances, order, maintenance of objective and greatest silence.

High lying shrapnel fire clears out tall timber at the edge of the woods.

Repulsing cavalry attacks: Open fire as early as 800 paces. Retreat arranged in small units alongside one another. Security of flanks.

MACHINE GUN DETACHMENTS.

Rapid occupation of the position, intrench, dummy works. Digging tools for each man, always provide head and side cover. Sticking it out is better than a meaningless withdrawal. In case of final retreat one gun at a time.

Choice of fire position. Keep away from objects and corners of woods, also avoid setting up in small clumps of woods. Guns at least fifty paces apart and not the same distance to the front.

Fire and ammunition echelon, the latter to be in open ground at least 1,000 paces to the rear.

Support at least one infantry platoon, which also furnishes connection to the rear echelons.

Tactical employment: In attack, first of all, on a flank with cover, single guns on a broad front, advance successively using the ground skillfully. Best results at 1,000 paces, a closer advance brings too many casualties.

In consequence of their accuracy of fire and effectiveness it becomes in a measure the duty of machine guns to supervise the field of combat in front and on the flanks.

Where there is no field of fire, and, finally, at night, machine guns with the reserve.

CAVALRY.

Accustom the horses to camp in the open and to field

Require fewer rapid gaits as compared with long quiet movements from place to place.

For the rider especially training in the use of fire arms is essential!

Horsemen must be drilled to fight on foot and, therefore, to entrench rapidly.

Charges are of no importance.

Be careful in pursuit of hostile horsemen on account of fire surprises.

ARTILLERY.

Careful preparation and skillful use of ground. When possible concentric and flanking fire.

Field howitzers very useful against covers in spite of lesser ranges, therefore, employ the terrain for this purpose and strive for flanking fire.

Scanty observation and overhasty opening of fire has often resulted in our troops firing upon each other which must be avoided under all circumstances.

Shrapnel fire often too a high bursting point, consequently diminished effect.

Target reconnaissance and fire observation especially important, therefore send own reconnoiterers suitably far to the front (avoid observing stations too far to rear as they are generally worthless).

Church towers draw artillery fire.

Hostile batteries are generally concealed, can be discovered only by creeping patrols and aviators.

A covered artillery position for yourself is the rule, but not too near to the cover, guns with increased distances, resulting in batteries being frequently employed singly in order better to utilize the ground.

A common, strict fire control in the unit prevents wastage of ammunition. Intrench, even in covered position, and a free use of screens and dummy works.

The Russian heavy arm artillery (10.6 c. m. gun) is effective to about ten kilometers and the 7.5 c. m. field gun to about six kilometers, therefore infantry must be prepared for a surprise fire at these distances. Consequently reconnoitering and security patrols to the front and side.

COMBAT IN STONY GROUND.

Especially difficult because intrenching with the spade is impossible and the hostile fire effect, especially of the heavy artillery, is very much increased by the splinters.

Covers are set up in first order with sand bags and only where these are not obtainable will stone piles be erected; if the latter are suitably strong they will protect against infantry fire at least. Installation of traversers highly important!

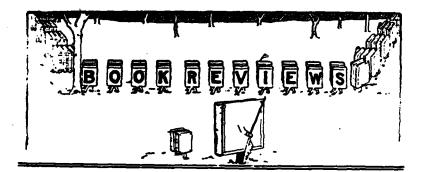
When possible and explosives are available, dig down! Quarrying tools and explosives play a great rôle.

Utilize corrugated iron!

Cellars excavated in slopes at least three meters under the firm ground protect against artillery fire.

Make a free use of mine throwers.





This book is a treatise on military map reading, topographical and photo-topographical surveying, military sketching, and elementary and aero-photography.

The first question that comes up to one taking up a new book which purports to instruct rather than to amuse is: What need is there for this? Does it fill some recognized gap in our scheme of knowledge, or extend and bring up-to-date something about which ideas have changed. Or does it, while not presenting anything new, so present old matter as to make it clearer and more available for the student's use?

For the purpose of answering the above questions, an examination of the book leaves no doubt that its publication is justified.

A full discussion as to the manner of applying the fundamental principles, the treatment, in the light of military requirements, of the operations incident to map reading, togopraphical surveying, military sketching, and the use and adjustments of instruments, are taken up in a clear, concise and simple manner.

At the present time, photography is being utilized to the greatest extent possible in aero-reconnaissance. The subject of map reproduction and of photographing military areas is intimately connected with that of sketching. This phase is coming to be of such great importance and is developing so rapidly that a knowledge of the use of the different cameras, the taking, developing, and printing from negatives under field conditions, is becoming more and more necessary. This matter not heretofore discussed in any other one book, similar in scope to the present publication, has received careful attention and is covered sufficiently to serve as a guide for anyone having work along these lines.

The book is well indexed and the table of contents is very complete, thus making it an excellent book of reference.

The careful research of the author represents considerable labor, and he has placed at the disposal of the military officer a mass of valuable information, arranged in a convenient manner.

The officer detailed on progressive military map work will find this book a very useful one and of great assistance in solving the numerous problems that come up in the prosecution of the work.

A. M.

of the People.*

This book was received too late for an extended and careful review in this number of the CAVALRY JOURNAL. However, it having been written by a well known officer of our servative writer, it is safe to assume that his views on any military subject will be found worthy of consideration.

A hasty glance through the work indicates that he advocates a reserve army on a modified plan of the Swiss system.

e"MILITARY TOPOGRAPHY AND PHOTOGRAPHY." By Floyd D. Carlock, United States Army. The Collegiate Press. George Banta Publishing Company, Menasha, Wisconsin. Price postage prepaid, \$2.50.

[&]quot;AN ARMY OF THE PEOPLE." The Construction of an Effective Force of Trained Citizens." By John McA. Palmer, Major 24th Infantry, U.S. Army. G.P. Putnam's Sons, New York, 1916. Price \$1.00, net.

That is instead of having a cumpulsory plan of universal training he proposes a voluntary system along the same or similar lines and proceeds to show how it will work out. At the same time he shows that we will still need a regular army on account of our outlying possessions and long lines of the horders on the north and south.

The following extracts from letters give the views of the writers as to the worth of the book:

"Probably the most important lesson taught by our military history is the need of an army of citizenry organized and trained directly under the Federal Government and ready for prompt mobilization in the event of war. While this has always been accepted in theory, the practical difficulties of accomplishing it have been such that unfortunately our military preparations, such as they have been at all, have developed along other lines. Major Palmer shows very clearly how a Federal Army of the People can be organized, trained, and made ready for mobilization in a very practical way—in keeping with the best military thought of the day. His book merits study by professional soldiers and citizens alike, for our ultimate preparedness depends upon our accepting the solution which he presents in such a practical manner.

"Tasker H. Bliss,
"Major-General U. S. A., Assistant Chief of Staff."

"The author brings out the details of a constructive proposition for the enrollment of a citizens' army in a form to make it easily read and understood. Major Palmer speaks with the authority of one of the most able and intelligent men in our army. I believe his book will be a valuable contribution towards an intelligent comprehesion of the requirements of our land defense.

"Henry L. Stimson,
"Ex-Secretary of War."

It is a book of 158 pages—6½ x 5 inches—well printed on good paper and in large readable type.

National Defense.*

Dr. J. W. Muller's timely contribution to the National evil "unpreparedness" under the caption "The A. B. C. of National Defense" by its title.

He has touched upon National Defense longitudinally from A to Z in an educational and interesting manner calculated to well fortify the layman against the thrusts of the advecates of peace at any price.

He strikes the nail squarely on the head in his opening chapter by advocating cutting down the enlistment period to a minimum necessary to make trained soldiers. Short term enlistments in camps of instruction naturally appeals to the business man from the economic and social view point as the surplus or reserve force so essential for the stormy days which muddy the waters and rock the ship of State and test the stability of the Nation.

The closing paragraph cites the expenditure during 1914 of Federal funds aggregating \$4,815,000.00 for the National Guard of the various States "despite which fact only eleven States were found to have one complete uniform (less shoes) for each enlisted man of the authorized minimum strength at the annual inspections."

So many misleading and erroneous inferences may be drawn from such statements by general readers that it would appear questionable to include them unanalyized in a work of this kind. This huge amount is really only \$37.00 per man per year (\$3.00 per man per month) for the 129,000 National Guardsmen. When it is understood that this amount is expended for transportation to and from maneuvers, for food and forage, ammunition, pay during maneuver periods and a hundred other essentials the wonder is that so much can be accomplished with so small an appropriation. To pay each militiaman the reasonable amount of \$1.00 per drill for the forty-five drills he must attend during the winter months at his own expense and personal and family discomfort would alone require about six million dollars.

^{*&}quot;THE A-B-C OF NATIONAL DEFENSE." By J. W. Muller. E. P. Dutton and Company, New York. Price \$1.00, net.

Would that this small volume might be paper-backed and distributed liberally throughout every nook and corner of the republic that it is designed to arouse to a more serious consideration of National Defense.

H. S. K.

Fundamentals Of

Of

Military Service.*

This book of 428 pages—41/4" x 7"—has just been received as this number of the CAVALRY JOURNAL was nearly off the press, and, therefore, only a hasty notice of the work can be given at the present time.

Its twenty-five chapters appear to be replete with information of value to the citizen soldier, as well as to civilians in general who take an interest in matters military, as so many are doing at the present time. At the same time the professional soldier will apparently find much that is new to him in the chapters relating to arms other than his own.

The work was prepared under the supervision of Major General Wood, U. S. Army, and has special chapters written by the following officers and on matters pertaining to their respective corps or arms: Major S. A. Cheney, Corps of Engineers; Captain C. A. Kilbourne, Ccast Artillery; Captain E. T. Collins, Tenth Infantry; Captain C. A. Seaone, Signal Corps (Cavalry); First Lieutenant J. S. Hammond, Field Artillery.

The several chapter headings are as follows: Our Military Policy; Psychology of the Service; Military Training; Organization; Infantry Drill, its rules, its discipline; Cavalry, its role, discipline, leaders, drill; Field Artillery; Coast Artillery; Engineer Corps; Signal Corps; Tactical Rules; Military Courtesy; Guard Duty; Riot Duty; Small Arms Firing; Map Reading and Sketching; Care of Arms and Equipment; Army Regulations; Patrolling; Security; Marches and Convoys—Care of Men and Horses; Camps and Bivouacs—Care of Men, Comforts, Sanitation; Supply and Transportation; Sanitation and Horsemanship.

In the prospectus received from the publisher with the book, it is stated that: "The second chapter, entitled 'Psychology of the Service,' but essentially given up to the requirements of 'Leadership,' is alone worth many times the price of the book. We believe it the most poignant thing of its kind that has ever been written in America. It is solid, human and everlastingly to the point." While this is putting it very strong, yet a careful reading of this chapter shows it to be true. It would be well if this chapter, if not the whole book, could be placed in the hands of every officer and non-commissioned officer in our service. It is full of common sense.

The book is well printed on good paper and readable type. It is bound in leather, almost limp.

The following are extracts from letters regarding this book:

From Captain Geo. Van Horn Mosely, General Staff.

"Captain Andrews, in his book 'Fundamentals of Military Service,' has brought together in a most convenient and instructive way those things which the soldier and subaltern should know and be able to apply practically. It would be well if every subaltern of the Regular Army could have the opportunity to read the chapters on Leadership and Military Training, as they contain some very practical principles in reference to the command of men—the most important duty an officer is called upon to perform."

From Theodore Roosevelt:

"Take the chapter on Leadership, for example, beginning at page 12. At least half of what is here said applies to leadership in civil life as much as in military life; the advice on page 21 is particularly good. The first chapter, on our military policy, should be studied by every man, civilian or soldier, who wishes to understand the real truth of the lessons history teaches. I commend especially the following sentence from the Preface: 'An honest performance of the duties of citizenship demands, first, that each citizen shall learn enough about the military service and it needs to give him an intelligent opinion thereon, and, second, that each youth shall prepare

^{*&}quot;FUNDAMENTALS OF MILITARY SERVICE." By Captain Lincoln C. Andrews, U. S. Cavalry. J. B. Lippincott Company, New York, 1916. Price \$1.50 net.

himself reasonably to meet his individual responsibilties as a citizen-soldier."

BOOK NOTICES.

"Fear God and Take Your Own Part." By Theodore Roosevelt. "It preaches the doctrine of a larger Americanism—an Americanism that demands justice for American citizens at home and abroad, and for the distressed peoples of the world. In the course of the next twelve months it will likely be the most widely discussed book extant dealing with our foreign and domestic relations. It is vital. It is timely. It is epochmaking." George H. Doran Company, New York. Price \$1.50, net.

"THE AFTERMATH OF BATTLE." With the Red Cross in France. By Edward D. Toland, with an Introduction by Owen Wister. "Most of these pages are, like the photographs that go with them, torn fresh and hot, so to speak, from the diary of a young American, just as he jotted them down day by day in the war hospitals of France." The Macmillian Company, New York, 1916. Price \$1.00.

"BATTLE AND OTHER POEMS." By Wilfrid Wilson Gibson.
The Macmillian Company, New York, 1916. Price \$1.00, net.

"Roadside Glimpses of the Great War." By Arthur Sweetser. "War in its elemental human terms, always terrible, sometimes humorous, not always heroic, is seen in this story of adventure in the war zone. The author journeyed by bicycle from the Belgium border to Paris and here he tells of his many exciting experiences on the road. The result is a vivid picture of war and its ravages on the men and women near it." Illustrated. The Macmillian Company, New York, 1916. Price \$1.25.

CLOTHING AND EQUIPMENT FOR FIELD SERVICE.

A compilation of all the articles of clothing, equipment, etc.. required, under present regulations and orders, for a troop of cavalry for field service has been compiled by First Lieutenant A. B. Dockery, Tenth Cavalry. It was sent us with the suggestion that it should be published in the Cavalry Journal for the information and guidance of all cavalry officers. However, it was believed, first, that this would not be of general interest to any but troop commanders, and, second, that as published in the Journal it would not be in suitable form for ready reference.

It was therefore determined to publish it in pamphlet form and to distribute it separately to all troop commanders as well as to such other cavalrymen as might desire a copy. The distribution will be made to troop commanders at once and copies will be furnished others upon request.

FORT LEAVENWORTH HORSESHOW.

The Seventh Annual Horse Show, given under the auspices of the Fort Leavenworth Field Club, was held on April 1, 1916. It was a great success as has been those heretofore given, both from the standpoint of the horseman and as a social function.

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EDITOR'S TABLE.

The number of events as well as the number of entries in the several classes were greater than ever before, notwithstanding the fact that several entries had to be cancelled owing to the owners and riders having been ordered to the border shortly before.

There were eleven classes, the entries ranging from five (Children's Class) to sixteen (Best Trained Mounts), the average number being nine. The several classes were as follows: Ladies Riding Class, (Exhibition); Officers' Heavyweight Chargers; Saddle Horses, ridden by Ladies; Officers' Lightweight Chargers; Best Trained Mounts; Jumping (Officers); Jumping, (Enlisted Men); Best Trained Horse, ridden by Lady; Ghildren's Class; Broad Jump (Horse ridden by officer).

The Committee in charge of arrangements consisted of Captains Eltinge and Williard—Cavalry; Major Tyler—Engineers; Lieutenants Ely, Holderness and Mann—Cavalry; and Lieutenant Singleton—Infantry. The Judges were Dr. St. Clair Street, of Kansas City, Captains Hawkins and Richmond, and Lieutenant I. P. Swift.

CHANGE IN MAKE-UP OF CAVALRY JOURNAL.

As our readers will notice, there has been a change made in the make-up of this number of the CAVALRY JOURNAL, not only as regards the arrangement of the articles and sub-headings, but more particularly as to the introduction of a so-called "Mounted Service Section."

This Mounted Service Section is an experiment and is intended to include all matters relating to the horse, his care, training, conformation, etc., and the subject of equitation. It will be edited at Fort Riley, and articles under this head should be sent there. At present no editor for this section has been selected by the Commandant of the Mounted Service School,

and the articles appearing in this number under that sub-head are not strictly those belonging thereto.

It is hoped that this will appeal to our cavalry officers and that this section will be made a prominent and important part of forthcoming numbers of the CAVALRY JOURNAL.

THE VETERINARY SERVICE.

Our attention has been called recently to a very interesting article, entitled "The Cinderella of the Service," which appeared in the August, 1915, number of *The Nineteenth Century*. It was our intention to have this article reprinted in this number of the CAVALRY JOURNAL, the publisher of the magazine having kindly given their consent, but it has been crowded out of this issue.

This article gives an instructive account of the work of the Veterinary Service of the British Army in France, although hampered by a lack of support by the British authorities, as is claimed, but assisted greatly by the Blue Cross Society and other organizations in England. It appears that through their efforts there has been saved to the British Government many thousand horses and mules that have been returned to the remount depots and that would have been lost otherwise to the service.

A comparison between their Veterinary Service with that in this country shows it to be far superior in the number of their Veterinarians, assistants, grocms and other attendants to ours, while their supplies of medicines, instruments, dressings, etc., would appear to be the equal to ours, although supplemented by the above mentioned contributions.

This calls attention to the unpreparedness of this country in this respect, not only as regards the personnel, their rank, etc., but also to the lack of untrained assistants.

In an article in the February number of the American Veterinary Medical Association Journal, Veterinarian R. Vans

Agnew, Fifth Cavalry, advocates the formation of a Veterinary Reserve Corps in order to increase the efficiency of the Veterinary Service in case of war. This idea has met with general approval by the veterinary profession throughout the country and in their journals.

To still farther help in preparing civilian veterinarians for war service it has been suggested that all officers and veterinarians of the cavalry and field artillery invite civilian veterinarians, who may wish to enter such a Reserve Corps, to accompany them on their practice marches and to attend at maneuver camps.

This is in line with the idea of the "Camps of Instruction" and it is suggested that our regimental commanders approve and aid in its execution.

MILITARY	PUBLICATIONS by Captain JAS. A. MOSS, 29th Int	η
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BOOK DEPARTMENT.

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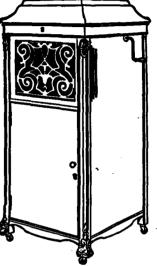
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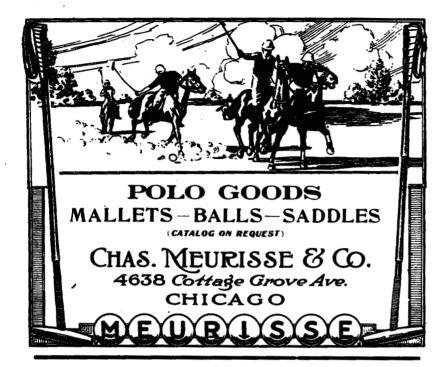
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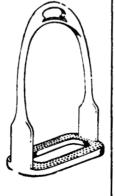






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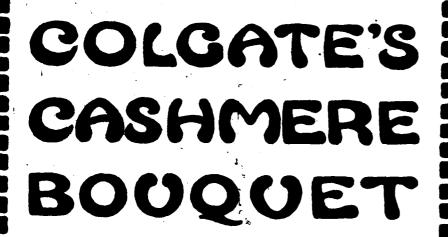
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JOURNAL OF THE



July, 1916.

To Shoe a Cavalry Horse

Needs careful attention in preparing both hoof and shoe. It also requires a nail of first class quality.

It was discovered long ago that the easiest, quickest and best shoeing could be done with Capewell nails.

Their superiority has been proved over and over again in every kind of service.

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JOURNAL

OF THE

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No. 111

MILITARY NOTES

HOBBLES.*

N case of active service in the field, under war conditions, in a territory where hay cannot be easily procured, it will become necessary to subsist the horses largely by grazing.

2. This will require the use of hobbles, for the reason that horses not so secured are liable to stampede, a thing which must be guarded against in every way. The efficiency of a command may be ruined for days and weeks by a stampede.

3. Since the Ordnance Department no longer issues hobbles, it may be necessary, before the command takes the field, for the troops to purchase them or manufacture them.

4. The commercial form of hobble used in this country can be purchased at retail for one dollar. It consists of two heavy straps, each strap lined with sheepskin, the straps to buckle around the animal's forelegs, the two straps connected by a chain. It is not unlikely that this chain for some horses

^{*}Memorandum No. 5, Headquarters First Cavalry Brigade, August 2, 1915.

is too short and should be lengthened. Another form of hobble is the Mexican rawhide maneja. These are in common use in this country, and a pair should be obtained in each troop with a view to manufacturing similar hobbles in an emergency when the commercial type cannot be obtained. This hobble consists of a strip of rawhide about forty-six inches long and three inches wide, there being a buttonhole in one end and a Turk's head or a toggle at the other end to engage in the buttonhole. It passes around one fore leg and is then twisted, and then buttoned around the other foreleg. These hobbles will cost about fifteen cents per pair for rawhide, not counting labor. They are usually carried untwisted and buttoned around the horse's neck.

5. The following remarks by Captain C. H. Conrad, Jr., Fifteenth Cavalry, in a communication addressed to this office, apply to the use of hobbles on the foreleg:

"While ponies and burros can be hobbled with these hobbles from the start without injury to themselves, the larger American horse should be broken to their use with a pair about four inches longer than those finally used. The horse for the first few lessons should be turned loose in the stable yard or some soft place with the training hobbles on. He is apt to become frightened at first and must have plenty of room and be let alone. After hobbles are put on, the horse should not be urged to move. Let him take his time for this. If the short, or what might be called the service hobbles, are used at first the horse is liable to throw himself and may injure himself. A couple of lessons of about one-half hour each with the training hobbles are usually sufficient to give any horse the idea and teach him how to move when hobbled. Three or four sets of training hobbles are sufficient for a troop.

These hobbles should be made so that it is impossible to slip them down to the pastern joints. They should stay above the upper pastern joint. Eight and one-half inches is usually correct for size of loops.

HALTERS AND HALTER SHANKS.

UESTIONS of economy led the War Department sometime ago to take up the matter of replacing the leather halter and halter shank, with similar articles of less expensive material. With the present price of leather the leather halter and shank would now cost in excess of three dollars, whereas a durable, a neat rope halter and tie-rope can be issued to the service for about eighty-six cents.

With a view to learning the views of officers, based on actual experience, organization commanders of the 3d, 10th, 12th, 13th and 14th Regiments of Cavalry, and the 6th Field Artillery, all of whom were practically in the field on border duty, were asked to vote on the question of four different types of shanks, the latter being the part most frequently broken in service.

Forty-three replies were received, summarized as follows:

T	Favorable
Type 56 inch oval webbing	reports.
% inch linen sash cord	••••••••••••••••••••••••••••••••••••••
13/8 inch halter webbing	10
½ inch manila rope	28
Total	43

The replies were therefore overwhelmingly in favor of the use of the one-half inch manila rope for tie-ropes. In this connection it has been found that dipping such ropes in tar paint trebles its life—the only question being the soiling of clothing by handling.

The remarks of organization commanders with respect to the halter shanks tested, have been that the five-eighth inch oval webbing was not strong enough, and quickly wore out when rubbed against the picket line; the three-eighth inch linen sash cord became hard and stiff when wet, and when broken

MILITARY NOTES.

could not be readily repaired; while the one and three-eighth inch halter webbing raveled into strips and did not last long.

There is a general disposition in the mounted service to favor permanent halter chains for use in stables or on picket line in garrison: and these chains in stables have been quite favorably reported upon in connection with improvised counterweights to take up the slack the chains running through augerholes in the hay-rack.

These matters have been taken up for consideration by the Cavalry Equipment Board at Rock Island Arsenal, and it is quite probable that coils of one-half inch manila rope will be issued to organizations in quantities, to be utilized for tie-ropes as the exigencies of the service demand.

C. D. R.

IDENTIFICATION OF PUBLIC ANIMALS.

WISH to convey my compliments to Mr. E. O. Trowbridge upon his alphabetical and numerical system of identification, which is a modification of the very tentative system proposed by me in a former number of the JOURNAL. His article has only just come to my eye. His comments on my proposition are accepted in perfectly good part. His own system has many points which are an improvement upon the original suggestion. At first it was necessary to present the matter to the service in simple form in order to overcome the very general prejudice to disfigurement of the animal by branding.

However, I hope that Mr. Trowbridge may not lead the Department into committing a fundamental error. Nothing must be left, no duty in the matter must be left, to organization commanders, after arrival of the animal at point of service. He must arrive finally branded and fully identified, with all clerical work completed. Multiplication of agents, in applying the system, will insure its failure. This is not to say that our

troop and battery commanders are deficient, but it is always the part of wisdom, when possible, to simplify duties which depend upon discipline for their performance. It is still better to reduce the number of such duties, rather than to multiply them, counting wisely upon the certain percentage of human error.

Certainly it is very easy for purchasing agents to apply hoof brands at the point of purchase, rather than hide brands. But Mr. Trowbridge, as an obviously able agent of the Department, can suggest some method by which the Quartermaster Corps shall not pass down this duty to the line. Organization commanders are very intently occupied upon occasions when animals arrive at the front, sometimes under very high tension. Any system must relieve them of what is very obviously an administrative duty and therefore a proper one for a staff department to perform in quieter scenes very far behind the lines.

I note that Mr. Trowbridge has interested some very prominent officers of the mounted service, and procured their endorsement, as, also, I had done. When somebody starts a ball rolling it is fun for everybody to give it a push. Many more are wanted in this game.

GUY H. PRESTON,
Major, Second Gavalry.

THE FRENCH CAVALRY.

So little has appeared in print as to the part taken by the cavalry of any of the great powers in the war abroad, that particular interest attaches to the remarks of a distinguished officer of the French Army, who is in the United States in the interest of his government, and who expressed himself to a cavalry officer at one of our western posts, substantially as follows:

"With certain modifications as to the armament and the tactical use of cavalry, the latter arm will be used as much as 10

ever in wars of the future. The French cavalry was used up and exhausted in the first weeks of the great war; the horses were completely run down, and in many cases disabled through sore backs. If we had had our cavalry fresh and intact after the battle of Mons, we could have struck a most telling blow at the German Army; in fact, we might have ended the war right there.

"On the eastern front, where there is plenty of room to maneuver, cavalry is being used normally by both sides.

"On the western front, where the trench warfare resembles siege operations pure and simple, and where the flanks are guarded by the impassable obstacles—the English Channel and the neutral country of Switzerland, the cavalry is of course being utilized as infantry. In the French cavalry regiments, one half occupies the trenches, while the other half recuperates well to the rear. When the trench troops are to be relieved, the reserves, ride well up to the advanced lines on their cavalry horses, relieve their comrades, and the latter ride the mounts back to the protected base of the regiment.

"When our cavalry first occupied the trenches, the Germans learned to differentiate their fire from that of the French infantry, because the cartridges for the French rifle and carbine being the same, the consumption of the powder in the carbine gave a different explosive effect from that in the rifle. When the Germans discovered this, they would shout "Cavalry! Cavalry!" and charge with the bayonet. This soon caused the French cavalry to attach bayonets to the carbines, both for offensive and defensive action. But before this was done, it is a matter of record that a certain dismounted regiment of French Lancers, charged the German trenches with their lances, killed many Germans, and took the trenches.

"Here in the United States the use of cavalry will be perfectly normal, and considering the country over which American troops will probably operate, there is no good reason why the preponderance of your mobile troops should not be cavalry."

WAR PAINT.

THE enclosed photograph was taken here at Douglas, Arizona. It may be of interest to those owning private mounts and also to those in charge of public animals. The gray horse wich is half colored is a private mount, the property of Captain C. O. Thomas, First Cavalry.

The solution is put on the animal with an ordinary grooming brush or sponge after the coat has been dampened with water to prevent coloring stuff from running down over the dry hair. It changes the horse from a dark chestnut to a yellow



dun, according to the strength. This dye lasts about four or five weeks, a longer or shorter time, depending upon whether the animal is shedding or not. It does not take as long to color a horse as ordinary grooming takes as it is only necessary to go over the animal once in the same direction as the hair lies. It neither injures or alters the texture or feel of the coat.

At four to five hundred paces, the animal is almost invisible. In Arizona or Mexico the color can be put on so as to dry the exact color of the ground. No natural colored animal is as nearly invisible at a distance as animals that have been coated with a coat of "War Paint" in this desert country.

It is interesting to note that when I applied to the War Department for permission to color animals experimently so as to be ready to do so in case of war during 1905, it was dis-

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approved on the grounds that the Q. M. General had no paint on hand for that purpose.

It would be almost impossible for a sniper to shoot horses colored in the way that it has been done in the First Cavalry corrals on the border, because an enemy would be unable to see them at any great distances.

COLEMAN NOCKOLDS,

Veterinarian, First Cavalry.

WHEN THE HORSE WAS A DWARF.

(JOHN BURROUGHS, in North American Review.)

THE variations which lead up to the formation of a new species are so insensible, they stretch over such a vast period of time, that their universal value from generation to generation is and must be very slight. Take the case of the horse, for instance:

The development of the horse seems to stretch over a period of at least 3,000,000 years, or from the echippus of Eccene times, an animal less than two feet high, and probably weighing less than 100 pounds, to the horse of late Tertiary times, the plichippus, much like the superb creature we know today, five feet high, and weighing 1,000 or 1,200 pounds. If this animal increased in height only one-quarter of an inch in 10,000 years, he would be six feet high in less than 2,000,000 years.

So if we allow him 3,000,000 years to develop in, his increase in height must have been even less than one-fourth of an inch in 10,000 years. Think of it! Our horse of today might be increasing or diminishing in size at that rate and the fact never be noticed during the whole period. In weight the same: one-eighth of a pound in 100 years, and he would weigh 14,000 pounds in less than 2,000,000 years, a rate of increase that our scales would hardly detect in a century of time.

The transformation of the other animals have probably been equally slow. Science would feel safe in saying that a flying fish never becomes a bird, but can we conceive how slight the change would have to be in every 1,000 years to bring it about in geologic or biologic times?

SOME BAND TRADITIONS.*

THE regimental band is playing a stirring Military March, on the parade ground. Some association of ideas, traceable to the music, carries me back into the misty past of band traditions.

History tells us that originally the term band, had reference to any combination of instruments for the performance of music.

Up to the Twelfth Century, there had been no attempt at musical organization. There were wandering musicians and in the Thirteenth Century, sanction was given bands of piper's and trumpeter's to play. Guilds were formed and piper kings were elected leaders. There were Union Labor Leaders, even then, for each Guild member was pledged "not to play, or accept any engagement to play, unless he was a member of the Guild." The first Guild was formed in Vienna in 1228. One hundred years later it was placed under the control of the Austrian Government. The instruments used were fifes, flutes, bag-pipes and drums.

In the middle ages, there came social status. The trumpets and kettle-drums were only for nobility. Laws were passed, forbidding bands of more than five pipers, to play for ordinary citizens. A full band only played on civic or religious occasions. Music was learned by ear, and had not been put into writing.

In the Seventeenth Century, music was noted on paper and tuned into keys. In the Eighteenth Century, music was separated into four great groups, one being the Military Band

^{*}Reprinted from the Cablenews-American, January 23, 1916.

of fife, bugle, and trumpet. Military Bands are inseparably connected, from ages past, to the present day, with the life of the soldier. Every ancient nation had its music and national songs.

A great man once said, "I care not who makes the laws of a nation, so I can make its songs." Tradition has assigned the strident music to men of war. Ancient songs told of great victories and valorous deeds. The Spartans charged their enemies with the song of Castor; the Romans, went to battle with trumpets and horns; the Germans had drums, flutes, and symbols, while France had minstrels accompany their troops with small violins and bag-pipes.

In the Eighteenth Century, the Cavalry trumpet made its appearance, and in the same Century, France passed a law, giving to each regiment a band. Bands began their development in that Century, that has brought them to their present high efficiency.

The band leader became prominent, as a great factor in band progress, and famous leaders added luster to musical history, down to and including the present time.

Bands have furnished innumerable examples of heroism on the battle fields, and in great crisis of civil life.

Within recent years, who can forget the old Seventh Cavalry Band, following the gallant, ill-fated Custer, playing the regimental tune of "Gary Owen" into the very jaws of death.

From the great conflict on European battle fields comes the strain of Tipperary and The Watch on the Rhine. In the last somber moments of the sinking *Titanic*, we have the inspiring fact, that the seven members of that immortal band, numbering as many nationalities, as men, and proving that heroism knows no one nation, met their fate bravely, playing for the encouragement of the passengers and crew. The sounds of gay dance music, changed into solemn comforting hymns, the *Titanic* band was faithful to the end, playing on as the dark, cold waters engulfed them, "and their tired eyes beheld coming out of the darkness, a celestial radiance;" and the ears heard Heavenly music, that began where their music ceased.

The bands-man is a hero, with no poet to chant his praise. His task has ever been a thankless one. He plays the march for the wedding, and the dirge for the dead. He is upon the far flung battle line, armed only with the trumpet. In every crisis he must remain at his post, that those in danger may go to safety.

In long periods of time citizens have the golden opportunity to show their appreciation of a band or leader in whom they have reason for civic pride and gratitude. When such an opportunity eomes it is hoped it will receive enthusiastic response.

C. S. S.

INFORMATION ON TRENCH WARFARE.

'WO general methods of attack have been used. One may be described as the attack with unlimited objective, the other as the attack with limited objective. In the first, the attacking troops go right on over the enemy's first and second lines and push the attack as far as possible. In other words, they go on until exhausted. This was the method used in Champagne; and although the French attack so nearly broke through, that it was a question of only one weakly held line of German trenches the French troops were so exhausted when they reached this point, that the men had not strength enough to go over the wire. The commander of the supports had orders to wait until he received word from the commander of the attacking line that he was held up. Owing to the difficulty of maintaining communication this word was not received for over twelve hours; in this time, the Germans were enabled to reinforce the line and when the supports came up, they were unable to get through.

The other method of attack with limited objective has been favored by the British. The troops are sent forward in successive waves, each with a distinct objective, which they consolidate and hold as soon as taken. The first line, for instance, attacks and consolidates and holds the German first, or first and second

line trenches; the next wave of troops comes over and holds on to the next line of German trenches, each successive wave doing the same.

There is a great deal to be said in support of both methods, but it is believed the method of unlimited objective will be adopted.

In preparing for the attack, it is absolutely essential that everything be worked out in the utmost detail, each man must know exactly what his duties are when he reaches the enemy's trench. A certain number are told off as "bombers;" others are working parties to reverse the parapet; others to build obstacles in front of the reverse parapets, and on the flanks of the attack in the trench. Others are to act as sentinels in trenches, others as listening posts and scouts in advance of the trench, etc. It has usually been found that when a captured trench has been properly protected by listening posts and patrols in front of it, the Germans have never succeeded in recapturing it by counter attack. It is only when these points have been neglected that the Germans have been able to reach the captured trench and deliver a counter attack with a certain amount of surprise, that they have been able to recapture the position.

There are a number of different formations for the attack. but the following may be taken as representing the normal. Assuming the attack to be made by one battalion—one or two companies would form the attacking line followed by supports and reserves as laid down in the text book. The attacking line would probably be composed of four lines at an interval depending on the amount of front to cover. The governing consideration in this respect is to obtain a fire line of about one man per two yards after reaching the enemy's trench. The distance between successive lines of the attacking force is generally taken as between ten to thirty yards; the second line may be about ten to fifteen yards behind the first line; the third line would be twenty to thirty yards behind the second line; the fourth line would be ten to fifteen yards behind the third line The grenadiers and machine gunners might come forward with any of the lines, but would probably be with the third or fourth line, and the machine gunners even be in rear of them. Local conditions would have to be dealt with.

Skeleton equipment is carried in the attack, i. e., equipment without pack; the pack being left behind under guard.

In the defense of the trench, the most important thing is to maintain an intense fire on the attacks during their advance. This is generally over such a short distance that marksmanship counts for very little.

Stores of ammunition are maintained at frequent intervals along the trench.

If the trench is lost, a counter attack must be delivered at once by the troops in rear. The responsibility of the counter attack devolves in most cases on the company commander in support.

The batteries covering each section of the front are in direct telephone communication with the company commanders holding that section, and also with battalion headquarters. The company commander would notify the battery commander of the moment he intends to launch his counter attack, and they would cover accordingly. The field batteries for ordinary purposes act under the orders of the battalion commander. The heavy batteries under ordinary conditions, if needed, are called through the brigade. In the case the units attacking side by side, if one partly is held up, the other must be prepared to bomb down the enemy's trench and other flank, and clear the way for the unit that is held up. There are five machine guns in a battalion; these are of the Lewis type and are mobile.

It has become customary before making an attack of any size, to lay out on the ground somewhere in rear, a replica of the enemy trenches, and practice the troops over these, so as to ensure that each man knows exactly where he is to go. This of course cannot be done over lines well to the rear, but has been found most important whenever possible for the front and support lines of the enemy.

Control during action has been found most difficult to obtain. The noise is terrific and once an attack is launched, communication is next to impossible and results in throwing the control largely on the shoulders of subordinate commanders, such as section and platoon leaders. The platoon leaders lead their platoons during the attack; the company commander follows with the last of the company reserves; the battalion

commander would probably remain at battle headquarters until the attack has made a considerable advance, when he would establish new battle headquarters in the enemy's lines, immediately notifying the company commanders.

Communication under normal conditions is maintained by telephone and buzzer, and it almost always happens that telephone lines are cut by the artillery fire, and then it is necessary to fall back on visual signalling and communication by messenger.

The battalion once launched in the attack is very little influenced by its commander, until the enemy's trench is consolidated.

Reconnaissance: Practically no reconnaissance is possible in trench warfare, except aircraft. Local reconnaissance by patrols is used at night to determine the strength of enemy's wire and possibilities of the terrain. After the first few lines of the enemy's trench are taken, it is most important to have scouts in advance of attacking line to prevent running into machine gun traps.

All officers down to, and including company commanders, are provided with maps, showing enemy's trenches as determined by aeroplane photographs. Battalion and higher commanders have maps showing both their own and the enemy's trenches.

LEADERSHIP.

A Talk to the Non-commissioned Officers of Troop "A" Cavalry, Oregon National Guard.

A T the beginning of the winter season of instruction I want to talk to you briefly on the subject of leadership. One of the most important qualities that enter into the development of a soldier is leadership. The drill regulations mention it very briefly and if you trusted to them alone you might easily get the wrong notion of its value. Officers and non-commissioned

officers are valuable in their capacity as instructors, as disseminators of technical information, but they are doubly valuable as leaders, to whom the men look for moral, social and intellectual inspiration.

No non-commissioned officer can hope to measure up fully to the requirements of his office who is not something of a leader, and who has not learned how to gain the confidence and respect, and the regard of the men under him. Remember that you have been chosen non-commissioned officers because I believed that you had some of these leadership qualities in your makeup. I want to see you develop them more during the coming winter. Remember what leadership means, it does not mean to drive. I never expect to swear at a man as long as I am in military service, and I can permit you no more liberty in that respect. Give your orders quietly and firmly and then see that they are promptly executed.

Your men will soon learn that your quiet commands mean just what the words indicate and they will have just as much force as those of the man who shouts, and swears, and blusters through his work. Never get angry with a man. If you cannot prevent yourself from becoming angry, learn to control yourself so that the men will never know that you are other than in your natural mood. If a man is in the right he does not need to lose his temper, if he is in the wrong he cannot afford to lose it. When it is necessary for me to punish, I try to punish dispassionately, absolutely without feeling, and in the same spirit that a football umpire would penalize a player for an infraction of the rules of the game. The man should be made to feel that the decision was just, that he had it coming, and that no attempt is being made to get his individual goat. The matter should then be promptly forgotten.

I think some of you are neglecting an opportunity in not getting to know the members of your squads better. You should learn their individual peculiarities and make companions of them. Encourage them to come to you when they are in trouble as I do. Above all else remember that you are setting an example for them, not only a military example but a social and a moral example. If you cannot elevate their ideals, at least you are expected not to debase them. If a man

in your squad has a weakness, and you know it, help him to conquer it, don't throw temptation in his way. We are trying to interest young men from good homes in the troop. We must do our duty by them after they are in. I should never quite forgive myself if I thought a man was taught or encouraged in dangerous habits by one of my non-commissioned officers. Do not misunderstand my attitude in this respect! I do not believe that this is a place for sermons and I am not a preacher. The only just excuse for the existence of any military organization is its preparedness as a fighting machine.

But military efficiency according to authorities is made up of four great elements, numbers, arms, training and morale. Morale depends for its development upon the spirit, the character, the feeling, the moral temper, of the men of the command. It becomes necessary then in order to have an efficient military organization, for us to develop the character of each man, just as we develop the skill of each man. Everything which advances the moral education of the men concerns me, and concerns you as well. I appreciate the fact fully that many a "rough neck" has at the same time been a good soldier. I have soldiered with, and learned to respect, many such. But it has been in spite of, and not because of his defects. Don't get it into your head for a minute, nor let anybody else put it there, that a man must be something of a rough neck in order to be a good soldier, for it is not true. The entire influence of the best military experience and teaching is to the contrary, and there are plenty of authorities to be quoted.

On the other hand do not forget that some of our best men may not approach your individual standard of living. Do not overlook the fact that these men possess qualities which you may some day, in an hour of need, appreciate more than you do now. In all probability they can teach you, as much as you can teach them. There is no more discouraging element in any organization than that weak, negative, emasculated type of goodness, which seems to be the peculiar product of our present day civilization. Learn to take your men as you find them and to develop the best there is in them. You will find good and bad in everything human. If you look only for the good you cannot go far wrong.

Now for our instruction program for the coming winter; let me add a word of caution. Some of you may not always grasp the reason for parts of our program which are different from those to which you have been accustomed. Just remember that you are only responsible for learning your part and performing it well. The responsibility for the plan of instruction rests upon me and the Inspector-Instructor. The plan we follow has its special application to our peculiar requirements. It is neither entirely a National Guard nor a Regular Army program. Whatever our experience has been, be it ever so extensive, we can all live and learn. No department of knowledge changes more rapidly than military know edge. A few months absence from troops puts many of our Regular Army Inspector-Instructors out of touch with the details. Officers on detached service go back to the command of companies much behind the time after a year's absence. Do not, therefore, feel aggrieved if things are done differently in this troop from what you were accustomed to several years ago. Do not be mislead into thinking that in administrative details we have to follow the standard set by any other organization. Scarcely any two troops in the army follow precisely the same plan of interior administration. We plan to be a progressive troop, and we are trying to discover the best way to do things. The best way may prove to be a way so new that none of us have ever heard of it before.

There are some things in this talk about which I never expect to have to speak to you again. I believe in just as few orders, just as few lectures as it is possible to have, and run the troop properly. But do not think that my failure to remark an infraction of the rules is any indication of my ignorance of it. I have had the troop with me at meals and gone to bed with it on my mind, every day since I took command. When the sum total of a particular situation is finally sifted it will be found that I have not overlooked much of importance. I prefer to treat every man fairly, and to give every man the benefit of the doubt, therefore my decisions may frequently be delayed. But they will be the less positive when they come.

In everything which relates to the military administration and the discipline of the troop I have a right to expect your hearty cooperation. Our relations should at all times resemble those between the president of a corporation and his board of directors.

FRANK P. TEBBETTS, Captain Troop "A" Cavalry, Oregon National Guard.





OFFICERS' CHARGERS.

HE present punitive expeditions into Mexico have called attention to the occasional disinclination of officers against taking their highly expensive, highly bred, and highly trained chargers into a campaign of arduous field service, exposed to privations which might either result in the death of the animal, or in rendering the mount useless for further military service.

There has been a wonderful change in the past ten years, in the character and quality of officers' mounts. Time was when almost any old plug was deemed suitable, if capable of walking twenty-five or thirty miles a day, under normal conditions of climate. Little or no consideration was then taken of the animals tractibility and of calmness or conrtol under fire; of ability to traverse cross-country obstacles when in active pursuit or retreat, or on officer's patrol; of or training for individual combat with pistol or saber. Nor was any great interest shown in the blood lines of the horse.

Now all this is greatly changed, and credit for the improved sentiment is largely due to the widespread influence throughout the service of graduates of the Mounted Service School, supported by progressive regimental commanders; together with active cooperation by the War Department in

regulations tending to raise the standard of mounts for which officers draw extra compensation.

A large number of officers now own well bred and well trained chargers—the tendency largely going by regiments; and no matter how individual opinions may differ as to thoroughbred, saddlebred, Arab or Morgan blood, as a requisite for intelligence, stamina, and tractability in military chargers, such an intelligently increasing interest is now taken in the subject by our officers that sooner or later we shall be able to approximate to what breeding is best. Opinions will probably always differ however, just as individuals prefer a certain kind of dog or gun or style of architecture.

But the fact that for the first time since the mounted service seriously took up the matter of improved mounts, a campaign is in progress which subjects officers' chargers to many dangerous hardships, makes the requirement of officers riding their own mounts none the less necessary of strict enforcement.

In our opinion this is a matter of regimental regulation and discipline, and regimental commanders should feel such a pride in the field performance of their regiments that no one requisite of proper equipment—be it arms, uniform, instruction, or mounts—should be considered too good for campaign.

To be sure, there is something to be said on the other side: It is out of the question for an officer to insure the life of his mount under war conditions. And if killed or permanently disabled in action, no valid claim lies against the government. Even in peace times, the question of suitable reimbursement for the loss of private property lost in the military service without fault on the part of the claimant under the Act of Congress approved March 3, 1885, appears to be as variable as the proverbial weather-cock. Changes overnight in the office of the presiding officer of the Court of Claims seems to determine whether reimbursement under the statute will or will not receive favorable consideration.

On the other hand, the extra pay granted officers below the grade of major required to be mounted, was authorized by Congress for the specific purpose of meeting the extraordinary expenses incurred by officers of the mounted service. If expended solely for mounts, horse equipment, and wear-and-tear on riding togs, this extra compensation will, if carefully handled, provide for all necessities. Considering the cost of a first mount as say, \$250, the outlay will be covered in about twenty months of extra compensation. And if the useful life of the charger continues for five years after purchase, the owner will have received his initial cost three times over in that period, leaving the remainder of the extra compensation for uniform and equipment incident to the mounted service.

If the officer is a skilled horseman, it is not at all unusual to purchase a well bred training colt for \$150—\$200, and after several years of intelligent training, increase the animal's market value one hundred per cent.

Under such circumstances the regimental commander has it would seem, every right in the world to demand that his officers purchase high grade horses in the first place, and that these animals be ridden in campaign, no matter what the risk of permanent injury. If the statute had been so worded that the extra compensation must be expended on mounts or horse equipment—as was unquestionably the intent of its framers, there would certainly be little hesitation about the expenditure. The fact that Congress was liberal enough to not restrict the expenditure to strictly mounted expenses should in no wise cause our officers to become careless in carrying out the law's intent; and regimental commanders should, it is believed, strictly construe the law in regimental orders so as to not only safe guard the best interests of the government in a legal aspect, but pursue such a policy as will ultimately bring about a splendid mounted efficiency in the regiments which they are doubtless all proud to lead and command.

C. D. R.

FIELD NOTES.

THE following notes and comments have reached the editor from officers in the field, and although not prepared for publication—being contained for the most part in private letters, are interesting and valuable. Each comment is from a separate individual officer and it is hoped that further contributions will reach this department for the improvement of the mounted service and for utilization by the Cavalry Equipment Board.

CAVALRY EQUIPMENT.

"I know you will receive many letters from older and more experienced cavalry officers who are forming conclusions as a result of this campaign at the conclusion of many year's service, but the following opinions are submitted:

"Officer's Saddle. Many French officer's military saddles are in use and so far as I can determine, give universal satisfaction. Must say however that most officers still have to use the McClellan.

"Enlisted Men's Saddle. Have not had personal experience with the 1912 model but find universal condemnation, not on account of sore backs, because I believe they are little if any worse than the McClellan in that respect. But that saddle has a multiplicity of straps and buckles and accessories, etc., etc. Too many adjustments are required and they don't remain fixed. Men are continually falling out of column to readjust, while entry into or departure from dismounted fire action is slow. The service does not want that saddle.

"But I venture to say that the service, and by that I mean the cavalry officer and soldier, does want the McClellan with slight modifications. (a) The pommel of the McClellan model should be higher and possibly wider. After ten days or so our horses began to thin down woefully and the pommel arch settled to the top of the withers and caused abrasions. Or if we sought to overcome this by adding the bed-blanket, we found the pommel arch too narrow to accomodate the increased thickness. The front end of the side bars could not reach the back, and the withers were made to carry the weight of that portion of the saddle so that bruises and fistula followed. Or, if we folded the bed blanket in rear of the withers abrasions were apt to result. So with the present McClellan the problem is a difficult ne. (b) The seat should be made more comfortable to the rider. He now sits on the edges of two hard boards covered with two layers of hard leather. The horse is better off because he has six layers of soft blanket between himself and solidity. Sitting in the present McClellan for one or two or three hours at a stretch becomes a punishment, and the trooper resorts to one or more of the various types of slouching with which we are familiar, and sore backs come. So I was most delighted to see that the Equipment Board was about to adopt the McClellan saddle with a French seat as I feel sure this modification will add much to the comfort of the rider and will obviate the diffi-

"Canteen and Mess-kit. The ideas of the Equipment Board seem excellent.

culty I have mentioned.

"Bridle. Almost all of us have long since discarded the curb bit and ride on the single snaffle alone. The present bridle adjusts itself readily to this plan. I have seen several combination halter-bridles and they worked for mild-mannered horses but I believe would fail in a deplorable number of instances in the average troop.

"Halter. We find the present halter serviceable and generally easily mended with a few rivets or needle and thread that the saddler can carry on his person. But in the end, you may find the rope halter better.

"Stirrups. I like the open steel stirrup for my own use but I am sure the trooper wants a hooded stirrup for himself on account of snow, wind, rain, sun, thorns and safety to feet and ankles in close order formations.

"Saber. Many of the troopers discarded theirs as soon as possible after crossing the line.

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"Rifle Carrier. I was still at Riley when the instructors were carrying the rifle on the back and they said it was easy. No doubt it was to a man in the pink of condition on a comfortable saddle, but I know there would be a different impression in the mind of a hungry and half-grown trooper as he tried to ride an ill-trained remount through the mesquite and scrub oak bounding a narrow and rock trail, 500 miles into Mexico. Every pound that we put upon the trooper's back will add to the pressure of his buttocks upon the seat of the saddle and to relieve the agony he will squirm and slouch in a way he dosen't know now. When we left ———, March 21, we left without transportation; and man and horse were loaded chock-a-block with food and grain. We carried a bandolier over each shoulder. Had our rifles been there we would have had to shorten ourselves on ammunition or rations.

"Cotton Cloth Bandolier. Worthless. As I said, we left with a bandolier over each shoulder. We were on the trail of the ———— Cavalry, and when daylight came we began to pick up ammunition in the road. In a couple of days we discovered why. The friction of the bandolier against the trooper's uniform wore holes in the former, and single cartridges or whole clips dropped out to a serious extent. Of course, by day we dismounted to pick up those lost by the troopers in front, but that form of diversion soon becomes a trying nuisance. We soon placed them in the blanket roll or saddle bags. In the former they were not quickly available for combat and in the latter they filled space we wanted for food.

"Picket Pin and Lariat. We need them both, especially for those occasions when we cut loose from transportation which might carry picket line—as we did for weeks.

"Lariats too, were cut up to make halter tie-ropes as there was absolutely nothing else obtainable for use.

"Pistol Holster. Present model satisfactory and does not interfere with soldier getting clips from his belt.

"There is one thing which I want to mention—intrenching tools. Let us have them. I don't know how many times we will have to intrench, but I recognized the possibility of it several times during the campaign and felt the lack of them. Further than that, if we never intrench, they will repay themselves for their usefulness in camp and bivouac."

THE 1912 EQUIPMENT*

"I am deadly sorry that this regiment has the new equipment. The only thing in its favor is the compactness of the pack. There is no flopping. I think if we can get the Saumur part to fit the back of the horse, and the upper part to be the McClellan or a modification, we can hang all we want in compact form and solve the question."

"Hobbles and Side Lines. One thing of great interest is that hobbles are indispensable. I should say, that they would be indispensable if a part of the equipment. Side lines, or even one hobble to which the halter-shank could be tied, would answer the purpose. Animals will not graze if kept too close together. If scattered and not hobbled, there is always danger of a stampede."

"Regimental Records and Property in the Field. I am certain that we must cut down our plunder. We must, as cavalry do without a single wagon, and be able to live for at least a month on what we carry on the horse and on our backs. This idea will not go down with the older men, who cannot stand the

^{*}Field service brings out all that is good or bad in equipment, organization, supply or training. The following notes, made by officers of different regiments serving either in Mexico or on the border, are printed here as being of special interest and benefit to the mounted service. Most of the statements are from private letters, and hence make no claim to literary style, but are perhaps on that very account, of greater interest. Officers of all grades are urged to make their experience known to the service at large, by forwarding such notes to this department.—The Editor.

racket, but the —th and the —th Cavalry are doing right now what I advocate, and they will have to wash and shave and refit when they strike a base. All the forges and bedding-rolls they started out with, are thrown away, and they are still going. I am also coming to Colonel X.'s scheme of doing away with the band. This outfit is a nuisance in the field, and are purely a function of a permanent post. When we go into Mexico (if we go), I shall not take a record of any sort; simply depend on note-books of my own, and those of the sergeants-major. If we need a record, it will be necessary to send back for it to the man I shall leave in charge of property. All this seems radical, but our property is a curse when it comes to taking care of it in the field. It cannot be done and at the same time move and be efficient cavalry, as we should be."

"Saber Scabbards. Saber scabbards should be made of steel, and either issued blue or oxidized like the artillery stirrup; or if preferable, issue it nickeled and on taking the field, cover it either with cloth or leather. This latter method was used by the French infantry in 1916; they simply bandaged the scabbard with blue cloth. In Germany, I have seen scabbards covered with leather. Personally, I believe the oxidized scabbards are the best. Such scabbards are used by the Swedish cavalry and both look well and answer the purpose, besides, if my memory serves me, being about two-thirds cheaper than the present scabbard. It may be objected that the black scabbard will wear shiny, but the part where the wear occurs is next to the horse so it will not show. Any other wear would not be greater than that which occurs on the rifle."

"Rifle Carrier. My troop has probably used the new method more than any organization since the new equipment has been issued to regiments; that is, they have carried the rifle to some mounted formation practically every day for a year, and the present method of carrying while on the horse, is very satisfactory. It is much more comfortable for both man and horse, than under the rider's leg. The rider has better control of his horse, and, most important of all, when he leaves the horse, the rifle goes with him. There can be no such thing as jumping off when fired on, and allowing the horse to escape

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with the rifle, as happened many times in the Philippines to my knowledge.

"The objections to the present methods are two: The snap is awkward to work in the trigger-guard, which might be corrected by changing the shape and style of snap. The rifle hangs too low when the trooper is dismounted, to permit of free-walking. This could be corrected by putting a hook about half-way up the carrier-strap, on to which the trigger-guard could be hooked when the man was working about his horse, saddling or adjusting equipment, etc., without unsnapping the carrier-strap from the trigger-guard."

"Saddle and Drill Regulations in Mexico. Stick to the McClellan saddle for troopers, but make it a little more comfortable for the rider. Also, stand up for the old cavalry drill regulations. This will be the most unanimous vote of the cavalry, as a result of this campaign. We have almost abandoned the Cavalry Service Regulations."

"Rifle Carrier. Referring to the proposed method of carrying the rifle on trooper's back, published in the last CAVALRY JOURNAL in connection with a memorandum on the work of the Cavalry Equipment Board, I have been thinking the matter over, and have wondered how the swivel on the flat side of the stock will act when a man attempts to use the sling to hold the piece when firing. Without seeing it in action, my guess is that it will make him cant the piece, or at least make it very difficult to avoid doing so.

"The sling-strap will have to be very broad to avoid cutting the shoulder, and the spring-clip on the belt will have to be so made that it will not carry any part of the weight of the gun, as a man has a big pull on his waist now, with the pistol and the belt full of ammunition."

"Hobbles. The necessity for some form of hobbles becomes more apparent to me every day. This is the very poorest time of year for stock in this country (Mexico), and grazing will continue to become poorer until July 1, when the rains commence. There is an abundance of long grass, but it has lost all nutriment, and is just as dry and brittle as a dead twig. Near the ground, however, is a little green around the roots.

FIELD NOTES.

This is what the animals eat. I tell you this, so that you will realize how much the herd ranges while grazing.

"Corn is plentiful in this country, but there are no oats, and I have heard of no barley. Horses do well on corn, but only after they have become accustomed to it, and it takes some a long time."

"Picket Line. It appears to me that every troop needs a jointed picket line of, say, one-inch rope. One of the greatest sources of annoyance is the breaking of p cket ropes. Most troops are now using raw-hide lines, made from green hides. The hide is cut into a single strip about one and one-half inches wide and by moving in a spiral on the hide, you can get them very long. These strips are staked at one end, and by means of a simple revolving appliance at the other end, can be twisted tightly. The best are made by twisting two together."

"Lariat. The present lariat is of very poor quality. A great many are being used for halter-shanks, but they are constantly breaking. A great many raw-hide tie-ropes are now in use."

"Saddles. The number of sore backs from the new saddle (1912 Model) seem to be more numerous than those from the McClellan. I find that I can carry as much on my French field saddle as anyone can carry on any other, and with greater comfort to me as well as to the horse."

"Horses. I think that when the campaign is over, the superiority of the small, short-coupled horse over the larger type will be apparent to all. Even the small, long-coupled horse, seems to be equal to the large, long coupled-horse. The small horse certainly keeps in better flesh."

'Terrain. We were operating the other day in the most difficult mountains I have ever seen, and also the most picturesque. I recall one "pasture of ten square miles, necessitating only thirty yards of fencing. That is, it was completely boxed by canons, except for thirty yards where the fence ran."

"Saber. I agree with Captain Hawkins that we should discard the saber. We waste much time in failing to make swordsmen of our recruits. As an accomplishment for officers,

skill in fencing may be commendabe. But for the armament of volunteers, the sword or saber is an encumbrance and should follow the lance into the scrap-heap. And all of our soldiers are volunteers."

"Stirrup. According to the rumored report of the Cavalry Equipment Board, the cavalry stirrup is to be the steel stirrup or a hooded one.

"For dress occasions a steel stirrup is not objectionable. For enlisted men at all times and for officers in the field or at drill, I am greatly in favor of the wooden stirrup covered with leather but without any hood. The hood has some advantages but it prevents the rider from shoving his foot through. This keeps the foot in one position, and causes pain in the sole of the foot which is easily obviated when the position of the foot can be changed. The greatest objection I have to the hood is that with the McClellan saddle it is a great detriment to the "Riley Seat;" and with any saddle prevents the foot from being shoved through as it should be, at the jumps."

"Portable Ramp. We tried the ramp suggested in the last CAVALRY JOURNAL (April 1916), for loading stock, in loading our horses at Columbus, New Mexico.

"Troop commanders refused to use it, stating-

"(a) That the slope was too steep.

"(b) That only quiet, old horses would enter it, and that time was lost in loading by its use."

"Campaign Equipment. The march of my regiment in Mexico was an interesting maneuver in a country where hostilities might begin at any moment. It was very instructive to the members of the regiment. Nothing very new was learned.

"All were, however, impressed with the necessity of using on y new clothing and equipment in a campaign. Articles which looked all right, soon fell to pieces. If it were possible, nothing which was not new, or at least as good as new, should be taken into the field. A careful inspection should be made of everything before starting."

"Field Service Regulations. Our present Field Service Regulations cover necessary information relative to marching, outposts, water, bathing, rations, etc. 34

"In Mexico, it was found best to kill beef late in the afternoon. Drain the beef well of blood, and then hang it up all night to cool. It was then in fine shape for issue in the morning."

"Lariat and Picket Pin. In my opinion the picket-pin is an abomination, and can and should be d scarded.

"The lariat was in constant use in Mexico during grazing hours, and should be retained."

"Lariat. Keep as part of equipment by all means. It s light, easily carried, and can be used for many things besides that for which intended getting wagons or animals out of mud-holes improvising shelter, temporary repairs to saddle or bridle, lashing packs on service saddle, etc., etc."

"Picket Pin. In present form it is of course the handle of the intrench ng tool. It will pull staples, drive a staple, drive a shoe nail, tw st it off, and c inch it."

"Coat Straps. (Cantle and pommel straps). Why not replace these by thongs made of lace leather at a much reduced cost? Neither the thongs or straps are used on saddles unless packed, and after a time in the field the straps are gone and thongs or bailing wire takes their place. I think we have too much equipment and that many of the component parts are too expensive. We make too much effort to look well in heavy marching order, and think too little of actual field conditions. Why not try and start with what we are down to when we have thrown away the pretty and unnecessary, and are down to business?"

"Tie Rope. The old leather halter shank is too expensive for further use. The present tie-rope of manila twist cord is no good. The horses eat or mouth it, and it soon becomes untwisted, unsightly and unserviceable. It has to be replaced in a short time. Make the tie-rope of woven cotton, like the old lariat or ordinary sash cord."

"Side Lines. We are now receiving a lighter edition of the old style side line. They must cost a good deal, and never are serviceable. Many horses are injured by them. The commanding general, First Cavalry Brigade, has issued a memorandum order, in regard to the use of hobbles. These are made of green hide, and the hair may be left on. They are made on

wooden forms of the correct size and proper distance apart, and twisted. The hide dries on the form, and the twist sets." (For memorandum referred to, see elsewhere in this number of the JOURNAL.)

"Forced Marches. Although some very remarkable marches have been made by the cavalry in Mexico, the only data at present available which is authentic, is that in regard to the brilliant expedition of the troops under Major Langhorne from Boquillas.

"Captain Rhea's troop covered 215 mi es in 80 hours, and 580 miles in 19 days. Captain Kirkpatrick's troop covered about 100 miles less than this. As two of the 19 days were rest days, and the last day involved a march of but 12 miles, the former troop really covered 568 miles in 16 days. The black horses of this troop lost from 60 to 80 pounds each, but regained flesh after a week's rest. The mission of the command was accomplished without a soldier or a horse sick in Mexico, and with but one horse with sore back, caused by a broken saddle.

"Another march made from this command, was that cf Mr. Hasbrouck, the assayist of the Boquillas mine, who with a private of the Eighth Cavalry (each with a led-horse), was sent by Major Langhorne to carry a message to Captain Rhea. Frequently changing horses, these couriers rode 53 miles to find the officer, and then returned with him, covering 106 miles in 21 hours.

[&]quot;Halter Tie Ropes. Do not last. Within twenty days there was practically not one left. Lariats same. Seventh Cavalry officer recommend for field officers, a light steel chain, like a heavy dog leash."

[&]quot;Bandoliers. When carried by mounted men soon wear out with great waste of ammunition."

[&]quot;Automatic Pistol. Many accidental discharges; magazine spring too weak to carry magazine loaded for field service."

[&]quot;French Officer's Saddle. Above criticism."

[&]quot;Lariats and Picket Pins. Considered necessary."

"Hakers and Shanks. We have used over three times our allowance of shanks since we come here, which does not include what we have borrowed or stolen. A rope lasts from three days to two weeks only—a combination of climate and perhaps poor rope. Leather is preferable for shanks, but if we must have rope, make it sash-cord—linen or cotton. This experience is identical with that of troops in Mexico. We have many horses tied with baling wire. Picket lines are as bad. I have applied for dog-chains, six feet long with snaps . * * * The foregoing represents the views of the regiment. We want a halter-headstall of leather, and leather or chain shank:"



IDENTIFICATION OF PUBLIC ANIMALS.*

BY CAPTAIN JAMES N. MUNRO, Q. M. CORPS, (CAVALRY), In charge Fort Reno Remount Depot.

WHILE the officers at this depot have little time to devote to the preparation of professional papers, Mr. E. O. Trowbridge's article on "Identification of Public Animals" in the last number of the JOURNAL is deserving of immediate comment from the standpoint of practicability.

It is easy to understand how the system described by Mr. Trowbridge appeals to the office man. It certainly opens up a field for the compilation of masses of data, largely unimportant, and the accumulation of stacks of waste paper neatly arranged in filing cases and requiring the attention of an indefinite number of clerks. For what? For no practical purpose whatsoever.

There is no doubt that our present system for the identification of animals is faulty, very faulty. It needs simp ification instead of complication. The horse, like the saddle he carries or the gun carriage he pulls, should carry his identification with him. Mr. Trowbridge, and the commentators on his article assume that his system does this. It does not. No system which bases permanent identification on a hoof brand will accomplish its object or solve our present problem. That fact has been established beyond a doubt by the experience of this depot, if the experience of the service at large is not sufficient. The only purpose for which the hoof brand should be employed is for temporary identification, such as shipping to a depot. It should never be renewed.

^{*}Captain Munro's article is intended as a comment on the article by Mr. E. O. Trowbridge, in the April, 1916 number of the JOURNAL describing an original method of identifying public animals. See also the article on *Identification of Public Animals*, in the JOURNAL for April, 1915, by Major Guy H. Preston, Fourth Cavalry, to which Mr. Trowbridge refers.—Editor.

This depot has tried various systems of hoof branding. In an ill-guided moment, it adopted a system consisting of a combination of letters and numbers. Prior to that time, the regular pasture men knew practically every horse at the depot and what his number should be. After the adoption of the combination letter system, while these men knew the animals, they were completely at sea as to their numbers. Mr Trowbridge's system assumes that a hoof number, once applied, lasts almost idefinitely, and maintains its original sharpness of definition. If either he or the commentators on his system had ever balanced themselves for twenty minutes on the edge of the aperture in the branding chute at this depot, during the progress of a sandstorm and wept involuntary tears, the while continuously violating the 53d Article of War, in an effort to determine whether a particular hoof-brand was EK3 or EK8, or possibly FK3 or FK8, the fallacy of the hoof brand as a permanent means of identification would doubtless be apparent to them. Let them continue this work daily for a week and I know they would. Leaving out the letters entirely, it is almost impossible to distinguish a 5 from a 6 or a 3 from an 8 in a three month's old brand. This is bound to be the case where the animal is in the field or running loose in pasture. The edges of the brand break down, the hoof wears, and if the animal is inspected under conditions where mud prevails, each brand has to be dug out with a pocket knife or anything else that one can lay his hands on. If the hoof wears down so that the lower half of the brand is gone, the complications which arise are evident. These points in themselves eliminate the hoof brand as a permanent identification mark and consequently any system which is based on it.

As stated in the article in question, the present hoof brands consist of three-fourth-inch characters. Mr. Trowbridge believes that these should be made one inch characters. This is correct. They should. But on top of this he purposes to put six of these characters, including dashes, on the animals hoof. With the three-fourth-inch characters, it has been found at this depot, and I presume we do as much hoof-branding as any place in the service, (at least I am sorry for any other place that has to do more) it has been found practicable to put four

characters on the hoof and make them distinct, and no more. Yet here we find it proposed to put six characters on the hoof, each of which is one-third larger than these at present issued. It is a simple matter to sit down at a desk and draw a sketch of a horses' hoof, more or less draughty to be sure and somewhat isometric, and if one is expert with the pen, it is perfectly feasible to inscribe thereon The Lord's Prayer, if one has the patience. But to actually put this inscription on the real hoof with a set of branding irons is a totally different performance, requiring time and rather more patience than is called for with the pen sketch, to say nothing of renew ng this brand every six months at the very least. Simple numbers are bad enough, where one has constantly to deal with 1,000 or more horses but when vulgar fractions are proposed, the senses reel.

Mr. Trowbridge evidently assumes that hoof branding can be accomplished without chutes or any special appliances. A visit to this depot in the branding season would convince him that this is an error. Each individual horse must be driven into a branding chute and shut in there while he is branded through an aperture in the side of the chute. It must be remembered that the depot largely handles unbroken colts which, when purchased have in many instances to be roped and thrown in order to examine them for age. Instead of being much easier and simpler to brand on the hoof than to brand on the back, the latter is by far the simpler and safer, as the operator is already standing above the horse on the running board where the animal cannot reach him, while the man with the hoof brand is leaning through an aperture with the upper half of his body directly in front of the animal where he may be struck or bitten. Remember this process has to be gone through every six months at the very least and then many of the brands have partially grown off. Suppose we adopt the vulgar fraction shown in the illustration. At the end of six months we would find that all we have to identify the animal would be the numerator which would be the same on any number of animals. The only part of the hoof that can be used to apply the brand in the case of the young unbroken horse is about one-third of the entire surface which is directly in front. You cannot

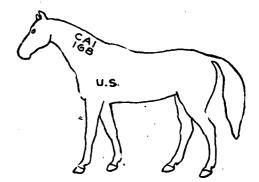
reach round and brand on the side as the side of the chute interferes. The characters shown in the illustration in Mr. Trowbridge's article are presumably one inch. It must be perfectly evident to anyone who examines the illustration that they are not drawn to scale nor do they begin to cover the space that they would in practice. Characters bearing the same ratio to the size of the hoof that those in the illustration do, would be illegible when reduced to a brand. But the point is that they are not permanent, and instead of precluding duplicates, as one commentator remarks, they open up a wider field for duplication than ever.

Mr. Trowbridge's idea with reference to the Remcunt Depot is right in principle, although at present our depots differ widely from breeding farms. There is no breeding at all. Our remount depots at present are the same as our arsenals, depots of supply, nothing else. If then we are going to give a letter designation to depots, why not give a letter that means something and not resort to mysterious fractions? Why not R for Ft. Reno, K for Ft. Keogh. and F for Front Royal, or if Front Royal feels slighted, make it F. R. How many men or officers could remember wether A—999 stood for Front Royal, or Ft. Reno, whose symbol is 999—A?

Just what is important as a permanent record of the service horse? What do we need to know about him? Does it make any difference whether he was shipped in an A. P. X. car, an open stock car, or a box car? Of what permanent value is the order by which the board was convened, the number of the bill of lading, where he was shipped, or, if from a contractor, from whom he was purchased? What sort of permanent data is necessary to the purchasing officer? None, absolutely. What is necessary to the remount officer who may be also the purchasing officer? None, that need follow the animal to his organization. The service horse is a part of the soldiers equipment just as is his rifle or his saddle. Does the arsenal make a descriptive list or card of each saddle it ships to an organization with a record of the date it was completed, who put in the last stitches, the kind of car it was shipped in, etc.? Certainly not. Neither should the remount officer with the horse. He has something else of more importance to do.

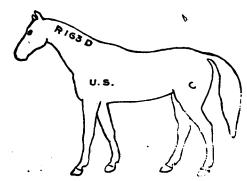
The permanent record or descriptive card of the horse should begin when he reaches his organization and the data for all of this he should carry on his hide. There is very little in the way of permanent record that should interest us with the average service horse. We wish to know his age at time of purchase, his price, possibly, though this is not vital, whether he is a Remount Depot horse or a contract horse, h s classification for service, Cavalry, Artillery, Riding or Draft, who purchased him, and beyond this his record must be kept up in his organization. Now all the above data can be indicated on the animal with a few neat brands. There are those, of course, who object to brands, but we brand the horse "U. S." at time of purchase and think nothing of it. The service horse is for service, not show purposes, and it is a matter of opinion whether or not a neat, small brand disfigures the animal or not. In any case the service horse is for utility, and if we must sacrifice something, let it be appearance.

Now if the purchasing officer, at date of purchase, brands the horse "U.S." and then applies a brand which indicates that he was a contract purchase, of a certain year, of a certain numbered contract, with his own symbol, we have everything required except his classification and this need not be applied until he reaches a remount depot or his organization. This is perfectly simple. Suppose we put it on the near side of the neck high up where the mane will cover it when trained on that side. To what can we reduce this brand? Suppose we let "C" stand for contract. 16 for the year in which purchased, 8 fcr



A CONTRACT HORSE AS HE ARRIVES AT A DEPOT.

his age, A for the purchasing officer's symbol and 1 for the number of his contract. We may brand this "C168A1," or "CA1" This reads that the horse was bought under contract in 1916, aged eight, purchasing officer was "A," his symbol in the office of the Quartermaster General, and was purchased under "A's" contract No. 1 for that year. If the horse was a young remount, then replace "C" by the remount depot's symbol, thus R163D, horse purchased by the Ft. Reno Depot in 1916 at three years of age by "D," the purchasing officer's symbol. Let the remount depot use any system it desires to keep track of the horses while they are at the depot, but take away from it and from every purchasing officer the permanent descriptive list. Now as to price, if we wish to burden ourselves with the price of



A CAVALRY REMOUNT AS HE LEAVES THE DEPOT.

the individual horse. Any horse purchased under contract has his price fixed thereby. All animals purchased under this contract cost the same. The brand gives the contract, hence the price can be ascertained or it might be published in an order giving the price of all horses so purchased for the year. We publish in orders the price of ordnance stores form time to time and of uniform clothing, why not of public animals? An organization commander on receipts of a shipment of remounts could refer to the order for the year in which they were purchased and enter on their descriptive list the price of each. If the horse is a remount depot purchase, then his price for that year is fixed in the authority to the depot for that year's purchases. Besides all this, we carefully figure out annually what we are pleased

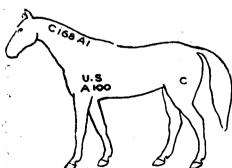
to call the average price of horses for the year. Why not let this price then govern for all horses purchased during that year and if an animal is lost drop him at that price. Nobody is out anything. What difference does it make whether a service horse cost \$145.00 or \$147.50? The average price for the present year is \$141.20. Why not call the price of each horse purchased during the last fiscal year \$141.20.

Under this system, the purchasing officer and the remount officer would be able to give all their attention to their proper functions. The horses to them would simply be so many Cavalry, Artillery, Riding or Draught horses.

If it is considered necessary to classify the animals when purchased, then they can be branded with a C,A,R, or D, on the near hip or above the U.S. or elsewhere. This can be left till they reach a depot or till they are assigned to an organization. Let us take a concrete example and see the difference in the working of our present system, or that proposed by Mr. Trowbridge, and a system based on body brands and no descriptive list. On Saturday evening the 11th of March, the Ft. Reno depot received a telegram from the O. Q. M. G. to ship 391 mature cava ry and riding horses to the depot quartermaster at El Paso and directed that so many be assigned to each of some nine or ten regiments. On Sunday morning, both officers and the rider force rounded up the mature, broke pasture and had the animals in the depot inside an hour. These animals were ready to be loaded. Had the train been on the track they could have been on their way in three hours, giving liberal allowance for delays. But no, that couldn't be done. Each animal had to go through the chute, have his hoof brand dug out and checked up with his descriptive list. Finally he had to be checked into the car and given an assignment to a regiment. 'Instead of this shipment of horses getting off as it should have by Sunday noon, it was Monday evening after two days of strenuous work that the little train of eighteen cars finally moved out. Were any errors made? Of course there were, in spite of the fact that there were two officers and three clerks at work all the time. How perfectly easy it is for one to mistake the letter C for example, for D, or E, or G, when called out from a distance of several feet with a gale of wind blowing.

But this is not all. In order to rush the shipment and help disentangle the horses at the other end, an officer was sent with the train. He wired ahead the hour of his arrival when he was sure of it. This was the first intimation that El Paso had that these horses were coming. When the shipment arrived, no one knew where the horses were supposed to go and a wire was sent to the department commander for instructions. When these instructions came, the animals were assigned to entirely different regiments from those originally designated and in different numbers. Result, the officer in charge of the shipment had to wrangle over that entire lot of horses as best he could, without the conveniences of the remount depot and assisted by inexperienced clerical help. Hoof numbers of course were hopelessly confused. The depot does not know to this minute where its horses went to. Nor, as a matter of fact, should it be concerned with their ultimate assignment.

Suppose when the depot quartermaster at Ft. Reno received that wire a system such as I have outlined had been in operation. All in the world he would have had to do was to round up his mature broke pasture, a matter of an hour, run them into the shipping pen and, if the cars were set in, begin to load cavalry horses, not numbers 261, EK5, 987, etc., but simply mature cavalry horses. It takes five minutes to load a car, as we found by trial. There were eighteen cars. Allowing for switching and spotting, that shippment could have been out by midnight Saturday night, instead of Monday evening. When it arrived in EllPaso, the falure to find the assignment of the



A CONTRACT HORSE AFTER ASSIGNMENT TO AN ORGANIZATION.

animals the same as when shipped would have mattered not at all. Here were 391 horses Assign them where they are most needed. The depot drops them and they go to their organizations with their identification on their hides, except regiment and troop. Alright then, how shall we put this on? Perfectly simple. The animal still has another side to his neck. another shoulder and another hip, besides other waste areas that may be utilized. I am not going to advocate any particular brand for this purpose but there are a number of ways to do it. One is, to give each regiment a letter as "A" for the First Cavalry, and give each troop a hundred numbers "A" Troop to have the numbers from 1 to 100; "B" Troop, the numbers from 101 to 200, etc. Perhaps a simpler scheme can be devised but this will do to illustrate. The near shoulder still has nothing but "U.S." on it. Immediately under this could be branded A100. That horse then is No. 100 in "A" Troop of the First Cavalry.

To require a purchasing officer to enter all the data proposed on a descriptive list to be forwarded to an organization is perfectly absurd. If he is buying under the stress of urgency, he has not the time for this. Where an officer is buying at the rate of from 100 to 300 horses a day (and the latter record has been made for days at a stretch by foreign officers), where can he find time to enter up on descriptive cards the data proposed? But a single brand can be put on each animal very readily. As a troop commander I have had to waste precious time fitting purchasing officers' descriptive lists to my remounts and I know what it means. It frequently means new descriptive lists. Many of these descriptive lists were made in such a hurry that no one would ever identify the animal. Some of them were from the Kansas City office. I made up my mind then that no descriptive list should ever be made till the animal reached his organization, and my experience as a remount officer has only confirmed me in this opinion. Suppose the Allies had inaugurated such a system as that proposed prior to the present war. What would have happened to it? It would have been abandoned long ago. It is useless to adopt any system that will not stand the test of campaign. Foreign armies long ago saw the necessity of treating the service horse as they would any other

piece of equipment. In the British remount system today a horse is simply a horse till he reaches his organization. At the remount depot he is a cavalry horse, an artillery horse, a draft horse, or a riding horse. The remount officer does not concern himself with descriptive lists; neither does the purchasing officer. The purchasing officer may designate the animals he purchases under certain circumstances as cavalry, artillery, etc., but ordinarily this is done on the arrival of the animal at the remount depot.

There is a vast difference between keeping a record of animals bought and shipped at once to their destination, as is the case with an office like Kansas City, handling a thousand or more constantly changing animals. The hoof brands used by the Kansas City office work very well for their purpose, which is temporary identification. The trouble with these brands is later, when the Kansas City office has forgotten about the animal and dropped him from their records.

It is time we looked ahead and began to deal with our profession in a larger sense. We have before us the best possible object lesson—the European War Such a deluge is coming on us in due time. If we are not prepared to deal with war material in enormous masses, promptly, we will fail. For years we have been dealing with a toy army and wedded to a system of involved paper work. We have reached the point where we believe that a mass of carefully arranged papers filled largely with useless data, means efficiency When our trial comes we will be dealing, not with horses by the thousand, but by the hundreds of thousands. Why the officers commenting on Mr. Trowbridge's article have not seen this, with the example of foreign officers before us daily for nearly two years purchasing horses by the tens of thousands, is a mystery to me. A dead record of these horses, such as is suggested by Mr. Trowbridge, would swamp the entire clerical force in Washington. After all, why a dead record? What possible value is the dead record of a horse? This office has dead descriptive lists sufficient to fill an escort wagon, though the depot has been in operation less than ten years. Of what use are they? Why any record of animals for this depot, except the animals actually present.

After one year's experience at this depot, it is perfectly evident to me that my time and that of my assistant is largely wasted in useless paper work, much of which applies to the permanent descriptive card of the horse. If this card originated with the organization to which he is assigned, an immense amount of time and worry would be saved to everybody for more important duties.



A DEFENSE OF THE SABER.*

BY SECOND LIEUTENANT GEORGE S. PATTON, JR., EIGHTH CAVALRY.

THE incidents of the present campaign in pursuit of Villa, have led many cavalry men to reagitate the question of dispensing with the saber as part of our equipment.

An analysis, however, of the peculiar circumstances and conditions which have attended our movements in Mexico, does not seem to warrant the conclusion that the saber has played its part in the wars of the future, and must be relegated to the functions of the pruning-hook and the plow-share.

Under the ordinary circumstances of war between civilized nations, the first duty of cavalry is to discover the movements of the chief columns of the enemy, and at the same time to prevent the hostile cavalry from learning the whereabouts of our main body. To accomplish this, its dual mission, it must defeat the hostile cavalry and must do it quickly. Quick action means the saber!

In the present expedition on the other hand, there have been only small bands of mounted men, and these, far from attempting reconnaissance in force, have bent every effort to avoiding detection. When discovered, they have invariably fled in all directions after a very brief resistance.

Such tactics have naturally precluded the possibility of mounted shock-action. But to say that on account of certain peculiar and exceptional circumstances which have prevented its use, the saber is now useless, is as far from the truth as it would be to say that the modern field-gun is obsolete because during the present expedition into Mexico not a single shot has been fired by artillery. Witness also, the very erroneous estimate as to the future use of the bayonet, which the special

conditions of the South African War at one time gave rise to, and which have now been very emphatically disapproved.

It is certainly well beyond the range of things probable that our nation shall not for all time, confine its military endeavors to the pursuit of small bands of disorganized brigands. Assuredly, we shall yet have to oppose modern armies, fully on a par with our own. Armies imbued with the spirit of vigorous aggression, trained to quick and powerful blows, and eager for quick results. If with fire action alone we attempt to meet the cavalry which will precede such an army, we will be made helpless and immobile, and will not fulfill the duties of screening and of reconnaissance for which we have been primarily created. Truly, a saberless cavalry in the face of such foes would be like a body without a soul. It is the saber and the hope of some day fleshing it in an aggressive enemy, which gives to cavalry the dash and initiative which has made history on many a field, and has inscribed so many historic names on the scroll of fame. Can mounted infantry or troops used as such, produce such men as Murat, Seidlitz, Sheridan or Stuart? No' Even though their sabers may not have drunk deep in every fight, it was the glorious traditions so nobly inscribed by the saber, which gave these cavalry leaders their immortal place in the Hall of Fame!

Before we say that the saber is no longer of use, let us carefully ponder the true story of the European War, when after its termination, all facts are available for consideration and study.

The reports of the great conflict abroad which have hitherto reached this country—written as they are by non-military observers, have at all times dwelt more with the novel, the dramatic and the spectacular incidents of the struggle—the tremendous field guns, the deadly asphyxiating gas, the liquid fire, and the wonderfully efficient aeroplanes. And yet, hand grenades, catapults, the bayonet, and the knife had been declared by all military writers to be ridiculously obsolete.

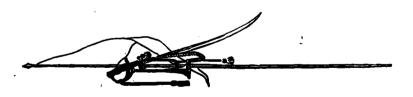
Another point which has already been mentioned in the press in accounting for the lack of news regarding the tactical use of cavalry in the war abroad, is that war correspondents have rarely had access to the distant and varied fields of cavalry combat; and perforce, they have written about the work of

^{*}Passed by the censor. Lieutenant Patton is at present on duty at the headquarters of the expeditionary forces in Mexico.—Editor.

the guns, whose decisive effects on the battlefield, they can readily observe and appreciate. Yet their incessant chatter has made many, who should know better, think that wars can be decided by soulless machines, rather than by the blood and anguish of brave men.

In this connection the writer is in receipt of two letters from captains of French cavalry, one of whom has been decorated. Both officers state that they have used the saber and the lance, and both have seen them used with deadly effect. If the gallant infantry in the trenches dare to come to hand-grips in spite of deadly gas and flame, surely the equally brave men in the saddle can and must brave the opportunities for close work with the saber.

On account of the magnificent distances which obtain everywhere on the American continent, our future wars will never be confined to the trenches. And if we allow our sabers to rust in the scabbards, many a glorious opportunity will go a-begging for want of that fierce desire which has been the heritage of the cavalry man of all ages, to close headlong with the enemy—a desire which the use of the saber, and the saber alone, can develop and maintain.



JAPANESE MOUNTED SERVICE SCHOOL AT MEGURO.

THE buildings and riding rings cover an area about 800 yards long and 500 yards wide. The buildings are arranged in an irregular horseshoe shape with the entrance gate in a wall extending across the open end of the horseshoe. In the center of the area is a ravine thirty or more feet deep, about fifty yards wide and 200 yards long. In this ravine have been constructed a course of low jumps—none more than two and one-half feet—and a trail up the steepest slopes with a ditch at the bottom.

The buildings consist of an administration building, recitation halls, barracks, post exchange and amusement room, guard house, stables and riding halls. The buildings, except the administration building which is of stone, are wooden and of rough construction. It is the intention of the War Department to move the school to Narashino.

The personnel is made up of student officers, student non-commissioned officers, instructors—both commissioned and non-commissioned, and the school squadron composed of picked soldiers from all the cavalry regiments in the service. In addition to the above is quite a large force of civilian employees who do practically all the orderly work around the buildings and stables, except in the barracks of the school squadron.

There are about eighty student officers and thirty-two student non-commissioned officers. Each of the twenty-seven cavalry regiments sends one officer a year, the thirty odd artillery regiments do likewise, and the remainder come from the Army Service Corps No infantry officers attend. All the non-commissioned officers come from the cavalry.

The course is eleven months, and from the twenty-seven cavalry officers five are selected each year to remain for a

second year's work, with a view to detail as instructors. One of the present instructors is a graduate of the German School at Hanover.

In the instruction of non-commissioned officers in bayonet fencing, the arm used is a wooden rifle and bayonet with a pad on the end. The men wear a padded glove with a plastron which protects the neck and shoulder. Below the plastron, they wear a wooden, barrel-like abdomen protector. No masks are worn. The positions and movements of the exercise are much the same as those laid down in the U.S. Bayonet Manual.

The old Japanese fencing exercise is still kept up For this fencing the saber is made of strips of split bamboo bound together, and the handle is long enough to admit of grasping it with both hands. Ordinarly, however, only one hand is used. The men wear the same uniform as for the bayonet work, and in addition a heavily padded helmet and mask. The men seem to enjoy the exercise, and enter into it with much vigor uttering a peculiar cry each time a blow is struck or received. These cries are a regular part of the exercise, the theory apparently being that they add to the dismay of the enemy.

The barracks of the school squadron is a rough wooden building without running water or other convenience. The squad rooms are small, only large enough for one squad of eight men. The bunks and arrangement of clothing and equipment are much the same as in the U.S. service. The carbines are kept in racks, but are not locked up. The arms of the cavalry soldiers consist of a saber, bayonet and carbine. The saber is curved and resembles the old U.S. model saber, except that it is three or four inches shorter The bayonet is about eighteen inches long and an inch wide at the hilt. It is double-edged and has a chisel point. It is fastened at all times to the carbine, just under the muzzle, and, when not in use, folds back into a slot in the hand guard, being held in place with a spring catch. It looks like a very serviceable weapon, and the method of carrying it appears excellent. The carbine looks like an excellent arm. It is of a small bore, about .25, and judging from the height of the rear sight leaf for a range of 2,000 meters, must have a high velocity and flat trajectory. It is loaded with a clip containing five cartridges, and has a bolt action. It differs from the Springfield in having the entire breech mechanism enclosed in a tubular case, so that the only visible movement in operating is that of the bolt which travels in a slot. The rear sight is of the folding leaf type, and only the open sight is provided. There is no lateral motion to provide for windage. The front sight is set between two protecting studs evidently to guard against breaking or bending, and sach carbine has a brass muzzle cover. The carbine is about three of four inches shorter than the U. S. service rifle, but about as heavy. This is due to the bayonet and to the size of the wooden hand guard, which extends to within one-half inch of the muzzle, and is larger in diameter than would seem necessary. The stock has the half pistol grip.

Next to the barracks is a small building used as an amusement room and post exchange.

There are five covered riding halls about 100 feet by 50 feet. The walls extend only about two-thirds of the way from the ground to the eaves, the upper third being open. The floors are sand. The work of the first year officers consists of exercises at the walk, trot and gallop; halting, backing and starting, changing leads on small circles and haunches in and out. The movements are executed with care and precision. The five second year men go through the same exercise, except that their work is almost entirely at the canter. In the open riding rings, sections, both of officers and non-commissioned officers, do much the same work as is done indoors. In the course for non-commissioned officers, most of the horses jump freely, and there are few refusals, but the jumps are low. The men's seats, and especially their hands are good; the horse is very rarely jerked while in the air. There are several stables, each with stall room for about forty horses. The buildings are wood, with concrete floors. Each horse has a small box stall which keeps him entirely separated from his neighbors. Rope halters are used, and the horses stand on the concrete without bedding. The forage consists of hay, oats, bran, and also whole wheat. Sliced carrots are fed to sick horses. Rice straw is used as bedding. The grooming is done with wisps of straw rather than with curry combs or brushes.

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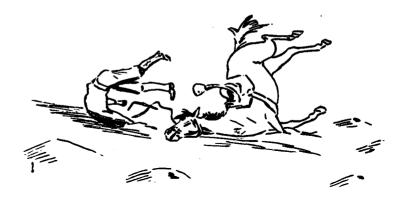
The horsemanship of the students appears to be more mechanical than natural. It certainly shows hard and painstaking work. The positions are correct although constrained and the work is careful. The seat is much the same as the American, although, in the case of the shorter legged men. the stirrup is shortened until the thigh is nearly horizontal. This is due probably to the fact that the shortness of the leg will not permit a proper grip even with a long stirrup. This same shortness of leg probably accounts largely for the general use of the spur in giving all aids with the legs. The hands are generally good. The equipment seems of good quality. The bit and bridoon are used and are of the same pattern as the new U. S. model. The curb chain is worn quite loose. The service saddle resembles closely the polo saddle issued by the U.S. Ordnance Department, except that the cantle is higher and is provided with straps for the roll. Pommel pockets are worn. The saddle is lined with wool and a felt pad is used. The skirt has a small knee roll. A new model saddle which is being experimented with, is almost an exact copy of the new U. S. model saddle. The bars are covered with padded wool.

The horses are of two classes, the country bred, and the imported Australians. It is difficult, however, to distinguish between them in most cases, except by the brand, as most of the so-called country breds have Australian sires and dams. The horses are of about the same size as the U. S. cavalry horse, but seem to be smaller boned as a rule. The Japanese Government in conjunction with the Nippon Racing Club, a subsidized organization at Yokohama, imports each year from Australia a few mares and stallions. These are sent to the Royal Stud and are used to improve the inferior native stock, which is the ordinary cavalry type. The horses for the school come from the Royal Stud, and after one and one-half years in the school are distributed among the regiments.

The general appearance of the horses is good. The shoeing seems very good. The shoes fit well, and the angle of the foot is generally good. Little effort, however, seems to be made to decrease the size of the foot, when a horse

first begins to wear shoes. The feet are generally large and nearly round. As a rule, there seems to be good frog pressure.

The mpression left by the school is one of hard work and honest effort. Every one seems busy, and the discipline is excellent.



CARE OF SADDLE BLANKET.

THE following description, by Captain Brice P. Disque, Third Cavalry, of a certain method of caring for saddle blankets has been submitted to the War Department, and is here published as being of special interest to all officers of the mounted Service.

It has been suggested to me that I describe a manner of caring for saddle blankets which I have followed for several years, and which has undoubtedly resulted in prolonging the life of the blanket from four to six times its ordinary period of usefulness.

I respectfully submit the following for such use as you may desire to make of it:

Several years ago I noticed that most blankets condemned were worn only on about one-sixth of their surface, and occasionally along the edges of the folds. Apparently this was due to the following reasons:

Always folded the same way with the same surface always on the horse's back.

The same surface on top exposed to the wear of saddle, saber, and stirrup strap buckles.

The continuous sweating of the under surface soon rotted it, and made it necessary to keep it washed or have sore backs.

The constant folding the same way every day and frequently, never unfolding them at all, resulted in excessive wear along the edges.

In order to overcome these conditions, I prepared a line around the corral fence about seven feet from the ground and required:

(a) That every time a blanket was used it be fully opened out and hung on the line while the horses were being groomed. This treatment thoroughly dried the blanket, took out all creases, and the sun and wind cleaned it better than water.

- (b) That the blanket be so folded that a new surface (there are twelve possible) should be next to the horse every time it was used.
- (c) On days when weather conditions made it impracticable to hang the blankets on the line, they were laid, used surface up and open, on top the saddles until the next day when they were refolded.

I found it difficult to know if men were changing the surface daily and adopted the following (see photos 1 and 2, which I have ruled with the six sections which result when blankets are folded):*

- (a) I had the twelve possible surfaces of the blankets so numbered from one to twelve that the number would appear in the lower, rear corner on the near side.
- wears the blanket showing No. 1 surface, which is also the one containing troop mark and man's troop number (see plate 3—blanket of Troop D 3 Cav.; man's troop No. 29). On the second of the month every man who turns out mounted shows No. 2 surface and so on until the 13th of the month, when all men go back to No. 1 surface and continue up to No. No. 12 on the twenty-fourth of the month, changing again to No. 1 on the twenty-fifth of the month. (See photos 4 and 5, showing the blanket as worn on tenth and eleventh of month, and on twenty-second and twenty-third of month). If a man is absent from a mounted formation he changes his fold the next time he turns out as though he had been at drill every day. This is necessary in order to know that changes are made by everyone.
- (c) Blankets are all unfolded and hung on line after each mounted formation. If it is raining, they are folded, wet side opened out and laid on top of saddle until next day, when they are refolded.
- (d) I frequently inspect the stirrup straps to see that buckles are kept well down to the stirrup and require that there shall be no rust on these buckles.

I believe an inspection of blankets treated in this manner will show that they are softer and smell sweeter than any that

^{*}Photographs not received .- Editor.

are not so treated. Furthermore the washing of blankets not only is rendered unnecessary but becomes an evil as our facilities for this are so limited that they are seldom properly washed.

I know from experience that blankets treated as above described will last from four to six times as long as the blankets treated in the average manner. I am wearing on my horse a saddle blanket which has been in constant use since 1903, Photo 6 shows a blanket in use less than a year with one surface only worn out through sweat and rot as well as worn places where high, rusty, stirrup strap buckles have been wearing in the same place.

COMMENTS.

First Lieut. L. R. Partridge, Third Cavalry: "I have examined the blankets of Capt. Disque's troop and found them in far better condition, as relates to cleanliness and pliability, than any such large collection I ever saw I am in favor of so caring for, and using, saddle blankets."

Capt. H. S. Hawkins, Third Cavalry: "Captain Disque's scheme seems to me to be a good one. Some scheme of this kind should be used, but it is not recommended that this particular scheme be required. It might be wise to require troops to change surface of the blankets which rests upon the horse at least once a week. But the minutiae should be left to the troop commanders."

Capt. J. D. Tilford, Third Cavalry: "I believe this idea of Captain Disque's to be an excellent one I have examined some of the blankets of his troop and found them in very good condition after quite long service."

Col. A. P. Blocksom, Third Cavalry: "In my opinion Captain Disque's method is preferable to those used in the past and to a large extent at present. I cannot find that the 'Cavalry Service Regulations' prescribes any particular method of folding the blanket, Circular 47 WD July 31, 1909, directs that when in constant use saddle blankets be washed at least once a month and folded so that the side next the horse will be changed frequently. I believe washing the blanket once a month is injurious. Recommended that some such scheme of folding and preserving the saddle blanket be outlined for the benefit of the mounted service and that responsible officers

be allowed to determine when it is necessary to wash it. I believe the present average life of the blanket may be at least doubled."

Major Alonzo Gray, Fourteenth Cavalry: "I am of the opinion that each blanket should have treatment according to circumstances. As a rule the dry clean is sufficient. Occasionally washing is necessary. I am thoroughly convinced that the best results are obtained by refolding every day so that each of the twelve wearing surfaces gets an equal amount of wear. Where close attention has been paid to the subject of refolding, excellent results were obtained. Where refolding has been neglected the results are unsatisfactory whether the system is wet or whether it is dry cleaned."

Lieutenant Colonel R. A. Brown, Fourteenth Cavalry: "This system of caring for the blankets was carried out by the following method:

"Troop "K" Fourteenth Cavalry tried the system by having one-half the troop follow the old system and the other half the daily refolding method

"Troops "I", "L' and "M", Fourteenth Cavalry used the refolding system throughout the entire troop.

"All four troops spent an average of about two months of the period in the field. During this service the troops were divided into small groups and extended over considerable distance.

"The trial was carried out in good faith, a matter I made sure of, by examination from time to time.

"I am satisfied that refolding every day will prolong the life of the blanket very considerably, and th's method offers no difficulties in garrison in a dry southern climate. I am also satisfied that the method is impracticable in the field or in a cold northern climate where there is considerable rain.

"I do not recommend that the daily refolding method be prescribed by orders as the one method to be followed. I do recommend that it be prescribed as a method to be followed when practicable in garrison, conditions of climate and weather permitting.

"Troop commander should be given discretion in using the two methods in combination with a view to keeping the

CARE OF THE SADDLE BLANKET.

blankets n proper condition and securing the maximum amount of service."

Captain Fitzhugh Lee, Third Cavalry: "One-half of the saddle blankets of each troop of the Third Squadron, Third Cavalry, were treated as outlined in letter of Capt. Disque, April 24, 1915, the other half were cared for in the old way, viz: Completely spread out and well dried after use, refolded and hung in saddle rooms.

"There has not been any appreciable difference in the wear of the two sets of blankets after this six months test.

"Possibly this test would have been more satisfactory had the four troops been equipped with new blankets at the start.

"I do not consider this scheme of Capt. Disque's practical, it is difficult to carry out properly and no more satisfactory than the method heretofore employed in this squadron, viz.: At the end of drills, marches, etc., all blankets are opened out and carefully dried, refolded on fresh surfaces under squad leaders, hair and dirt accumulations brushed out when necessary, blankets only washed in individual cases when needed.

"It was the old method of folding blankets so the troop number and stencil marks should be displayed in the same place day after day that wrought havoc to blankets. I do not believe many organizations adhere to this harmful scheme now-adays."

Colonel J. G. Galbraith, Third Cavalry (attached): "It is believed that inspect on will disclose whether the blanket receives proper care, and frequency of inspection is recommended as the best means of securing good results.

"If the troop commander is allowed to regulate the care of the saddle blankets, he can be held responsible for results, whereas if he is ordered to follow the method of Captain Disque he can blame the unpractical method if the results are not satisfactory.

"The efficiency of troop commanders is judged by the condition of the equipment of their organ zation and the cost of maintenance. The toleration of lax or wasteful methods will tell against the captain. In each instance of neglect the captain or the squad leader should take suitable corrective measures, according to the circumstances of the particular case.

"I am of the opinion that the methods should be left to the troop commanders."

Captain Harry N. Cootes, Thirteenth Cavalry: "About July 10th I received a copy of Captain Disque's letter with diagram showing the various suggested number of folds and on August 1, 1915, the test was begun."

"The troop was divided into two platoons, one platoon using the Disque method, the other platoon the old method.

"The blanket is numbered from one to twelve inclusive, and was changed daily, and orders were given that each numbers corresponded to a day of the month, the number on the blanket corresponding to the day of the month and this was verified at drill by the squad leaders.

"After the number twelve was used the blanket was turned back to No. 1, and continued through all the numbers in the same manner as before.

"After a careful comparison of the blankets I find that those turned daily are in a much better state of preservation than those of the two squads who followed the old method, and will last a much longer time than those which are not turned. In fact they should last easily twice as long.

"The scheme is an excellent one and in my opinion should be adopted throughout the army.

"I suggest that if adopted the numbers on the blanket be woven in them, for if marked by paint they become dim and not as sightly. They could easily be woven in the same manner as the present U. S. which is on the blanket now used.

"As used in the Disque method, the folds are used as bearing surfaces for the saddles, not over three times during the month, and consequently the wear and tear is materially lessened."

Captain O. W. Rethorst, Thirteenth Cavalry: "The following report is rendered relative to a test made in this troop, of a scheme to prolong the serviceability of saddle blankets.

"The test was conducted during a period of five months begining about the first of August, 1915.

"It has been found that the blankets that were folded in such a way that a different surface was placed against the horse's back each day are much less worn and are more serviceable today than those that were not so folded. The wearing due to the cincha and stirrups, the principal wear of the blankets, is distributed over the twelve surfaces in the first method and of course prolongs the serviceability.

"It is believed unnecessary to have the blankets folded so that a different surface is presented daily. It is believed the object would be accomplished by having the change made weekly."

Major Frank Tompkins, Thirteenth Cavalry: "I enclose herewith report by the commanding officer's, Troops "L" and "M", Thirteenth Cavalry, relative to the scheme of Capt. Brice P. Disque, Third Cavalry.

In order that this test might be of real value each of the above mentioned troops were furnished with a complete set of new saddle blankets, and the test started August 1, 1915. One-half of the blankets in each troop were cared for by washing according to the method in general use in the cavalry service, the other half of the blankets in each troop were cared for in the manner recommended by Capt. Disque.

"It is my opinion that the method of caring for the saddle blankets prescribed by Capt. Disque is much superior to any other method now used in the cavalry service, as it not only adds at least fifty per cent. to the life of the blanket, but it also keeps the saddle blanket soft and pliable, and is, therefore easier on the horse's back than when the blanket is hard and stiff, and in addition it presents a better appearance for a greater length of time than when washed and the folds are not changed daily.

"I recommend that the number on the saddle blanket be woven in, and that the method of caring for saddle blankets by Capt. Disque be made mandatory in all its particulars."

Colonel H. J. Slocum, Thirteenth Cavalry: "There are several reasons why this Disque scheme is believed by me to be a good one. Not only saves the wear and tear on blanket but decreases the possibility of any foreign article, such as small stick or stone, being picked up by the blanket when it is on the ground, and then get next to the horse's skin under saddle or equipment injuring animal's back."

NOTES ON CAMPAIGNING IN MEXICO.

THE Mounted Service Section of the CAVALRY JOURNAL having issued a call for notes and suggestions from those who have recently been south of the line, the following rough notes are submitted for what they may be worth:

Leave your sabers at home. It is true that there is a bare possibility that occasion might arise when they could be used, but we have our pistols and the probabilities of an opportunity for use of the saber is so slight that it will not pay for the extra load on the horse.

Likewise you are better off without your curb bits. Horses can water and graze with snaffle bits in the mouth, and whatever advantage accrues from the better control of the horse afforded by the curb bit is more than counter-balanced by the inconvenience of having to remove the curb bit at every halt for watering and grazing.

Troops are almost sure to be obliged, as we did, for about a month, to live on the country and travel practically without transportation. One of the most serious inconveniences of this is the necessity of individual cooking which is wasteful of food and fuel and takes too much time. One must count on frequently being in the saddle for twelve hours and if out of the other twelve the soldier must cook his own meals and care for his horse, he does not have sufficient time to rest; therefore try and carry such cooking utensils as will reduce this individual cooking to the minimum. It is accordingly very desirable that each troop should have one pack mule per troop. The three camp kettles now supplied with the light field cooking (march) outfit are unsatisfactory inasmuch as all three being of the same size and shaped like the frustrum of a cone, they stick together. The same remark applies to the three bake pans also supplied by the Quartermaster Corps.

NOTES ON CAMPAIGNING IN MEXICO.

The old cylindrical camp kettles in nests of three are much better. These are readily packed on a mule and can be used for coffee, beef stew and boiling beans—articles which will daily be on the menu.

The folding canvas water buckets supplied with the new cavalry equipment are a great convenience and are worth while carrying along.

In starting out try and have a full set of extra fitted horse-shoes—a half set, one fore and one hind, with nails, are of course indispensable.

An emergency kit for their special use should be carried by the horseshoer, saddler and farrier.

I believe that a lighter rasp and lighter pincers than are now issued to horseshoers, should be secured for the emergency horseshoer's kit; remember the horseshoer must carry these articles in his saddle bags in addition to the regular pack including his own extra rations and grain for his horse.

Our new feed bags wear out very rapidly, and in each troop a man should walk the picket line when horses are eating their grain and remove feed bags as soon as empty. It would help matters considerably if the bottoms of feed bags were made of very heavy canvas.

Frequently we had to grind our corn or wheat to make corn meal or flour for corn dodgers and tortillas. Mexican peons have small hand mills which we constantly had to borrow until we bought mills of our own. Let such a mill be part of the field cooking outfit.

The sweater, as everyone knows, is unsatisfactory, but on the 6,000 and 7,000 feet plateaus of Chihuahua an extra garment is needed at night and we found *it warmer* when worn *under* the O. D. flannel shirt rather than over it.

Shoes, if possible, should be hobnailed; and don't forget that unless especial care is taken our men are prone to draw shoes which are too small.

The pistol magazine pockets of webbing soon wear out at the bottom. This can be obviated by having the saddler cover the lower half with leather. Remember the bandolier is not strong and durable enough to carry ammunition thrown over the shoulder on the march. It is intended for emergencies when going into action, etc.

Troop Tools. Each troop should have an axe (provided with a sling and scabbard to protect the edge) and one each of the small shovels carried by the infantry or issued with the new cavalry equipment, and a small pick mattock.

Picket Rope. We made lariats (doubled) answer this purpose, but they were not satisfactory and the ordinary picket pins were rather too short. The very lightest rope that will answer the purpose, however, should be carried, and pins should be at least fifty per cent longer than the regulation picket pin.

Every man should have a lariat, but I doubt if it is necessary for evey man to have a picket pin.

Before starting out, see that each pair of saddle bags is provided with canvas inside pockets.

The short fleece lined overcoat with high rolling collar introduced at the Mounted Service School, and of late generally used by cavalry officers is invaluable—particularly to sleep in at night. Officers wearing this will of course omit the sweater.

Mounts. The very best mount which I saw was a four year old Arab Stallion owned by * * * * . This sturdy animal was head and tail up and fat when most of the troop horses were skin and bones. It is important to have a horse that is a "good feeder," one that starts to eat at every halt; also one that wastes no energy on the march.

Saddle. The French officer's saddle is preferred to any other. It should be provided with two rear saddle bags—one on each side. Saddle blanket—a new one should be used.

The government O. D. blanket is too heavy for the warmth one gets from it. I used a lighter weight, all wool, fluffy Jaeger blanket. This with the slicker, saddle blanket and fleeced lined coat above referred to, with saddle for a pillow will in summer months usually be sufficient.

Every officer should have two mounts where possible, the led horse should be saddled with McClellan saddle and saddle bags, and should carry the officer's pack, leaving the mount which he is riding with practically a stripped saddle so far as concerns weight. The (new) saddle blanket used in the daytime under the McClellan saddle furnishes an extra bed blanket for the officer at night. Of course under the conditions of which I am writing, an officer's twelve pound bed-roll and the accessories that go with it are not to be thought of.

Every officer should carry enough of some kind of concentrated food for a couple of meals at least; some will prefer the emergency ration, others cheese, choclate or dried beef, but they should have *something* of the kind always at hand. Recollect that hard bread is rather a bulky form of ration.

The ration for the men when living off the country will generally be fresh beef killed each night and the first meal of same eaten the following morning, with enough packed along for that night or even longer if transportation is available. Pork (not of best quality) is usually found at all ranches.

Country. The country from Culberson's Ranch to Parral may in general terms be described as a series of immense plains from four to ten miles wide (east and west) and from ten to thirty miles long, separated by mountain ranges trending north and south. A large part of these plains are covered with grass, and water is to be found about every ten or fifteen miles. The country is sparsely settled and the ranches are generally large establishments comprising anywhere from ten to thirty families.

The question of supply usually forces one to camp at one of these ranches which afford very dirty camps as a rule, but I only recall one where I thought the water unwholesome. The grazing in vicinity of these ranches is usually poor. One should remember that a very large part of the country above mentioned is at an elevation of from 6,000 to 7,000 feet with cold nights and warm days. South of Cusicuirachic the climate is considerably warmer than north of that point. Quartermasters should be supplied with cash (Mexican silver preferred) for purchase of supplies.

Colors. The National Colors should be carried both for regimental headquarters and for squadrons when the latter are detached. The regimental colors I would leave behind.

THE PREPARATION OF COMBAT FIRING EXERCISES AND THE CONDUCT OF THE SAME.*

BY LIEUTENANT COLONEL F. SAYRE, SECOND CAVALRY.

OMBAT firing exercises are field maneuvers consisting in operations by troops against an enemy represented by targets and involving actual firing. They fall into the class of one-side maneuvers and are conducted by methods similar to those employed in one-side map maneuvers and field maneuvers with an outlined enemy. There must be a director to prepare the problem, to impart it to the commander, to give needful instructions, to make decisions when necessary, and to conduct the discussion or critique.

The assumed military situation may be imparted orally or in writing. Whether written or oral it is commonly spoken of in our service as a "problem." It may contain a general situation, or statement of the outlines of the military situation of the forces assumed to be opposing each other in the theater of war considered, and a special situation, or statement of the particular situation of the troops to be employed in the exercise contemplated.

The problems employed in combat firing exercises are ordinarily problems of execution rather than problems of decision; but they should leave to the commander a certain field for the exercise of discretion. To save time and to ensure

^{*}Lecture delivered at the School of Musketry, Philippine Department, at Fort Wm. McKinley in December, 1915.

that the exercise will result in a combat and that opportunity will be given for firing, the situation selected should place the troops employed in contact with the enemy at the outset and should assign to the commander a mission which will cause him to attack with his whole force or to seriously defend a position.

There are two general methods followed in the preparation of tactical problems. Sometimes the character of the exercise is decided upon in advance. If it is desired to illustrate certain dispositions or a particular principle of tactics, we may decide, at the outset, upon a general outline for the exercise. We must then fit this outline to the ground, if it is a field exercise, or to the map; if it is a map exercise. That is to say, we must look for features of terrain which lend themselves to the situation we have in mind. For instance, suppose we wish to illustrate the deployment of a route column of cavalry for a mounted attack. We must seek a suitable road for the column and select a place on it with a view to avoiding exposure to the view of the enemy prematurely. Then we must find open ground for the attack and a conveniently located point of support for the advance guard to enable it to cover the deployment and furnish fire support for the attack.

If we are limited to a particular form of exercise we may study the ground or map with an open mind. Some feature or combination of features will suggest some tactical idea which, with further study develops into a scheme for a maneuver. For instance, a defensive position may present itself. Upon examination we find a covered route leading from the front against one of its flanks. An attack and defense exercise is suggested and we have the choice as to which is the better side to take. We then select a convenient starting point for our troops and prepare the description of the initial situation. Both of these methods have certain advantages. By means of the first we may give the instruction which is thought most desirable at the time. This method must be followed to some extent in any comprehensive course of instruction. The second method should give good results in the way of plausible and naturally developed exercises.

In the case of problems for combat firing exercises, as in all tactical problems, heed must be given to the special objects sought, and consideration must be given to the previous training of the organization to be employed, especially to its experience in exercises of a like character.

Paragraph 6, Infantry Drill Regulations, says:

- "(c) Field exercises are for instruction in the duties incident to campaign. Assumed situations are employed. Each exercise should conclude with a discussion, on the ground, of the exercise and principles involved.
- "(d) The combat exercise, a form of field exercise * * consists of the application of tactical principles to assumed situations, employing in the execution the appropriate formations and movements of close and extended order. Combat exercises must simulate, as far as possible, the battle conditions assumed."

Paragraph 224, Small Arms Firing Manual, says:

- "(a) Every exercise should involve a tactical idea, though only portions of an episode or episodes of a combat should be represented.
- ``(c) The position of the targets and the ranges thereto should be unknown to those participating. If practicable, the exercise should be on unknown ground.
- $\dot{}$ (d) Exercises should be simple in their arrangement, but each should involve some feature which is unexpected to those taking part."

General Orders No. 37. Series, 1914, Philippine Department, directs that, "in firing exercises for all fractions of the company, the company commander will prepare the problems and conduct the exercises," and that, "each battalion commander will prepare the tactical problems and conduct the combat exercises in person for the training of the companies of his own battalion."

The chief object of combat firing exercises is to give organizations training and experience in firing under conditions resembling those of battle and to test the efficiency of organizations in actual firing. But the necessity of simulating battle conditions provides excellent opportunities for tactical in-

struction and these opportunit es should be utilized. However, moderation must be exercised in this respect. A complete of instruction in tactics cannot be given in any one exercise. By attempting to cover too much ground in the way of tactical instruction, we are likely, not only to consume an undue amount of time, but also to confuse the officers and men and obscure the main objects of the exercise.

The opinion has been advanced that a combat exercise for cavalry should begin with a reconnaissance by mounted patrols, should include the preparation of written reports and sketches and should terminate with a mounted charge. But this would make the exercise take up a great deal of time and other opportunities can be found for instruction in reconnaissance, reports and charges. The tactical instruction of the organization can be rounded out at other seasons by exercises with blank cartridges or with no cartridges at all. If the tactical lessons which we attempt to teach at one time are limited in number, the lessons taught are more likely to be understood and remembered. If a combat exercise can be made to illustrate some one good point in tactics we should feel satisfied in this respect.

It is of even greater importance to avoid the inculcation of wrong lessons. A certain combat exercise began with a sentry squad firing on a group of targets in its front. The commander of the squad was told that he was in the presence of a superior enemy and that he should signal for reinforcements. A platoon, representing a picket, posted further to the rear, was instructed to obey this call and the platoon and squad advanced against the enemy. The platoon fired on another froup of targets and its commander was then told that he was in the presence of a superior enemy and that he should signal for reinforcements. The remainder of the troop then came up and the exercise terminated with the troop advancing and firing at a third group of targets. The exercise took up a great deal of time and most of the lessons taught were wrong. An outpost has a purely defensive mission and no part of it should leave its post on the initiative of its commander to attack an enemy. The ordinary channels of command were reversed, a sergeant giving orders to a lieutenant and the lieutenant giving orders to the captain. No exercise of discretion was permitted, but each commander was required to play a part in a prearranged program. It was a demonstration rather than a combat exercise, and a demonstration of things which ought not to occur.

A degree of discretion should be left to the commander. He should be required to make a decision either as to what he should do or as to the manner in which a designated object should be accomplished. And he should be required to communicate the situation to some or all of his subordinates and to give orders to them. These requirements should not appear in the form of explicit instructions, but should devolve upon the commander as a necessity growing out of the assumed situation.

As is the case in all one-side maneuvers, the director must play a more active part than the rôle of an umpire in a two-side maneuver. The director knows where the targets are and knows also the form which the exercise must take in order to attain the desired results. He draws the exercise into the desired channel by timely information of the enemy, supposed to have been obtained by normal methods, and by decisions in regard to the effects of fire, etc., rather than by means of instructions. The director should give such information, make such decisions and give such instructions as are necessary to prevent the miscarriage of the exercise, but should interfere with the commander no more than is necessary for this purpose.

In taking different organizations successively through the same exercise, it will be found necessary to give some commanders more information, decisions and instructions than are needed by others. For this and other reasons the oral method of imparting situations has manifest advantages. It is a most valuable training for an officer to compel him to concentrate his attention upon what another is saying and to grasp the details of a military situation quickly from a verbal statement of them. When an officer puts on his reading glasses and concentrates his mind upon a piece of paper he loses touch with what is going on around him. A quantity of written matter is thrust upon him at one time and a delay is incurred while he is digesting it.

When the situation is imparted orally, it is necessary to describe only the general situation at the outset. This can be given by the director to the commander and by the commander to his subordinates without delay. Then, perhaps, some one additional detail, say a report from an imaginary patrol, may be added, which will cause the commander to set his organization in motion in the desired direction. Some information may then be given which will place him in contact with the enemy. For instance, the director may tell him: "Your point signals 'enemy in sight'"; or, "A patrol which you sent out on your right flank has reached the crest of that hill and has lain down there, it is now firing in the direction of the tree you see yonder." By pointing out localities the director keeps the commander in touch with the situation and avoids delay. By imparting information progressively, the exercise can be made more realistic and can be conducted smoothly and in the desired direction.

It is generally supposed that but little variety can be given to combat firing exercises. Certain limitations are imposed by the fact that it is ordinarily desired to have all of the men of the organization fire at the same time and under the same conditions. This limits the employment of detachments and the holding out of supports and reserves. In a certain company exercise, the company was deployed in the desired direction and the targets representing the enemy appeared. The captain ordered two platoons to fire on the enemy and held two platoons in reserve. After firing one minute another group of targets appeared on his flank and he ordered one of the reserve platoons to fire on the new objective, still holding one platoon in reserve. After firing an additional minute, all of the targets disappeared. The exercise was not entirely satisfactory as a firing test because only one-half of the company fired during the first minute and one platoon did not fire at all.

Combat patrols and other detachments cannot ordinarily be actually represented. And the exercise should be so directed that the commander will not hold out supports and reserves even though under the assumed situation, he thinks it best to do so. But these considerations need not limit the scope of the exercise. The employment of detachments and supports may be considered, even when they are not represented. When the organization is set in motion toward the enemy, if the commander desires to send out detachments to obtain information or provide for security, the director can say that these detachments will be assumed to have been sent. The director then becomes responsible for the supply of the information which might be obtained by these detachments, and this gives him a means of keeping the exercises in the desired channel. If the commander thinks that a part of his organization should be held as a support during the firing, the director can inform him that imaginary troops will be assumed to have been sent to support him.

If the organization is to advance toward the enemy at the beginning of the exercise, the detachment of an advance guard or a point can often be actually made, and arrangements can be made for halting them at points at which they are assumed to attract fire from the enemy. Information of the enemy may be imparted through these advanced detachments with the object of making the exercise more realistic. If the organization is regarded as acting alone, the detachments which it makes for security, etc., must ordinarily be assumed or imaginary. In other words, their functions must be filled by the director. If the organization is regarded as acting in combination with other troops, questions in regard to detachments are not likely to arise, but the director must fill the place of the higher commander and must describe the positions and movements of the supporting troops.

The simplest form of combat firing exercises is where the organization employed is conceived of as occupying part of a defensive line of indefinite extent in both directions and the enemy is represented by a group of targets in its front. No maneuvering is necessary and the work of the commander consists in estimating the range and in directing and controling the fire. The exercise can be varied and complicated by causing the targets to disappear and targets to appear in other places, thus necessitating orders for changes of objective and sight setting. For instance, the targets might first appear at about 800 yards to the front. After being fired on they dis-

appear and presently similar targets appear, two or three hundred yards nearer conveying the impression of an advancing enemy. If the nearer targets appear first they convey the impression of a retiring enemy. If the targets disappear and other targets appear on the flank of their position and nearer, the advance of adjacent units by a ternate rushes is suggested.

Defense exercises can be given additional variety and interest by conceiving of the organization employed as being on the flank of the defensive line. After firing upon an enemy in front, or even while still firing upon him, another enemy may appear on the exposed flank, making it necessary to divert part or all of the fire upon the new objective. Movement may be introduced into defense problems by having the troops move forward to take their places on the line, or a counter-attack might be made.

Attack exercises are more interesting than defense. Changes of position put life into the exercise. After firing the troops may advance to one or more new positions and resume the fire. The entire organization may advance, the advance being assumed to be supported by the fire of other troops, or the advance may be made by fractions of the line at a time. In the latter case care must be exercised, for the fraction in front may be in actual danger from the fire of fractions in rear. Disappearing targets are almost a necessity in defense problems; they are not so necessary for problems in attack.

Of still greater interest are exercises where the organization is taken as acting alone or where its commander is operating in conjunction with other troops but is charged with a measure of independence; for instance, where the organization is supposed to form a covering detachment for a larger body. An infinite variety may be obtained in such exercises, subject only to the limitations of the ground available. The organization may be taken as an advance guard, and while marching, the commander may be informed that he is under fire, and a line of targets shown him in such a position that unless he attacks promptly and drives the enemy back, the main body will be seriously delayed. Or the situation may be such that the main body will probably avoid an engagement or will need considerable time before it is in position to reinforce its advance guard.

The advance guard then seeks a point of support from which it can cover the main body without becoming closely engaged. Or, the commander may be told that the main body has been attacked by hostile troops advancing on its flank and rear; he would then abandon his former mission and return to support the main body or seek an opportunity to attack the flank of the enemy.

Problems requiring the exercise of initiative are especially desirable. Self-reliance, promptness in forming decisions and boldness in taking advantage of opportunities are qualities which should be cultivated in our officers and the ordinary conditions of the service offer but few opportunities for cultivating them. Field exercises requiring initiative, decision and independent action are the best means of training officers.

It may be objected that if too much is left to the judgment of the commander, there is danger that the exercise will miscarry. But this need not be the case. If the commander fails to take the course contemplated, the director can inform him that a messenger has just arrived with additional information of a character to make his mission clearer, or that orders have been received from a higher commander directing him to take the course contemplated. The commander's failure to act without orders may then be commented on in the critique.

Disappearing targets have certain obvious advantages. They permit the director, to a certain extent, to control the movements of the enemy; and, by imbuing the enemy with a semblance of life, add to the realism of the exercises. When placed at or near trenches and connected with the firing point by telephones, they save a great deal of time in the collection of the data needed for the critique. But the exercises which can be conducted with the disappearing targets are limited in variety, the troops ordinarily know the location of the trenches and the estimation of the ranges is made abnormally easy.

Variety can be attained by placing lines of targets on the ground in unexpected positions. More time is then consumed in obtaining the results of the firing and more strain is imposed on the imagination; for the enemy does not disappear when he is supposed to do so and, in order to stop the firing, the director

is compelled to say, "The targets you have been firing on are supposed to have disappeared." The best results are probably to be expected from a combination of both methods, using the disappearing targets in the usual places for the preliminary exercises and the ordinary targets in new places afterwards.

The statistical record and the director's comments on the tactical dispositions form the basis of the critique. The statistical record should be complete for each firing and should include: (a) the number of men firing; (b) the number of shots fired; (c) the actual range; (d) the estimated range; (e) the number of hits; (f) the number of targets hit; (g) the number of hits expected; (h) the number of targets expected to be hit; (i) the time consumed in firing and (k) the number of shots which should be fired during this time. It is well to dictate this data to the officers of the organization at the beginning of the critique. If they take it down in their note books they can, by referring to these notes, follow the discussion more satisfactorily.

The director should show a spirit of fairness in his remarks. In comparing the results of the firing with the results to be expected from average shots as shown by the tables, it should be remembered that the data of the tables were collected from firings on an "A" range. That is to say, the distances were known, the visibility of the targets was perfect and the men firing were able to use the prone position. In combat firing exercises the ranges are not supposed to be known, the targets cannot always be seen well, and some of the men are frequently compelled to kneel, sometimes even to stand, in order to see their targets. Colonel G. W. McIver says on this point, in a lecture delivered at the Musketry School, Philippine Department, in 1914: "The average error in the estimation of ranges is from twelve to fifteen per cent. so that a perfect estimate cannot be insisted upon. On the other hand, when the target stands on ground which affords good signs of impact, a good adjustment of fire should be obtained and allowances on this account, if made at all, should be slight. When targets or natural objects used as aiming points are very obscure or faintly outlined, precision in aiming is much more difficult, the dispersion is greater and the accuracy falls below the standard.

Lack of visibility may also affect the distribution of the fire and lowers somewhat the rate of fire. As an offset against these deductions, the ricochet hits scored give an increment favorable to the detachment firing, since the computed results do not include ricochet hits. This increase, under favorable conditions, may amount to twenty per cent. of the total number of hits scored. It is safe to say that allowances below the standard prescribed in Paragraph 31 of the Field Firing Standard, should never exceed twenty-five per cent. on account of all causes. Usually it should be much less the amount depending upon the judgment of the supervisor."

The point is often made, in comparing the results of field firing with the proficiency test standard, that the enemy is supposed to be composed of average shots and is supposed to make the standard number of hits on the organization firing. Consequently, if the organization firing hits fewer targets than the standard number, it is supposed to have failed to gain a superiority of fire. But it should be remembered that combat firing exercises are only a form of target practice and that the results obtained in actual battle firing depend upon a variety of conditions which do not exist in target firing and that they do not approximate to those obtained in combat firing exercises.

The tactical features involved in combat firing exercises may vary so greatly that it is impossible to lay down any rules to serve as a guide in criticising them. It is well to remember, in discussing tactical dispositions, that good results may be obtained by a variety of methods and that originality should be encouraged rather than repressed. The difference observed in solutions of the same problem by different officers often result rom the fact that they have conceived of the situation somewhat differently. A problem is never so completely stated that the commander is not compelled to make assumptions in regard to some of the conditions. Different officers make different assumptions and their decisions differ correspondingly.

When problems are required to be written as an exercise for the purpose of instruction, the officer preparing them should be required to state the tactical principles which the exercise is intended to illustrate. There is no one form for written problems which is suitable for all cases. A form should be selected which is well adapted to describing the particular situation which we have in view. If the exercise is to be carried through successive stages, the problem will consist of several parts which should be appropriately numbered. Two problems are given below for the purpose of illustrating two different kinds of combat firing exercises. These exercises might be conducted orally, without making use of written matter. A written memorandum for the range officer should, however, a ways be prepared, containing necessary data in regard to the kind of targets desired, their location, the manner in which they are to be handled, etc. The problems given are based on the twelve inch map of the "B" target range at Fort William Mc-Kinley, P. I., but could be readily modified to adapt them for use elsewhere.

COMBAT FIRING EXERCISE NO. 1.

Situation:

A firing line occupies the position Q—R—west, engaged with an enemy on the line O—west (2). You are in command of a platoon of infantry which has been held as a support in hollow north of Q. You have just received instruction to place your platoon on the left of the firing line and open fire on the enemy at O (2) which is already under fire from our troops, with the object of ga ning a decided superiority of fire.

Note.—If the platoon commander offers to send out a combat patrol he is informed that this matter has been attended to by higher commanders.

Outline of Events:

The platoon is deployed east of Q and opens fire. After firing one minute targets appear at its left front (5) and the commander is informed that this enemy is firing upon him and upon the line to his right. (If he does not immediately divert the fire of his whole platoon upon the new objective, he is informed that he has been ordered to do so.) After firing on the new objective one minute all targets disappear.

Points Illustrated:

- (a) The importance of combat patrols.
- (b) Fire must be met with fire.
- (c) The danger of short range fire, especially from an enfilading position.
- (d) The most dangerous enemy should be selected as an objective.
- (e) The platoon is the unit of fire control and while the captain is normally the fire director, the platoon commander must sometimes act in advance of orders in directing the fire of his platoon.

Memorandum for Range Officer:

- (a) A platoon with rifles and twenty rounds of ammunition in the hollow north of Q at —— A. M., on the —th inst.
 - (b) Twenty-four prone targets in plain view at (2).
 - (c) Twenty-four prone targets concealed at (5).

COMBAT FIRING EXERCISE NO. 2.

- I. Your platoon is the advance guard of a company which is marching west on this road. You have just reached this point (west edge "B" range camp). A hostile patrol has been seen at Balagbag Station. What dispositions do you make?
- II. Your point has reached the knoll yonder (S), has halted, taken cover and signals, "Enemy in sight."
- III. On reaching this point (S) you receive fire from the vicinity of the mango tree (1) and an enemy appears there.
- IV. After firing on the enemy one minute he withdraws to the south over the ridge. Your company has continued to advance west on the road. (Note.—If the commander does not decide to pursue the enemy, he is informed that the captain has directed him to do so.)
- V. On reaching this point (mango tree) you find that the enemy has left this vicinity. Your company has continued to advance and is now at S, marching west with a new advance guard. An enemy appears at N (3) and opens fire on you.

VI. After the platoon has fired one minute the enemy disappears.

Tactical Principles Illustrated:

The ordinary mission of an advance guard is to clear the way for the main body. It must promptly attack an enemy who bars the road with fire in order to enable the main body to advance. If the enemy withdraws to a flank he must be followed far enough to secure the route of the main body. The advance guard may thus become a flank guard and eventually a rear guard. The main body continues its advance, pushing a new advance guard to the front. The advance guard commander should not wait for orders but must act promptly on his own initiative in order to avoid delay.

Memorandum for Range Officer:

- (a) A platoon with rifles and twenty rounds of ammunition at the "B" range camp at —— A. M., on the —th inst.
 - (b) Twenty-four prone targets concealed in Trench No. 1.
 - (c) Twenty-four prone targets concealed in Trench No. 3.



CAVALRY INSTRUCTION.

THE REVIEW---A TEST.*

THE review of cavalry, properly conducted, is an inspection having for its object a test of appearance of men and horses; a test of precision in evolutions; a test of horsemanship and horse training at increased gaits, and a test of endurance and condition of horses.

- 2. To effect this a rectangle should be laid out 600 yards by 300 yards, or thereabouts. On this the command should march past at a walk, trot, gallop and extended gallop, and then charge past. Thus the command will cover four miles—three miles at increased gaits.
- 3. After the command is presented to the reviewing officer and before the march past, a hasty inspection of appearance should be made by him by riding along the line, to determine generally care and cleanliness of the horses' coats, manes and tails, etc.; neatness of equipments and clothing. It is desirable that these points be determined before the dust and dirt caused by the march past have altered the appearance of the command. After the march and charge past a similar hasty inspection, by riding along the line, should be made of the condition and endurance of the horses, as shown by their more or less fatigued condition after the rapid march. A closer and more detailed inspection of the individual organizations which constitute the command may, if desirable, be made later. This later inspection should not be construed, however, as part of the review.
- 4. In the review as a test the following points should be noted by the inspector. (Deficiencies should be published): On forming: precision and promptness with which the command is formed for review. At the first inspection: Correctness o

^{*}G. O. No. 1, Headquarters First Cavalry Brigade, February 7, 1916.

alignments; care of coats, manes and tails of horses; smartness and neatness of clothing; care of equipments. During the march past: Precision of evolutions; correctness of alignments; correctness and uniformity of gaits; control of individual horses; horsemanship and seat of men; uniformity in carrying the saber. During the charge: Control of horses, seat of men; correct handling of the saber; rapidity of gait—(the charge should be made at a run, and the slowest horses must be trained individually to move a mile in a little over two minutes); cohesion (boot to boot), order and alignment. During the hasty inspection following the march past and charge: Whether the horses are unduly fatigued or panting; comparative condition of horses n different organizations, thus establishing the extent to which the horses have been hardened by training.

5. The review, thus conducted, is a test of organization, discipline, smartness, precision, endurance, and of garrison training as well as of field training. Commanding officers should frequently put their commands through this test in order that they may assure themselves that in every respect these requirements have been fu filled.

GENERAL RULES FOR COMBAT EXERCISES.*

The following rules should regulate the conduct of officers and men at Combat Exercises and Field Maneuvers. (See also Pars. 135 and 141, F. S. R., and Pars. 664—762, C. S. R.)

The Commander.

The commanding officer of the troops and his staff officers should wear on the arm or cap a band or other device in order to be readily distinguished.

The commanding officer should be supplied liberally with aides, orderlies, messengers and trumpeters.

His position in small commands should be near the front of his command.

He should always be in communication with every part of his command and with his chief of scouts. He should demand constant reports from his scouts.

His command should not be scattered, but should be under his direct control, and the detachments of his command should be in a position to always support each other.

As far as practicable he should make his subordinates, including his men, acquainted with the nature of his plans. In order that he may profit by their suggestions he should frequently consult his officers, either by conferences or otherwise.

When practicable he should always personally reconnoiter the enemy's position before attacking.

He should not lose control of his artillery and machine guns.

He should as a rule adopt the simplest form of attack, keeping his troops well together and profiting by the mistakes of his enemy. He should avoid making combined attacks by widely separated detachments.

He should never attack when the probable gain will not offset the probable loss, nor should he attack when victory will cripple his command to such an extent as to make it useless for further operations.

The Mounted Attack.

The principal occasions for the mounted attack are when a surprise can be made at close range; when hostile cavalry forces meet each other unexpectedly; under circumstances where dismounting to fight on foot is undesirable or impracticable. At short ranges it is sometimes safer to charge foottroops mounted than to attempt to dismount or retire in their presence. It is also a question of the weapon and of moral effect; against foot-troops the pistol or the rifle should be used; against mounted troops, preferably the saber. A great expenditure of horseflesh in action is to be avoided. As a rule the rifle is the most important weapon, and the horse is most valuable for the mobility it gives the troops.

^{*}G. O. No. 6, Headquarters First Cavalry Brigade, March 7, 1916.

Conservation of Horses.

U. S. CAVALRY JOURNAL.

Since as a rule the fighting of cavalry is dismounted and the horse is used principally for mobility on the march and in taking position, and since the loss of the horse destroys the value of cavalry, every means should be utilized to conserve his life and efficiency. Cavalry troops at a halt under artillery or rifle fire should instantly disperse and, if possible, take cover from fire and from observation. Moving cavalry can escape the effects of artillery and long range musketry fire by dispersion, or by filtering troopers one by one across a bulletswept space. If it can be avoided, cavalry should never dismount under a close fire of musketry; if cover is to be had immediately in rear, they should gallop to the rear, preferably in dispersed order, and having reached cover they reform and dismount before moving forward to the attack. It sometimes happens that cover for the horses can be found to the front, in which case it should be taken advantage of, if it can be done without undue loss. Troops approaching the firing line mounted should always be preceded by special combat patrols. The act of galloping up on a ridge and dismounting while under fire of the enemy cannot be too strongly censured, since under these circumstances the slowness of dismounting and moving the led horses to the rear exposes the animals to numerous casualities. Dismounting and firing while holding the reins should never be indulged in except against a fleeing enemy, or when not exposed to rifle fire.

Led Horses.

Great care should be taken for the safety of the led horses. An officer should invariably be in command. His duty should be to move the led horses rapidly to the nearest cover. In case they are under fire, the movement should be made in dispersed order. On reaching cover he should see that they are concealed. When necessary to further hide their position the horse-holders should dismount. That they are concealed should be carefully verified by the officer. To accomplish this he should make an inspection, moving around their flanks mounted, and again on foot. He should establish outposts to protect the led horses, and files to connect the led horses with the firing line. If at a distance, the led horses should have a special guard. In case the led horses cannot find cover from fire, but only cover from observation, he should so disperse them behind trees, buildings, etc., that they cannot be seen from the front. He should be ready at any time, if ordered, to re-inforce the firing line by linking his horses, head and tail, and sending the spare troopers to the front.

When necessary to dismount under fire the casualities among led horses are much diminished by quickness in dismounting and in sending the animals to the rear. To accomplish this troops should be trained to dismount and get into action by methods quicker than those heretofore indicated in the drill book. The command should be simple, as: "Action Front; Commence Firing." The dismounted troopers should rush to the front and commence firing at once, in order that they may keep down the fire of the enemy. The horses should be trained to dash to the rear as soon as they are taken charge of by the horse-holders. The horses in an emergency should not be linked, the reins being merely passed to the horse-holders. Order in moving to the rear is not necessary. It is better that they move in fan-shaped formation or in line, each horse-holder moving without regard to the other fours. Arriving under cover the column may reform.

Scouts.

Scouts should move in groups of three, one acting as non-commissioned officer in charge. The principal faults of scouts are:

Moving out too far from their commands, by which they lose touch, are in danger of being cut off, and their reports are received too late to be taken advantage of.

Failure to move out far enough, whereby the head of the column is exposed to ambush, and the information received is inadequate.

Failure to send back information. Reports should be made at regular intervals, whether there is anything to report or not.

Falling back hastily on the command in case of a threatening movement of the enemy. Scouts should always remain in touch with the advancing enemy.

CAVALRY INSTRUCTION.

Blanketing the fire of lines by remaining in front when the fire is opened.

Engaging in combat with the enemy, or with opposing scouts.

Scouts should never fire except as a signal to indicate the danger of a surprise.

Failing to conceal their presence from the enemy.

Failing to dismount when in a stationary position to observe the enemy.

Dismounting aids concealment.

In reporting, a failure to state the exact position and number of the enemy, whether a platoon, troop, squadron, etc.

Where ambush is feared, a failure to observe signs and marks on the road, horsetracks, the trail of detachments, etc.

Scouts should never be withdrawn from their proper duties to be used as combat detachments, to mislead the enemy, etc.

Neighing horses should not be used by scouts.

The Firing Line.

Officers with the firing line must take cover, otherwise in action they draw the fire of the enemy.

In combat exercises officers who expose themselves should be ruled out. Failure to dismount under fire is fatal.

Exposure of skirmishers when on the firing line must be avoided when by moving to the front or rear cover may be obtained.

The men should be taught by preliminary exercises how to conceal themselves in looking over a rise of ground. They should make use of brush, (and if necessary cut it for the purpose), tufts of grass, etc. It often happens that taking off the hat aids concealment.

Do not change the position of line unnecessarily, for this often gives the enemy a target.

In making an advance to cover reconnoitered beforehand, the movement should be made at full speed. The position where the line should halt should prevously be explained to the men. When necessary the men should be filtered from one position to another over open ground individually, obliquely or by zigzags.

Conservation of ammunition should always be practiced, the officer in command always knowing whether the first, second, third, fourth, etc., clip is being used. When ammunition is scarce, or when conditions require it, firing should be conducted by the commands: "No. 1; Fire one Round; Commence Firing;" "No. 2; Fire one Round; Commence Firing," etc.

The distance to the enemy should always be carefully estimated and given. The best method is to obtain the means of several estimates made by the most reliable non-commissioned officers When at combat exercise, firing when properly conducted, is the best kind of musketry training. It teaches the men to distinguish and make out the heads and bodies of the enemy when at a distance; to locate the proper point on the ground or on the enemy's body at which to aim. The men should be required to draw a bead on the point aimed at, and pull the trigger slowly. Except at ranges between 400 and 600 vards, the rear sight should be raised. Commanders of troops fighting defensively should appreciate the fact that the apparent area of a target, and therefore the chances of hitting it, diminish as the square of the distance, and that it is one hundred times as hard to hit a man at one thousand yards as at one hundred yards. Therefore, if the ground to the front is level and without cover, it is better to await the close approach of the enemy before opening fire, since in the retreat he is likely to suffer seriously. Troops firing at horsemen galloping across the front should realize that it is necessary to aim a horse's length in front of a horse at an extended gallop at a distance of 300 yards; two horses' length at 500 yards, etc.

In fighting retarding actions withdrawals under fire should be concealed as much as possible, otherwise the enemy will rush the position before it is completed. Shouting and the use of the whistle, galloping, etc., should be avoided. The men should sneak back quietly in small detachments, the remainder increasing their fire. Mounting and moving off should be done quietly. A few men should remain in position until the command has moved to the rear. In the presence of the enemy, in dismounted fighting, the guidon should always be cased. The fighting line should always be protected by

outposts on the flanks. A special detachment should be detailed to fire on the enemy's machine guns. Men should be practiced in crawling while lying flat on the ground. Also in scraping and digging to get cover, in ground that is favorable. Passing orders must be practiced by word of mouth from man to man. Machine guns should be always placed behind brush, natural or artificial.



RANGE HORSES FOR CAVALRY.

By Major S. L. WOODWARD, First Cavalry.*

(Read before the Lyceum at Fort Keogh, Montana, March 14, 1902.)

THERE has been and still exists, to a considerable extent, in the minds of cavalry officers, a prejudice against range horses for cavalry purposes. There is good cause for this, and I must confess to having shared it until recently, when I was detailed to inspect for purchase at Fort Meade, South Dakota, horses of this class to mount the Thirteenth Cavalry. Nearly 700 were accepted and issued to the regiment. They came from the ranges in Montana, Wyoming, North and South Dakota and Nebraksa.

In earlier years the western range horses were a product of the Cayuse or Indian pony mares and inferior stallions bred more for quantity and cheapness than for quality. They were small, ill formed and vicious, and the various attempts to mount cavalry upon these in Texas, and Arizona, were a dismal failure and bred a prejudice against range horses in general that only time and experience will eradicate.

In recent years many of the ranchmen in the western States, realizing the profit and satisfaction to accrue from an improvement in their stock, have bent their capital and energy to the raising of a better grade of animals, and there are today, on many of the ranches in the States I have named, as fine a class of horses for cavalry purposes as can be found anywhere in the world.

They are of good size and form, hardy, free from disease, especially of the eyes, feet, throat and lungs, tractable and very amenable to discipline and training.

^{*}Now Brigadier General, U. S. Army, Retired.

There are still among them many with a vicious, broncho strain, and great care must be exercised in the inspection, especially in the test under the saddle and in handling of their feet, to avoid purchasing untameable and vicious brutes. This was the chief difficulty I had to guard against in the purchase of these horses. Blemishes such as weak eyes, curb, capped hocks, thoroughpin spavin, ill formed or diseased feet, weak lungs or throat affections were almost unknown among those offered for sale.

Those secured by me were generally young, very few being over six years of age, and the majority four and five; they had never been stabled or fed except upon grass and were thoroughly unacquainted with houses or grain. The only training or handling was what they had received in being caught from the herd and broken sufficiently to pass the requirements of "broken to the saddle," and as they were generally presented by skilled and fearless riders it was difficult to judge of their suitability for issue to the green and untrained recruits into whose hands they were first placed.

It has been my good fortune to serve ever since, with some of the troops to whom these horses were issued, and I have thus been enabled to observe their development and training which has been gratifying beyond my most sanguine expectations. I believe my assertion in this regard wil be confirmed by most of the officers of the Thirteenth Cavalry who have had their care and training.

After considerable experience in the purchase of horses, having been five months upon that duty in St. Louis several years ago, and having purchased one hundred artillery horses in Atlanta, Ga., in 1898, I am free to say, that were I called upon to purchase a mount for my own command I should be very glad to select them from these range horses.

Their cost at present, especially if purchased in open market, direct from the owners, instead of by contract, is about twenty-five per cent. less than that of horses bought in the large markets from contractors.

In the first instance the history and antecedents of the animal is easily obtained, which is desirable; while in the latter case little or nothing is obtainable concerning their character.

Nine months ago there was issued to each of two troops of the Thirteenth Cavalry now at this post eighty-four of these horses. The men were generally untrained recruits. The troops have since marched an average of five hundred miles upon expeditions, besides drills, and have not lost a horse, nor are there any which are subjects for condemnation. The officers report that there has never been any cases of serious sickness among them, and they are generally tractable and well trained.

This record cannot be surpassed.



SYSTEMATIC SCOUT INSTRUCTION.*

BY CAPTAIN H. J. MCKENNEY, TWELFTH CAVALRY.

HEN a state passes from chartaceous warfare to the contest for physical supremacy, exclusive of munitions of war, that which is most needed is information—information which can be obtained only in the theater of operations and which can be obtained only by scouting.

Our military text books are replete with references to scouting. But, what is scouting? It is referred to so frequently and we are so familiar with the term that we sub-consciously assume that the ability to scout is inherent.

General William H. Carter, in his book, "The American Army," says: "The great body of citizens is today far less well equipped for military duty in war as militia than their forebears who were accustomed to the use of fire arms." Napoleon has said: "The physical configuration of the country; whether living on the mountains or in the plains; the education or discipline of the inhabitants, have more effect than climate on the character of the troops." In these two statements we see the influence, environment, education and daily pursuits have on a people in their natural equipment for military duty in general. If this is true of military duty in general, consider present day environment and the all engrossing national pastime of pursuing the almighty dollar and see how conducive they are to inculcating, in the great body of American citizens, a knowledge of the principles which are inherently a part of the more specialized and particular duty of scouting. These principles must be taught and taught not only in theory, for men must see and do for themselves in order to comprehend as well as to remember.

In his preface to "Studies in Applied Tactics," General von Alten says, in part: "To know how is the principal thing in every art. * * * " Scouts who do not "know how" to scout are worse than traitors within the camp. They either fail in their mission and leave their commanders in the dark, without information; or, what is far worse, supply him with mis-information which compels him ignorantly to base his plans on a false hypothesis instead of grounding them on a solid foundation of fact.

The necessity for training cavalry for mounted and dismounted action is axiomatic. But, scouting is as much a part of the rôle of cavalry as either or both mounted or dismounted action. In fact, particularly in the initial stages of a campaign, reconnaissance is the chief function of cavalry with here and there more or less examples of mounted or dismounted actions of detachments of varying degrees of strength. This function does not cease with the initial stages of a campaign but continues throughout the campaign for * * * "reconnaissance must be depended upon to obtain the information upon which all tactical movements of troops should be based." (Field Service Regulations, 1914).

Popular opinion, as reflected by past and proposed legislation considers cavalry more or less superfluous, in spite of the fact that "Reconnaissance in the theater of operations is best made by cavalry, which from the beginning of the campaign seeks to determine the enemy's strength and dispositions (Field Service Regulations, 1914). Von Bernhardi says: "The cavalry's duties are twofold. On the one hand, they must carry out reconnaissances and screening movements, on the other hand they must operate against the enemy's communications, continually interrupt the regular renewal of his supplies, and thus cripple his mobility." Here he neither quibbles over the remote chances of large masses of cavalry fighting as units nor whether or not such an accidental contingent should find them prepared to fight in single or double rank. He simply divides cavalry into its two most important and logical rôles. We will consider only the first mentioned, viz: reconnaissance and screening movements. These two sub-divisions of the first rôles are inseparable and interdependent.

^{*}Talk given before the Post Graduate Class, Garrison School, Fort Meade, S. D.

Von Bernhardi also says: "No proof is required to show that under the conditions of modern warfare the reconnoitering and screening units require special training. The possibility and success of all operations are in the highest degree dependent on their activity." The introduction of aero squadrons has in no sense decreased the importance and necessity for cavalry reconnaissance. Aero scouts may locate and keep track of the enemy but by reconnaissance the cavalry must, at least, maintain contact.

To quote again from von Bernhardi: "Cooperation with the air fleet will be a further development, so soon as aviation has attained such successes that it may be reckoned as an integral factor of army organization. The air-ship division and the cavalry have kindred duties, and must cooperate under the same command, especially for screening purposes, which are all important."

In this connection, let us recall the initial movements in the recent invasion of Belgium, when this prophecy was fulfilled. Our attention also has been called to a lesson learned in a recent war when, in his "Aids to Scouting," General Baden-Powell said: "In the Russian cavalry, since the war with Japan, it has been laid down that it is indispensable that every cavalryman must now be trained to scouting," and it is believed that our more recent opportunities for studying actual examples have borne out the soundness of this dictum.

Only a cavalryman trained to scouting can make a satisfactory and complete reconnaissance. Reconnaissance, in its strictest sense, means simply to examine or survey. The term scouting is far more comprehensive; for, a scout to make any examination for military purposes, in hostile territory, among other things, must be trained in how to examine; what to observe; what military features are; trailing; concealment and the use of cover; what to report and how to report it.

Allusion has already been made to the principles which are inherently a part of scouting. Let us look closely into the requirements and details of the methods of scouting and the principles upon which they are based. After mentioning the fact that the manner of reconnoitering different kinds of ground depended mainly upon the circumstances of each individual

case, Colonel Arthur L. Wagner: said "There are, however, certain general methods of reconnoitering various places, which may be given as the result of centuries of warfare, and which are, in some respects, common to the armies of the most enlightened nations and the warriors of savage tribes." Here Colonel Wagner has recognized and emphasized the fact that, in the main, the principles of reconnoitering and scouting are the same now as they were centuries ago. They are the same principles which have been and must still be applied by the highly educated and civilized soldier of modern times as they have been and always will be applied by the atavistic savage living close to nature, who makes use of them only through instinct. The reason for this is apparent. These principles do not change because they are based upon the unchanging laws of physcis, physiology and psychology.

A civilized scout in uniform or a savage in breech clout places himself before a background similar in hue to that of his own. Here he makes use of physical and physiological laws as he merges himself into the color of the landscape and is lost to view. By so doing, a physiological law is thwarted and an enemy in the vicinity is prevented from observing him. For psychological reasons, because he thinks himself unobserved by hostile vision, the enemy is free in his movements. Under such conditions, observation of his actions will probably disclose the enemy's true intentions and something may be learned from which useful deduction may be made. This illustration is but one of many, where we may find applied the principles of the unchanging laws upon which all methods of scouting are based. The modern inventions and modern methods of warfare do not change these laws. They simply extend the scope of their application.

Any system of scout instruction is good which assimulates the fundamental principles of the laws upon which all the details of scouting are based. Such a system will be improved if arranged with an idea of progression. If we may evolve such a system and so arrange it that any one of its units may be used for purposes of instruction, irrespective of other units, then we will have attained the acme of excellence.

As the mission of a scout is "To get the required information and report it to the proper authority in time for it to be of use," it appears that the first logical step, in progressive scout instruction, should be to give instruction in reporting, such as:

*(1) Personal Verbal Reporting; (2) Verbal Reporting by Messenger; (3) Reporting by Use of the Field Message Book (Signal Corps Form No. 217 A); (4) Reporting by Written Messages on Blank Paper, Conforming to the Form in the Field Message Book.

If there is adopted at the outset a simple set of rules to be observed in obtaining and selecting information for report, the rules may be used with particular advantage in the four exercises just mentioned as well as throughout all succeeding exercises. They will establish a uniformity in the form and a discriminate selection in the subject matter of reports.

The next stop should embrace the details of the material for reports, how to observe and recognize them, such as, instruction which delineates and points out those things which constitute (5) The Military Features of all Objects, Different Classes of Terrain, Elements of a Terrain, etc.

A variety of exercises should then be arranged which would include reporting on selected military features. These exercises may be easily adapted to meet the conditions of any environment.

This brings us to the actions of the scout while collecting information for reports. As scouting operations are generally conducted in hostile territory, the success of such operations depends largely on the ability of the scout to make himself invisible to hostile observation. We will have progressed, then, to instruction in (6) Concealment and Use of Cover while Stationary, (7) Concealment and Use of Cover while Moving and (8) Concealment and Use of Cover while Ascending and Observing from Elevations.

Following this training, the scout should be ready to receive instruction in (9) Observing and Reading Ground Conditions, (10) Observing and Reading conditions other than Ground Conditions, (11) Deductions to be Made from the Conditions Observed, (12) Reading the Tracks of Horses, Mules and other Animals,

(13) Laying a Trail to be Followed and how to leave Concealed Messages on such a Trail.

This stage of development will find the scout ready to take the field and go into unknown country. The next step should teach him (14) The Different Means of Finding the Points of the Compass, (15) How To Scout Through Strange Country by Following Verbal or Written Instructions as to Directions and Locations, (16) How to Scout Through Strange Country, Follow Directions and Find Locations by the use of Maps.

This instruction should have developed the scout to the extent that, now, he should be able to fulfill all the requirements of any mission, under daylight conditions. However, developments in the present European War have demonstrated that night operations of great magnitude are now the rule and not the exception. On this account, training in night movements has been thrust upon us as an imperative measure in order that we may be prepared to meet modern conditions. The specialized details of the training of a scout, to meet night conditions, are of greater significance and of far more importance than the training in night movements of individuals who compose organizations which organizations move collectively as units.

For physical, physiological and psychological reasons, night scouting presents many obstacles. The uncertainty of vision, due to darkness, produces doubt and irresolution which result in restricted movements, faulty judgment and incorrect reports.

Preparatory, systematic training under varying night conditions may partially overcome some of these obstacles and only upon such preparatory, systematic training may we properly base hope for certainty of success in any danger. Without it, we base our hope on chance.

Training which connects night sounds with their causes, which begets a familiarity with the difference in appearance of physical objects under varying night conditions (e. g. mocnlight, starlight, the afterglow of sunset and the glow preceeding sunrise, etc.), which detects and interprets different odors, which makes touch intelligible without the aid of vision; in short, training which tunes to the *nth* power of acuteness, under all night conditions, hearing, seeing, smelling and the

^{*}Numerals and headings in bold faced type denote separate exercises.

sense of touch, goes far to eliminating the uncertainty which accompanies darkness. It will allow freedom of movement, a correct conception of conditions and circumstances upon which to form correct judgment and will produce corrections in reports of night scouting.

It is necessary to establish in the individual scout a consciousness of his own ability, a feeling of superiority and a contempt for fear which will carry him to the accomplishment of his mission unhampered by any mental stress. Night assists in producing such mental stress. Night finds the individual's physical powers at a lower ebb than during the day. Add to this the proximity of the enemy, the uncertainty of darkness and the changed appearance or undistinguished presence of physical objects; then, confusion and illusions at once exist. Familiarity with the changed conditions of night tend to eradicate the possibility of such situations. Night training produces this familiarity.

So many physical and physiological conditions affect night vision that difficulty is experienced in selecting for demonstration those which will be most comprehensive in the principles which they demonstrate. Proper judgment of what is seen at night is nfluenced by a knowledge of the effect of different kinds of light, the position of the light, the position of things seen in the rays of the light under observation and the position of the observer himself.

The first night exercise may be based, very properly, on the many conditions and combinations of situations which would demonstrate *(1) The Influence of Position of Light, Shadow and Terrain on Night Vision.

In order to know how to form correct estimates of what is seen at night, how to detect the presence of others and to know how far they are away, as well as to understand how concealment is best accomplished, the scout must be familiar with the effect of different kinds of lights on different colors, and understand how, in different lights different colors blend with others and do not make sharp contrasts which may attract attention. With a view to demonstrating these principles, our next set of

exercises wil be based on (2) Night Vision and Colors and Estimating Distance, Viewing Different Colors at Night.

We know that different kinds of light, the position of light, the formation of the ground over which the light is seen, the distance the light is from the observer and the position of the observer, himself, all have some effect on the appearances of the light. All or any of these conditions may mislead an observer as to the location and exact distance of the light unless the observer is familiar with all the visual effects of conditions which may be having an influence on the appearance of the light. All of these matters are of constant occurrence and of vital importance when scouting at night. This naturally leads us to exercise in (3) Viewing Artificial Light and Estimating Distance to Artificial Light at Night.

Having accomplished training in the exercises just mentioned, we will have arrived at the point where we may put into practice and give practical tests to some of the knowledge which has been gained if we hold exercises in (4) Concealment During Night Scouting and Observation of Hostile Approach at Night. These exercises will first embrace the conditions which prevail during moonlight. Next, the exercises should demonstrate (5) The Use of Stars in Night Observations.

Having given sufficient tests and demonstrations to have gained some familiarity with the different conditions which affect night vision, our attention next turns to night hearing, i.e. hearing sound and interpreting them without the aid of vision. It is necessary for a scout to be able to distinguish and interpret sound when prevented from viewing their causes, to know what produces them when they are heard, and to be able to make an approximately correct estimation of the distance to the point from which the sounds emanate in order that he may comprehend the circumstances and act intelligently when he can not see what is going on in the darkness which surrounds him. (6) Night Sounds and their Causes and Estimating Distance at Night by Sound may be, very properly, the next subject for our exercises. When this stage of his training has been reached, the scout should be nearing the state of proficiency which would justify his being trusted with night missions. Therefore, his exercises should teach him (7) How to

^{*}The night exercises are designated by a separate set of serial numbers.

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Find Directions at Night and the Means of Finding the Points of the Compass at Night.

(8) Night Signals and demonstrations of the manner and means by which night signals may be made and simple systems evolved, to meet the exigencies of various occasions, should not be neglected. A lack of communication between scouts, separated at night, even for short distances, may be fatal to the accomplishment of most any mission. No attempt should be made to establish a fixed system or code of signals. The exercises simply should show methods of making night signals, in order to call attention to means which are practicable, leaving to the scouts themselves the selection of the means to be adopted, in each case, for communicating with each other by simple, prearranged codes, which they evolve themselves, to meet the conditions of requirements as occasions arise.

Difficulty will be experienced if attempt is made to formulate set exercises for developing and testing the sense of smell, on account of the difficulty of producing, at will, the odors necessary for use as examples. Training in (9) The Detection of Odors and Consequent Deductions must be given from time to time, in conjunction with other night exercises, when moving at night, to and fro about the country. However, if care his not exercised, the matter may be lost sight of and its importance fade into insignificance. Whereas, as a matter of fact, the power to detect and interpret odors at night is of the utmost importance to all scouts.

A few examples in (10) Developing the Sense of Touch, in both hands and feet, should be given in order that attention may be directed along those lines. Also, the proper manner of (11) Making and Concealing a Light at Night for reading compass bearings, maps, messages, and so forth, should be demonstrated.

Although many who pursue this system of training may become competent and reliable scouts, it is not expected that all men of an organization will show proficiency in all branches but, during the exercises, certain men will show marked proficiency along special lines. In order that the special qualifications of these men may be used where and when needed and that more time and effort may be expended along lines in which

they are not proficient, a record of the particular qualifications of each man should be kept, in a convenient form, and entries made therein as he acquires proficiency in additional branches.

The foregoing outlines simply gives a general idea of the contours of the system. The details of filling in and showing the completed system are too numerous and minute to receive the attention they deserve, in the time allotted to this talk. The details of this outline have been crystallized into a formal system of exercises. The exercises have been either used with signal success in training scouts, whose efficiency was later demonstrated by their work, or are the results of principles learned from experience, when confronted with actual conditions, generally in hostile territory.

Von Bernhardi has shown us that the rôle of cavalry in reconnoitering and screening movements, or to use the generic term-scouting, is as important a rôle as the rôle of fighting. To the exclusion of all other duties upon which cavalry may be detailed, the rôle of fighting has been accepted too long as pre-eminently the rôle of cavalry. Is sone, but it is only one of the specific functions of cavalry.

During the present chaos of the public's clamoring about military affairs and while the army is struggling through this period of transition, irrespective of the preparedness of the country at large, the paramount duty of the cavalry is preparedness for any emergency whether it be to fight, scout or instruct.

A board of cavalry officers, now sitting daily in Washington, is devising and will fix the methods and means by which cavalry organizations will act as a fighting unit. But, the War Department has seen fit to leave to organization commanders the ways and means by which the cavalry prepares itself to become the eyes and ears of the army in reconnoitering and screening movements—of scouting. Therefore, the completeness of our preparedness and efficiency lies in our own hands and the responsibility of accomplishing it has been thrust upon us. Although we have been allowed a free hand as to details and methods, the responsibility lies none the less heavily.

There is little that is new to be learned about scouting. As General William H. Carter said in a personal letter: "Of course the subject is as old as the human voice, but * * it is like tariff sheets, always subject to change." However, these changes only relate to subject matter of reports of scouts or information to be gotten by them while scouting. The principles are as everlasting as the hills. The magnificent efficiency of our cavalrymen in scouting during our Indian wars demonstrated their knowledge of the unchanging principles upon which scouting is based. But, their knowledge was gained in the hard school of experience and not in preparatory training, such as is proposed. How many saddles were emptied in attempting to gain this knowledge and how many missions were not fulfilled by individuals when they were taking this course in the school of experience are beyond estimation.

Herein we have considered only the training of individuals assecuts. But, if our reconnoitering and screening detachment were composed of organizations, each individual member of which had been developed into a competent scout, as well as an efficient fighter, the oft told tales of the magic powers of our Indian scouts would be believed and possibly understood and a body of men would have been developed whose individual and collective efficiency would find few, if any, parallels in history.



EXTRACTS FROM "MODERN CAVALRY TRAINING."*

IN these Notes it is proposed to discuss the cavalry work which tock place early in the War and then the later developments.

At the beginning we realize that the principles which past experience had shown to be sound, were still guides.

The principles of war are neither abstruse nor difficult but their application to circumstances is not easy and requires constant practice.

It is absolutely necessary constantly to be putting these principles into practice with situations on the ground. Then if we apply the correct principles to varying conditions with energy, initiative and determination we shall be successful and we shall act quickly.

By quickness is not meant movement for the sake of movement which tires men and horses and loses the men's confidence in their leader, but the quick thought which meets different situations with a sound plan. But to gain this quickness it is necessary to go on practicing the sound principles until action becomes an instinct, as we have sometimes to act when we are very sleepy, hungry and done up by the strain and noise of war.

The principles of protection are that the flanks must be secured. Side roads, and difficult or commanding positions on the flank must be searched and then picketed until the main

^{*&}quot;Notes on Modern Cavalry Training." By a cavalry officer. A pamphlet published by Hugh Rees, Ltd., London. Price ten cents.

body has passed. This must be practiced now as the recovery of men sent to the flank is not easy. The front must never be uncovered to support the flanks, as then the head of the main body is unprotected.

It must be remembered that the first body of hostile troops to be encountered is likely to be the enemy's scouts, and that they must be dealt with vigorously and driven back. Hesitation in dealing with them leads to delay in the advance of the main body and in the enemy gaining the advantage of position.

Dismounted defensive action should not be resorted to on the first contact with the enemy.

woods.

It may be a comfort to know that most of the woods in France are grown for afforestation and there is little undergrowth and many clearings and paths, so inter-communication with the flank protection is easier than in English woods. In woods decisive fire is required at once. Therefore thicker firing lines must be formed from the beginning, the supporting lines must be closer and must cover the flanks rather than follow the center. The most important point to attend to is to scout so well with advanced patrols that the firing-line can be deployed in time for effective fire. Therefore, before contact has been obtained with the enemy, it is absolutely necessary to push out a chain of small patrols, from two to four men, along the whole front and well round the flanks. This chain of patrols should be pushed out from 100 to 300 yards in front, depending on the thickness of the wood, and it should be strong enough to enable the patrols to keep in touch with each other. Before contact is gained with the enemy all troops can advance in troop columns of single file at deploying intervals. Supports and reserves should be moved so as to take the enemy in flank. These supporting troops must be trained to push up to the firing-line and to reinforce it, and not merely to form a second line to cover a retirement. At night these supporting troops when coming forward should use the bayonet. In wood fighting it is important to keep maxims well to the front, but it is not important to have a long field of fire.

RECONNAISSANCE.

Reconnaissance is of the greatest importance and should be practiced.

Reconnoitering detachments of all sizes should advance by bounds. This should be practiced now without troops by squadron-leaders with their troop leaders, and N. C. O.'s in teaching them to go over country and select their points of advance for their covering party and flankers. Scouts, too, should be trained to move by bounds rapidly from one covered position to another. Reports on positions, roads and billets should also be practiced now. The leader of a reconnoitering detachment before starting on his mission should be given certain definite questions to answer. The success of a reconnaissance of any detached mission, depends as much upon the clearness and precision of the instruction it receives from the officer sending it out as upon the skill of the officer conducting it. Instructions must be repeated and repeated until no possible misunderstanding can remain.

Villages should be avoided as halting places for detachments.

Such points as important road junctions or large woods are usually the best points for squadrons to make for.

In the former case a squadron is in possession of a point from which it can move in any direction. In the latter case the squadron may lie up and send out its patrols.

The value of stationary observation from a concealed position should be impressed on all. Open spaces, long stretches of straight road should be crossed rapidly until some tactical point is gained. Then from a concealed position observation is possible. Scouts should work in pairs so that one man can remain under cover with the two horses while the other man crawls up to some point from which he can observe. Directly there is a halt all units must arrange for their own protection and make arrangements such as cutting wire, making gaps in wall or fences so that they can change their position quickly if they are shelled.

Aeroplane look-outs should be posted wherever concealment is required. Their alarm signal will nominally be a series of long and short blasts upon a whistle upon which all ranks will

either hide or remain perfectly still. Aeroplanes are not to be fired at without orders from the officer commanding or squadron leader.

Situations should be practiced on the ground now with troop leaders and messages should be written so that all are able to do this quickly.

DISMOUNTED ACTION.

It is necessary to practice dismounting quickly and providing flank protection for the led horses as well as for the firing line.

Squadron leaders want to practice keeping touch with the squadron reserve they keep in hand, and with the led horses.

The officer in charge of the led horses must practice keeping touch with the firing line and must reconnoiter to find places to which to go, to be as near the firing line as possible and to see exactly where different troops have gone so as to be able to send their horses up direct to them. He should also reconnoiter the ground and cut all wire near his position so that he can move away quickly if shelled.

Men should be practiced in leading more than three horses as at times as many men as possible are required in the firing line.

Men should also be practiced in jumping up behind another man when mounting again as their horse may be shot.

When this is done the mounted man must give his stirrup to the man on foot and lean over in his saddle to the opposite side on which the man is mounting.

In dismounted attacks that are to be pushed home, depth is necessary because the firing line must be supported to keep it up to a maximum intensity of fire action; and, also because it is necessary to be prepared to meet the unforseen in the form of sudden enfilade fire. It is also necessary in order to develop the situation by the employment of only a few rifles. At the beginning of an attack half the force only should be deployed

the remainder being kept in support. The ground entirely dictates how far in rear supports should move, the principle is that they should keep as close to the firing line as the ground will allow.

As the firing line approaches the enemy, cover must be a secondary consideration and the supports must be closer to the firing line until they catch it up and become absorbed in it.

In the early stages supports can often move under cover by advancing in columns of single file, and as long as possible they should retain the fermation of troop columns in single file.

During the advance supporting troops should not attempt to maintain a strict alignment but troops should halt where the ground provides the best cover. But they must be kept well in hand. They may have to deploy into an extended line but should not do so until obliged to by hostile fire.

COUNTER ATTACK.

The great danger of a counter attack is going too far and being caught by a hostile counter attack when there are no reserves in hand. It is necessary, therefore, that the objective should be clearly defined and strictly limited. It is advisable to deploy a strong firing line at once, men extended as close as two or three yards. The reason for this is that the situation is clear and has to be met with the greatest determination and in the greatest strength.

At Night.—Attacks should be practiced at night. In this case the firing line and supports can be closer together than in the day attacks and the supports should not be so strong. The reserves, however, should be well back between 400 to 800 yards, depending on the light. Good scouting is essential and the attacking line should not be hurried. As in woods a screen of patrols should precede the advance. They must however, be given a strictly limited distance up to which they are to advance. When they reach this point if no contact with the enemy has been obtained the attacking line can come up to the patrols or scouts, and these can then again advance a limited distance and so on.

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The intervals between men in the firing line should be about one and a half yards. When closing with the enemy the men must cheer.

RUSHES.

The most unsatisfactory and at times very dangerous plan adopted is to advance by alternative rushes, certain parties advancing while others in the rear continue their fire. In this case those advancing almost to a certainty mask the fire of those in the rear, in which case the volume of fire is still further reduced. In addition it will frequently occur that men advancing will be fired at from behind. Therefore this plan is unsound and not to be adopted on the level or where there is little cover, or where the intervals between the parties is limited. Those who are working the covering fire to be effective must be in a position to continue it from start to finish with no possible chance of danger to the advance; therefore:

- (a) On the level when covering fire is provided by the firing line itself, it must come wide from the flanks of those advancing.
- (b) In undulating country it is possible only when those in rear can safely fire over the heads of those in front
- (c) Therefore, the best plan is to detail a special covering detachment which will take post much in the same way as a machine gun or battery, and throughout the battle devote itself to covering fire alone. This party should be within 500—1,000 yards of the enemy, preferably the closer range. It should not move forward until the position is taken, but will, by its sustained fire keep down that of the defence.

A long rush may at times be made to pass over an open space in order to reach cover, but it must be made at speed and must end in a fairly long pause to regain breath. Ordinarily, however, a rush should not exceed twenty yards, because:

- (1) Less disorder is caused.
- (2) The time of exposure is lessened.

- (3) The volume of fire is not appreciably diminished.
- (4) There will be less loss of accuracy of fire owing to loss of breath.

Each rush should be made in the nature of a surprise.

Men must be trained now to rise absolutely together so that one man in the party is not marked out by getting up first, and they must double forward and then drop together. This requires a great deal of practice and is very important.

Parties in rear should not pass beyond the alignment of those in advance, as they mask the fire of those they pass.

Extended order is used in order to develop fire and avoid casualties.

There are certain disadvantages of extended order and we must practice now to our utmost to act as to so obviate them:

- (1) It is difficult to control men, direct their fire, and issue orders.
 - (2) There is a tendency to lose direction.
- (3) During rushes the fire of the party in rear is often masked while those advancing are often fired at from behind.
 - (4) Dangerous gaps occur.
- (5) Communication—and consequently cooperation with neighboring units is frequently lost.
- (6) As reinforcements reach the firing line units become mixed with a tendency to disorder.

As soon as a squadron gets into a firing position and it is known that another squadron or regiment is working on its flank, patrols should be sent out to gain touch at once, and to let the troops coming up know the position of the firing line.

Casualties are due to unnecessary exposure of the body. Men must be practiced in crawling. In good crawling a man presents scarcely more of a target when moving than when stationary.

In crawling bring one knee forward keeping the inside of the knee flat to the ground and the back hollow. Now push forward with leg and elbow.

The knees must not be brought up under the body.

Men must be practiced too in doubling forward with empty sand bags and filling them to get cover, then they must practice scraping and digging when lying to get cover. Lines of trenches have been established in this way eighty yards from the enemy.

Entrenching in the dark should also be practiced.

Whenever possible trenches should be cited so that they are not under artillery observation. An extensive field of fire is a secondary observation.

Trenches should, therefore, be cited having regard to possible "observation stations" on ground occupied by the enemy, and not solely with regard to the possible artillery positions of the enemy. In open country it is better to select a position behind the crest of a hill.

This compels the enemy to expose his infantry to our rifle and shrapnel fire and affords his guns little opportunity of observation. Fire trenches should be recessed and traversed. They must be deep, narrow and of low command. Traverses should be provided every four yards to localize the effect of high explosive shell falling into the trench, and also to give protection against enfilade fire. All excavated earth should be concealed. The back blast of high explosive shells must be provided for by placing earth behind the trenches. Drainage must be provided. Making head-cover and over-head must be practiced as this cover is used to support trenches when they are not likely to be rushed. With over-head cover a continuous loophole is the best form.

When blown out of one's trenches it is necessary to fix bayonet and retake them regardless of what it may cost. Parties must be collected at once to do this. Men must never lie down when making a counter-attack but all must be trained to attack regardless of life.

Cover may conceal from view or it may afford protection. It is most useful when it both conceals and protects. Cover which only conceals from view should be avoided if it forms a conspicuous target at short ranges to the enemy.

When under artillery fire no cover should be taken which, even though it may protect from rifle fire, forms a conspicuous target to hostile artillery.

Similarly under artillery fire all well defined objects such as buildings, etc., should be avoided as they become death traps.

Cover is not only useful to afford protection and concealment but every advantage must be taken of it to rally and reorganize, to check and to replenish the expenditure of ammunition and to make plans for a further advance.

Whenever a flank is exposed a small patrol should be detached to guard against surprises. Such a party may be eventually of great value in reporting any movements of the enemy connected with surprise and in observing the effects of fire and nature of ground in front.

Passing orders must be practiced by word of mouth from man to man and to ensure that the orders has been understood it will be passed back to the commander in the same way.

Judging distance should be practiced. It can be practiced by troop leaders with their men during a march. The practice will in addition teach men to observe, a habit that cannot be everestimated.

One distance should be accurately known and that is 600 yards. It is at this distance that rifle fire begins to take deadly effect.

Long range fire should rarely be opened without special permission of the regimental or squadron commanders.

The advantages of retaining fire and surprising the enemy should be impressed upon all ranks by day and night.

Fire discipline means strict attention to the signals and orders of the commander, combined with intelligent observation of the enemy. It assures the careful adjustment of the sight, deliberate aim, economy of ammunitions and prompt cessation of fire when ordered and when the target disappears.

Troop leaders and sergeants carry rifles and bandoliers but they must remember that their duty is to command and not to shoot.

It is the duty of all ranks so to husband and economize their ammunition as to have the greatest possible amount in hand to meet and overcome a crisis.

The men assist in regulating the expenditure of ammunition by never firing without orders and never obeying the order to fire if they are so posted as not to see the target.

Men must be reminded that it is often a very difficult matter to replenish the supply of ammunition during the advance without causing heavy casualties to comrades employed in this duty over fire-swept ground.

In the trenches rifles should be inspected three of four

times daily.

Magazines will always remain charged but in standing billets one clip only should be inserted. Magazine springs should be frequently pressed up and down to keep them elastic and in proper order, but the spring should never be oiled.

The duty of a fire unit commander or section leader con-

sist in:

- (1) Carrying out such orders as he may receive and using his own discretion in the absence of orders.
 - (2) Indicating targets.
 - (3) Regulating the volume of fire.
- (4) Issuing orders as to sighting and seeing to the correct adjustment of sights.
- (5) Checking the expenditure of ammunition, reporting it when running short, and arranging for its replenishment.
 - (6) Taking over the spare ammunition of casualties.

UNCLE SAM'S FOUR-FOOTED FRIENDS.*

By MAJOR CHARLES D. RHODES, U. S. CAVALRY.

HERE it comes,—the troop herd. First a tiny cloud of dust, far out on the grassy prarie, growing larger and larger and mounting higher and higher with each moment of observation; then, as it approaches nearer, vague outlines begin to take tangible shape, and soon we can distinguish at intervals tossing heads, waving tails, and bodies glossy with exercise; while beneath all is a mass of quick-

moving legs which make the ground fairly tremble under the shock. How happy and impudent they appear, as they rush along after the mounted soldier at their head, often pressing him so closely that he partly turns in his saddle and waves them back! They have been out since early morning drill, in charge of their cavalry guard, and, like so many jolly school boys on a holiday picnic, have rolled and romped and nibbled at the sweet young prairie grass to their heart's content.

Here passes one, covered with clinging mud from head to foot—a condition which will doubtless cost him a good-natured reprimand from the soldier who is to groom him. And here comes another, kicking wildly to right and left, and causing the horses to his rear to give him a wide berth. On they go toward the troop stable; and as they turn into the post, the guards gallop ahead and spread out on the flanks, to prevent any bold individuals from trampling on the grass of the well-kept parade and thus incurring the colonel's high displeasure.

This is early summer, and the horses' wild spirits have been somewhat tamed down by the regular daily exercise of herding, drills, and parades. Had it been earlier in the season, when the animals, restless from their all-winter confinement to stables, were first taken out in the cool, nipping air of early spring, they would have appeared far more unmanageable. Then it not infrequently happens that the excited fellows, happy in their freedom and fairly boiling over with pent-up desire for exercise, go charging past the flanking guards, and in a mad rush, fairly bearing the leading cavalryman along with them, break into a wild stampede, which sometimes goes on for miles and miles, and, taking a circular course, often ends at the door of their own troop-stable, where the guilty truants stand passive and perspiring, as if heartily ashamed of their boyish prank.

When herding is not practicable, and, indeed, during most of the long summer days, the herd is turned loose in corrals adjoining each stable, where free from restraint, they can run, roll, and play as much as they please, within the limits of the high picket fence. In the corral they again

^{*}Extracts from an article in Lippincotts Monthly Magazine, December 1.

remind one of a crowd of rollicking boys, for there are generally two or three bullies among the horses, who go about, biting and kicking their weaker fellows, until taught their proper place by some inoffensive, sleepy-looking comrade.

A new horse turned loose among these animals is treated exactly as a new boy entering a public school for the first time. The old horses immediately trot up, examine him critically—possibly sizing up his physical and mental abilities—rub noses and bite him; and the new acquaintanceship generally ends in a succession of kicks, in which all the bystanders take part; so that a strange horse carries about with him a generous share of cuts and bruises during these first days, or until he demonstrates his ability to take care of himself and fixes his place in the social scale of horse society.

Just as with human beings, a change of climate disagrees with many horses, and the alkaline water found so extensively throughout the West is at first generally distasteful to them so that, I have no doubt, they many times wish themselves safely back in their Eastern homes.

In this regard, I remember very vividly one of my first experiences. I was sent from a remote army post in Wyoming to the nearest railway station, over a hundred miles distant, to bring to the post a car-load of horses shipped from Iowa and Nebraska. After disembarking them safely from the car, each one of my little detachment took two or three horses, and, as water was very scarce at the dimunitive frontier town, we started at once for our first camp. But what was my dismay, that evening, to find that not a single one of my charges would either eat or drink! As this was one of my first trips in charge of a detachment, I was especially anxious to acquit myself with credit; so that the strange behavior of the horses filled me with alarm. I had brought along in a wagon an abundance of fine oats, but not a single horse could I tempt to eat, except mincingly, as sick children sometimes toy with their food. And with the water it was much the same way The horse would lean downward toward the alkaline stream as though to drink,

sniff at it with disgust, and turn away with an air which plainly said, "That may do for such creatures as men, but not for us."

This alarming state of affairs continued during three hot day's march through the famous Bad Lands of Wyoming, and the poor animals began to look thin and worn; worse still, they became so weak that I greatly feared lest many of them would never make the trip alive.

But at the close of the fourth day I camped near a hospitable ranch, the first we had seen for several days, and what was my delight to discover that the owner had a fine grass pasture near his house, enclosed by a wire fence! That night, with the owner's permission, I turned all the weary horses into this Garden of Eden, and their own pleasure hardly exceeded my own as I watched them nipping the cool, appetizing grass, the first we had met with on the long ride. It seemed to these Eastern-bred horses, I suppose, like a bit of the homes of their boyhood, dropped down from the sky into that barren land.

In the morning they were like new horses. The remainder of the journey was completed that day without mishap; and I have always firmly believed that the little grass pasture saved the lives of a number of my helpless, long-suffering charges.

In a cavalry troop there generally grows up between each horse and his rider a strong bond of sympathy and friendship. Soldiers in the cavalry service are in most cases stationed at remote Western posts, where, far from home and friends, and as a rule unmarried, they are necessarily very limited in their social pleasures and amusements. On this account, perhaps, the propensity for having pets of various kinds is very strongly developed, and increases the sense of fellowship between the horses and their riders. Cruelty or inattention to the wants of their horses is a rare trait among cavalrymen; and even should this be the case from the feeling of proprietorship, cruelty from one soldier to the horse of another would be resented as an injury to the owner himself.

This comradeship is more in evidence upon a long march, or while in the field, engaged upon some arduous or dangerous duties. On such occasions when, forage often becomes scarce, cavalry soldiers will jealously guard every grain that their

horses receive; and should the sergeant, through carelessness or prejudice, give a trifle more or less to one than the other, it often provokes a vast deal of grumbling—so closely is the trooper interested in the welfare of his horse. When lariating the animals out to graze, neighboring troopers will often have many a friendly controversy over the ownership of a choice bit of prairie for the use of their four-footed friends.

Have you ever thought how difficult the scientific treatment of animals must be? Although it is commonly supposed, and in most cases rightly, that animals are more hardy and can thus bear more experimental surgery on their bodies than their human superiors, the fact that they are poor dumb beasts and cannot describe their many pains and aches makes intelligent veterinary treatment very complicated.

Although we have from time immemorial looked upon the horse as man's best friend, there is another one of Uncle Sam's four-footed friends who in this regard is entitled to a few words of praise. Indeed in many ways he has aided the government more than the horse. I refer to that intelligent, hardy, long-suffering, and most useful creature, the army mule. We have been so long accustomed to treating this valuable friend with contempt that we scarcely like to confess that the mule is more intelligent than the horse; and yet this is generally the case. Moreover, the mule certainly requires less food and less care, and can do more real work, than his aristocratic comrade.

Mules are purchased for the army much the same way as horses, and when sent to the army posts are used as either draught or pack animals. In both capacities the army mule is a powerful adjunct to the successful operations of troops; and, however, much a soldier prizes his horse, it is to the generally despised mule that he looks for the sinews of war—his supplies. Doubtless many soldiers would rather be killed by the bullets of an enemy than be starved to death for lack of supplies.

The pack mule is especially useful in moving supplies through a rough and precipitous country, threaded by narrow trails only, where his sureness of foot is to be relied on. With skillful packers a pack train can ordinarily follow a cavalry troop quite closely, even when the latter is making rapid marches. It is a very pleasant thing, when one arrives in camp in the evening, tired, cold and hungry, to find the pack mules near at hand with tents, rations, and cooking utensils, instead of having to wait many hours for the arrival of slow-moving wagons.

An amusing incident once occurred to me, my first experience in loading a mule. I had ridden a saddle mule out on an antelope-hunt, and after sighting a small herd, lariated my mule, and, after much crawling on the ground, succeeded in killing a doe. As I was four or five miles from camp, I determined to fasten the game to the cantle of my saddle; but, try as I did a dozen times, I could not get my mule within a dozen yards of the antelope's dead body. At last I hit upon an expedient. I took off my blouse, and wrapping it securely about the mule's head, tied the sleeves fast, so that she could see nothing. I then lariated her securely, driving my picket-pin deep in the ground, and dragged the antelope near at hand. After repeated trials, during which my mule snorted impatiently but stood fast, I threw the game over her back and strapped it to the saddle. Upon removing my blouse the mule remained perfectly passive, and with much satisfaction I mounted and rode towards camp. All went well until within sight of the tents, when, as I had to cross a small ravine, I thought it prudent to dismount and lead. I did so, but the antelope, which had tipped to one side, unfortunately went still farther, and in a twinkling antelope, saddle, and blanket had slipped about under the body of the frightened mule. I held manfully to the bridle rein, but for three or four minutes I could scarcely distinguish antelope from mule, as the latter frantically endeavored to kick off the unexpected encumbrance. With rare good sense, she did not attempt to run, -a proceeding which would probably have resembled the antics of a dog with a tin can tied to his tail; and when she at last became quieter, I patted her gently, and, keeping at a respectful dis-

An army mule's reasoning powers are wonderfully developed, especially with respect to distance and locality. Once only have I seen them at fault, and the mistake cost

the poor mule her life.

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A small detachment of us, accompanied by a pack train were descending a very rough trail leading down from a high mesa on the Navajo Indian Reservation in Northeast Arizona. The pack train, quite heavily loaded, was slowly filing down the narrow and rugged descent ahead of us, over the edge of which was a sheer fall of several hundred feet. One of the mules, loaded with two large bales of hay ran out on a small ledge adjoining the trail, and, seeing her fellows immediately below, concluded that she might join them by a short cut. The distance was trifling, and slowly bending her knees, she jumped. Unfortunately, although probably conscious of the width of her own body, she had forgotten her increased width due to the presence of the two bales of hay. As she alighted accurately on the trail, the edge of one of these bales struck the side of the cliff, and in another instant the poor animal was whirled down in the abyss below. Her faithfulness deserved a better fate.

A remarkable illustration of the development of an army mule's "bump of locality" occurred upon another scouting trip, this time in Wyoming. We were making a reconnaissance through the Big Horn Mountains, and, by a roundabout ride of several hundred miles, had reached the vicinity of Cloud Peak. in the center of the range. Not a road, not a ranch, not even a sign of civilization, had we met for miles. The snow-peaks loomed above us, their lower slopes covered with impenetrable pine forests. Everything was as wild as nature had made it. barring a few faint trails, leading one knew not whither, Seventy-five miles across the mountains was the army post which we had left many days before.

Among our pack mules was one who, on a fishing trip several years before, had visited this very locality in which

we were encamped; but she had come, the previous time, the straight route over the mountains. What was our amazement, one morning, to find this mule gone, and with her two of her comrades, whom she had evidently led astray! Hunt high and hunt low, we could not find them, and after wasting several days in this furitless search we set out for home. Upon arrival there we were surprised and delighted to find that the mules had preceded us. The old mule had at once recognized her

previous camping place, changed though it must have been by the severe storms to which this region is subject, and had determined in her wise old head to strike out for home immediately, without waiting for the formality of carrying a pack.

And this she and her campanions, ill advised but evidently not misguided, did; not following the trails, for we had carefully inspected them, but heading through the dark and con-

fusing forests, as straight as though directed by the unswerving needle of a magnetic compass.

THE RECONNAISSANCE OF COURGIVAULT.*

BY FIRST LIEUTENANT E. E. FARMAN, JR., SECOND CAVALRY.

HE provisional brigade which has just been formed by our regiment and the -th Chasseurs d'Afrique has been united at daybreak by our colonel, who has taken command. The regiments are formed in masses behind the shelter of a crest, upon which one can see the vedettes looking attentively towards the north. The sun lights up splendidly the picture made by the bright uniforms of the dismounted men and the immobile ranks of the horses. Both men and animals are still dozing.

^{*}Translated from the memoirs of a French Cavalry Lieutenant. This gives in detail the conduct of patrols' as carried on after over two weeks' experience in actual warfare. See Book Notices-"In the Field."

The colonel has gathered together the officers in front of the squadrons. In his hand he has a paper which he proceeds to read with a resounding voice which is unusual for him. At the first words we have instinctively closed in around him. When he has finished we are overcome with astonishment. Were we not told yesterday again—while, with the rear guard of the—th Corps, we were crossing the Grand Morin closely pressed by the advance guard of the enemy—were we not told that we were to retire to the Seine? And now in a few simple and noble words the General in Chief informs us that the trails of that dreadful retreat are over and that the day has come to take the offensive and he promises us victory.

We rejoin our squadrons. Our joy spreads rapidly to all the trooper who at once understand. The weariness and fatigue of two weeks of retreat are forgotten, nor do they consider the fact that their horses can hardly carry them nor that many would be unable to take up a gallop. What matters that?

"Captain and officer to the colonel," comes a message. Bravo, it is my turn; a few words of congratulations from my comrades who shake hands with me enviously. The Colonel, map in hand, explains in a few brief words what he expects of me

"Direction of Courgivault. See if it is occupied. You will report to me on the road which runs directly from here to the village. The brigade will follow you in one hour by the same road. I am sending two other patrols toward ———."

A moment later I am on the road to Courgivault. From my platoon I have chosen a corporal and four good men, who have already shown their worth. In front of me, well seated upon his horse Cabri, whose powerful croup towers above the high oats, is Vercherin in the lead. I have entire confidence in his vigilance and skill. I know that if it is possible to see anything he will see it better than anyone, and his zeal needs no stimulating.

On my right and left, well spread out as foragers with wide intervals, are Corporal Madelaine, Finet, Lemaitre and my faithful orderly Wathelot. Experience has been obtained since the beginning of the campaign. We now look out for Prussian bullets, knowing their ravages as soon as our troopers are impudent enough to close in together. Extended, our chances will be better.

The weather is magnificent. What a joy to live in the midst of such beautiful nature, our hearts filled with the hope of victory! (The following two pages, omitted, show in what fine spirits the troops were and how good their morale after two weeks of continual retreat.)

In front of us nothing. Behind also; there is complete silence. Yet I know that there is a whole army awaiting the information we shall send them before marching to battle, and by this report of mine our movements will be decided. I know that behind that fold of ground lies all my brigade impatient to attack, behind them, lying by sections in the furrows, are thousands upon thousands of infantrymen and that hundreds of cannon are ready to belch forth death. But this well-disciplined multitude is silent.

I feel full of joy; it is upon us that so many rest their confidence, upon us that so much depends.

Before taking the trot I have consulted my map and have seen that the road to Courgivault passes through two woods, not deep but extending for some distance at right angles to the road.

Now, at the bottom of a rise over which we have just come, about 500 meters off, I see one of these woods. By voice I stop Vercherin who was already pushing on towards them, for now I know how many men have fallen for having acted in like cases as we do at maneuvers, where the enemy is represented by some jolly comrades with white bands, and blank cartridges take the place of bullets. We soon learned through the Germans themselves how to reconnoiter a wood or village and also how to guard them.

How much more "dashing cavalryman" it would be to rush forward with drawn saber right among the first trees. But I know by now that if it is occupied by the enemy, their men are flat upon the ground, utilizing the trees and bushes to conceal themselves as much as possible. Not one of us would return.

We have to use against them their own tactics of mounted infantry. Good-bye the fine charges! It would be insane to

remain a dashing horseman against people who are not and do not wish to be. We would be fighting with unequal arms and too many have paid with their lives the desire to fight d la Lasalle.

With my glasses I search the edge of the woods carefully to see if no bush moves, if no limb is carefully pushed aside by the hand of a too impatient soldier. My men, attentive, in poses that would have delighted Neuville, their carbines in the hollow of their arm, are watching and listening with the greatest care. Nothing! I call Vercherin's attention by a slight whistle. The silence is so complete that he hears it and, understanding, advances step by step, holding his carbine well up, and enters the wood by the path.

For an instant, while I watch him enter, my heart throbs. Now I breathe freely. We enter, each by a different place and pass through as fast as possible. Upon coming out on the other side, I see with pleasure my four brave companions who emerge at nearly the same time, each one watching me. On the crest beyond, near a lone tree, is the motionless figure of Vercherin.

We soon rejoined him and, from his slight elevation, we see on the next ridge the second woods we have to cross and which hides from us the village of Courgivault, two kilometers beyond. I feared greatly that this second woods would be used by the enemy to form a redoubtable line of defense, so it was with even more precaution that I had it approached. We found it unoccupied like the first.

I then expected to immediately see Courgivault, but a fold of the ground still hides it. I make use of this shelter to have all my men advance without danger of a shot. Then, always preceded by Vercherin, we come out on the plateau upon which is the village.

Those who have been in like positions understand the short moment of emotion one feels when, all of a sudden, one perceives a few hundred meters beyond the end of one's mission, the decisive point which one must reach at any cost; the place where one is almost sure to find the enemy, where one feels that he sees one, is watching for you and waiting the opportune moment to shoot at point-blank range.

I stop my men an instant. In the midst of green fields, dotted with apple trees here and there, extends the edge of the village, a group of buildings, some appearing to be large farm houses, others those of humble peasants. The tile roofs form a reddish mass, above which rises the tower of the church. With my glasses I can see the face of the clock and tell the time—six fifteen.

This clock appears to be the only living thing in the village. In vain one might look among the surrounding gardens and orchards for the peaceful movements of village life. Yet it is the hour that all should be moving. Has war driven the people away, or is it the rough Prussian boot which holds them prisoners, hidden in their cellars?

Yet, from here nothing would indicate that the village was occupied. One can see no works of defense, no barricade, no sentinel behind the haystacks or trees.

On the south of the village, towards us, is a large farm building which would seem to form a basticn were Courgivault a fortress. The walls around the farm buildings are white and high, and at one end is a round tower which completes the appearance of a miniature donjon. The road we have followed seems to wind through the fields and pass in front of this outwork. Opposite one can guess that there is a perpendicular road which is shown by a row of trees, and alongside the road are a dozen large stacks, as though arranged in battle line facing us menacingly and guarding the approach to the village.

The silence is more tragic than the noise of battle. It gives the impression that the two armies have each retired away from us who remain alone, isolated a hundred miles from either.

But it is time to finish. Upon a sign from me Vercherin reaches the first tree of a long row of poplars. This line starts from the farm and borders the road which we follow to within a hundred meters of the first wall. By advancing from one tree to another he can thus approach in relative security. Suddenly he stops and, standing up in his stirrups, looks straight ahead at the stacks.

It is not necessary for him to make the least signal, for I understand that he sees something and in a few strides at a gallop I am beside him. Though as calm as usual he speaks a

little fast, "Lieutenant, there behind that stack it seemed to me that something moved, a head was raised above the grass." I look in the direction he points with his carbine and see nothing, but our two horses seem suddenly to be taken with fright and whirl. With a vigorous blow of the spur I bring mine back and take my glasses for a closer inspection. Vercherin rejoins me.

Just as I raise the glasses to my eyes, there suddenly arises in front of me, at less than a hundred yards, a whole line of skirmishers, dressed in gray, two or three hundred of them perhaps. At the same time a formidable fire breaks forth. Hidden in the grass along the road they had been watching us, and the admirable discipline which makes their strength, kept all from moving, only the "Hauptann" who commands them looked out from behind a stack and him it was whom we had seen. Had it not been for the prudence derived from experience, not one of us would have escaped. Fortunately every one of my men had kept the place assigned him and not one moved under the volley.

I make a signal, quickly understood. Each one wheels about and at an extended gallop makes for the slight hollow which concealed our advance. Though followed by a hail of bullets, they are aiming bad, we have nearly reached the shelter. when I see the horse of Lemaitre, Ramier, on my right, fall. Rider and horse roll on the ground, the latter is up quickly and moves off at a limping trot. Lemaitre is soon up, a little stunned, he looks at me and, brightening up, he answers my query "Nothing broken, sir." "Trot along then" say I, and off he runs, jumping ditches with an agility I would not have thought possible. 'Tis strange how a volley will give speed to a dismounted trooper. Finet brings back the horse which he has caught. He is limping badly; a small hole is seen where the bullet entered. "Remain here" I say, "I shall be back in a moment." I wish to see if there is anything of interest to be seen on the east of the village. Turning towards my other men, I see that Corporal Madelaine's face is covered with blood. 'It is nothing, Lieutenant, a bullet grazed my nose." But his, horse was wounded, so I sent him on foot to go with Lemaitre beyond the woods, and with the other three attempt to approach

Courgivault from the right. But they do not let us approach: as soon as we appear, they receive us with a violent fire. There is no more doubt, the village is occupied in strength.

THE CINDERELLA OF THE SERVICE.

Under shelter, I quickly dismount and while Finet and Vercherin, a hundred meters apart on the crest, keep a good lookout, Wathelot holds my horse. The message written,I give it to my faithful Wathelot. "To the Colonel quickly. I await the brigade here." While my two vedettes watch, I rejoin the men with the wounded horses. One of the latter I am obliged to shoot. The man packs his equipment on his back and the other leading his horse, they return towards the rear.

The village remains silent. Suddenly a platoon of foragers comes out of the woods behind me. They are Chasseurs d' Afrique whom I recognize by their numerous white horses. Nearly at the same time a loud report announces that our guns have come into action against Courgivault.

The battle of the Marne begins.

This article is much abbreviated, but nothing essential is left out.—Trans.

THE CINDERELLA OF THE SERVICE.*

THE WORK OF THE ARMY VETERINARY CORPS.

The read in the recent reports of the Great European War that the cavalry has, for the time being, at all events, had to do the work of infantry, and some of us have run away with the idea that horses are therefore unnecessary to a modern army, especially since mechanical haulage has, to an extent, superseded horse draught. This view is, of course, entirely erroneous, because there are countless tasks for horses which

^{*}Reprinted from The Nineteenth Century for August, 1915, by the kind permission of the publishers.

motor traction could never perform. Cavalry and artillery horses especially, when ploughed land, ditches, or hedges have to be negotiated, must always hold their own, in spite of the modern march of "caterpillar-wheels," motor cars, motor cycles, and armored trains.

A merciful change of view has come. In former campaigns the agonies and wastage of horses were recognized and commented upon, but little or nothing was attempted for their amelioration. During the Crimean War, for instance, or, more recently in the South African War, the price paid by the horses and mules employed, and the awful sacrifice of animal life, were hardly reckoned with, or, if recognized, were only treated as part of the terrible consequence of human warfare. Things have changed; people have become actively interested in the question and instead of merely registering a verbal regret at the horrors which seemed to be necessary, they have put themselves to personal trouble and expense to mitigate the sufferings of the animals involved in the great struggle.

A vast amount of ignorance exists about the treatment and the ultimate fate, too, of the horses at the Front, which should be dispelled, if only out of fairness to the work of this Corps, which is some times looked upon as an unnecessary result of an oversentimental age, and which has, in the past, been treated as the Cinderella of the Service. I would that the general public could be privileged, as I was, only a few weeks ago, to visit the various A. V. C. hospitals in France, and watch the work which is being done by those men who are not only horse doctors, but horse lovers also. Whether we look at it from an economic or a humane point of view, it must be granted that it is a magnificent work to prevent unnecessary wastage of animal life; economically, because every horse cured and saved means another weapon in the fight; humanely, because it is only paying some part of the debt we owe to those horses which we have taken and used to our own ends.

My recent visit to these horse hospitals in France must always stand out in my memory as one of the most interesting and inspiring experiences of a not unvaried life. And the general impression, after inspecting eleven such special centers of veterinary activity, is one of immense admiration for their organization of the Corps, and the ability, energy and humanity of its members. Naturally, each hospital has some special feature—due either to the nature of the ground or to the individuality of the officer in charge.

The first hospital visited gave me a fair idea of what was to be seen at each of the others, but with each subsequent visit I was better able to gauge and appreciate the wonderful human mechanism, which makes the whole work of the A. V. C. move so smoothly and be of such economic value. Ground had, of course, to be selected which would best suit the purposes of the work, and countless and unexpected difficulties had in each case to be overcome. During the whole of the last winter, one continued fight against rain, with its consequent mud and attendant ills for the horses, had been made, and though I was fortunate in coming at a time when much of the ground had dried and settled, I could in a small measure realize the havoc of the wet by an experience of one day's rain on the clay soil of Northern France. Slipping and sliding about on soil which had, with infinite trouble and skill, been drained by members of the Corps, whose special genius for such necessary labor had been discovered by a far-seeing commanding officer, I wondered how order had come out of what must have seemed at first irreducible chaos, made many times more difficult because horses—sick. debilitated, and wounded—had, at the commencement, been arriving daily, before even the stables were ready for their reception. Everyone with a knowledge of horses will understand how the ground must suffer, when these animals have to stand in the open on clay soil which becomes churned into a sea of mud after a short time. In some places the able Director of Veterinary Services—and it must not be forgotten that the well thought-out schemes for hospital distributions were rudely upset by the retreat from Mons and the shifting tide of battlewas fortunate in discovering brickfields with drying sheds, or disused mills or kilns, which, after a vast amount of cleaning.

have served as admirable shelters; but the difficulties, at each and every place, of providing shelters for 1,000 horses have had to be conquered by that innate quality of facing and overcoming impossibilities which has enabled Britons to become successful colonists. Here in the covered stalls—specially made or converted—stand the horses who have suffered in battle, and have passed through the hands of the various mobile section at the front to be sent on as needing special treatment.

They have come from railhead in trains used on the up journey for conveying men, commissariat, ammunition, fodder, etc., to the front, and they go by a different route, so as not to interfere with the constant outward bound traffic, or be themselves unnecessarily delayed to make way for such trains. Accompanied by railway conducting parties to attend to their needs en route, they arrive in batches of 250 or more at the particular hospital on the line of communication selected for their reception. Here they go through the Mallien test for glanders before they are drafted into the wards specially put aside for their ailments, and if they are suffering from any infectious disease they are isolated in separate stables and are looked after by a special staff who see that rugs, brushes, head-collars, feeding and drinking utensils are periodically disinfected. They are placed in roomy stalls with shelter overhead and at the side, and with a good deep manger running the length of the stable. In some hospitals hay-racks are employed; in others hav-nets, which are hung at feeding time over the stall. The latter way of feeding is certainly more expeditious, as it enables the men to fill the nets at the forage barn and take them direct and ready to the horses. Each horse is divided from his neighbors by a good bail-bar, and the tether rope is long enough to enable him to lie down. In the case of a horse suffering from pneumonia, two stalls are turned into a loose box, and here the poor animal can rest undisturbed. The open-air treatment for such cases seems to have very happy results, and, in some hospitals, to ensure their not being disturbed or taken to water, a white tape is loosely tied around their necks.

At these hospitals, which have been specially built, the twenty wards or sheds, which can each take fifty patients, are either built of iron or wood with galvanized iron roofs. Between each building is a good bit of ground, utilized by the staff either for grass, or, in some cases, for flower gardens, and this space ensures plenty of air and sunshine—both essential to a healthy recovery—while the overhanging eaves of the buildings give protection from the rain. The cinder-paths and roads which give access to the stalls are well drained and, in many cases, made up either of old railway sleepers or faggots, so as to ensure dryness, as far as possible, in the event of another winter campaign similar to the previous one.

The standing for the horses seems to have been an unending difficulty, for, as horse-owners are aware, the animals get restless and paw up the ground, particularly when they are unable to be exercised regularly, as is often the case when under treatment in Veterinary Hospitals. Therefore every resource of ingenuity has been utilized—bricks in some places, pitch and stones in others, or bricks and sand, and, wherever possible, railway sleepers or split trees covered over with sand.

With an amp e supply of water—in many hospitals kept in troughs at the end of each building—roomy stalls, dry standing, and excellent fodder, these victims of war have every chance of recovery. When the weather and their condition permit they are tied by breast-lines in the open, or are turned out in the roomy paddocks, where they have every opportunity for exercise and grazing. Each hospital also has an exercise track made in a circle, surrounded on either side with strong wooden palisades, around which those requiring exercise are driven. In the center of this is a sand bath for the mules, and here they can roll about to their hearts' content. Mules require a good deal of handling, and great care has to be exercised in bringing them together. They have to be introduced gradually, otherwise the old campaigners, very much after the manner of the older boys at school, are apt to make the lives of the new-comers a burden to them until they show what stuff they are made of. It is gratifying, and often amusing, to watch the heavy draught horses who, under ordinary circumstances, would spend their leisure after a hard day's work in stuffy stables, galloping round the fields or rolling on the ground with glee at their unwonted liberty. Thus turned out to grass—having been carefully sorted out so that the heavy and strong shall not oppress the weaker ones—with their hind shoes removed to prevent injuries in their frolics, they become hardened and fit, so that when, after being exercised on the roads to remind them of their former work, they are returned to the Remount Department, they are really more suited for the work than when they first arrived from England.

This acclimatizing process has been found to be so successful from an economic point of view that, while the present methods of warfare permit, the newly arrived horses are kept at No. 2 Veterinary Hospital or at the neighboring Remount Depot so that they may recover from the sea journey, which, short though it may be, takes away from their condition and strength.

At this particular hospital, one of the first to be specially built, the conditions are ideal, though during the winter both men and horses suffered from the weather and its results on the soil, and many of the fields still have the traces of the sea of mud which seemed almost impossible to remove. With horses standing sometimes up to, and even beyond, their hocks in mud and slush, and with men soaked through from morning till evening, the work must have been indeed disheartening—and this, from all accounts, was the condition of things generally. But on the occasion of my visit one could only see the wonderful results of the patient and constant combat against difficulties, and the hospital, with its wards, forage sheds, operating sheds and pharmacy, men's quarters and dining rooms, etc., looked a town complete in itself. I could understand as our motor zigzagged up the steep hill, on the top of which the hospital is placed, the immense need of a motor ambulance to bring the debilitated patients from the docks to the ward, and I was thankful that the Home of Rest for Horses at Cricklewood had, through the generosity of its subscribers, been able to send a motor ambulance fitted to take two horses. I was proud also to see here, as at all the other hospitals, that the R. S. P. C. A. Fund for Sick and Wounded Horses had been able to provide many aids to the good work, besides building hospitals to accommodate 2,500 patients. Corn-crushers and chaff-cutters, driven by petrol engines, and capable, for instance, of cutting two tons of hay in three hours, are, by this means, installed at each of the hospitals. Horse ambulances have also been sent to each, so that the tired or injured animals can be brought with little or no pain from the railway stations to the hospital and I feel sure, if the many subscribers who have, by their generosity, enabled the Royal Society to give such assistance could only see the practical work that has been done, they would feel that their money was well spent. Everywhere I went I heard appreciation of the gifts which has been sent out through this Fund, and it made me proud that Great Britain, the mother country of all humane work for animals, had initiated a method of caring for her sick and wounded horses which might well be a model for the guidance of every other nation.

At all the hospitals which I visited it was the same storynow that the fine weather had come and the ground had been well drained, the horses had their chance. And in spite of all the winter had meant to them, and to the men, they had all stood the hardships wonderfully well. The death-rate was exceedingly small and was constantly decreasing, and the condition of the horses from the front was also greatly improved. Quittor cases, which had formerly been difficult to treat when the animals had stood in puddles or mud-pies, could now be bandaged properly and would soon yield to treatment; skin diseases and parasites were decreasing, and the wounds were healing under the good influence of sun and fresh air. There was a spirit of cheerful competence which made one feel that, so far as the horses went, all was well in hand, and the ample supply of corn and excellent hay spoke volumes for the transport and forage organization which made it possible to obtain abundant supplies from overseas. Even when face to face with the stupendous difficulties of the early part of the campaign, the work done by the Army Veterinary Corps was amazing.

During the whole course of the war (wrote the correspondent of the Daily Mail), especially lately, one arm of the Service, into which I have been able to get some insight, has surpassed itself. It is the Veterinary Corps, which was first formed after the South African War. This Corps has dealt with some 27,000 horses, probably more, up to date, and it has saved the lives of thousands of animals, of which many would have been condemned as incurable even in time of peace. The other day one of the quite young hands

picked up somehow a German horse with three bullets in its shoulder, and, rather against his superior's advice, operated successfully, extracted the bullets and in a surprisingly short time the horse was as fit as it could be. Some of these young men have indeed developed a real talent for quick and efficient surgery, even under fire.

The care of the horses has been remarkable all through the War. The Germans must have lost four horses to our one simply from want of care in unsaddling and removing harness and feeding. But, apart from this, the Veterinary Corps have saved their thousands by medical skill and organization. It is hard work, but they have their rewards in many amusing incidents. One is worth mention. A young soldier brought in one day a German horse of which he was very proud. "You couldn't breed a better in Ireland," he said, "and every bit of leather is new." The veterinary sergeant, even before he saw the marks, recognized the horse as English. It had been lost and taken by the Germans three days earlier, and had now come back with brand new saddle and bridle and only a scratch to be healed. Incidentally the episode suggests the astonishing perfection of German equipment. It is only in human—and perhaps human—things that they fail. That horses and men are not machines escapes them.

It is illuminating to watch the arrival of these new patients from the front and contrast them with the conditions of those who have already been successfully treated. The drooping head and lack-luster eyes, the rough and dirty coat, the staring ribs, the upheld foot, the sore and irritating skirl, and often, too, the hideous wound, tell their tale of suffering patiently borne, which appeals at once to the keen soldiers who are there to remedy the various ills, to cleanse and heal the torn flesh. Skin diseases, quittors caused by nail-pricks, suppurating corns, frost-bites, or ulcerated legs from constantly standing in mud or water; swollen hocks, broken knees, saddle or girth galls, etc., are the common ills to be dealt with; but pneumonia and chills are frequent causes of trouble, and many horses arrive so lame and "done-up" that only a rest cure at the Convalescent Horse Depot will put them right. Many cases of wounds from shrapnel, jagged bits of shell, or bullets arrive also, and these often necessitate complicated operations. Many a fine horse with a shoulder or quarter torn or punctured by a bullet stands in the line waiting to be attended to. All cases which necessitate operations are treated with a care formerly only given to human beings; while those to which painful dressings have to be applied are spared pain by the application of local

anaesthetics. Each animal to be chloroformed is, after becoming unconscious, cast on a specially prepared operating-bed, made of sacks stuffed with hay, fastened together and covered with sailcloth. Here the surgeon performs the operation with quickness and dexterity, and is assisted by men who watch the patient and, if necessary, are ready with another dose of chloroform. All seem equally keen on the success of the operation, and proud of the ultimate recovery of the animal. Having seen such operations performed, I can echo the remark made by a friend, who said that, should necessity arise he would gladly be operated on by a modern veterinary surgeon, for they are as far removed from the old-fashioned horse doctor as the modern surgeon is from the "sawbones" of the past. So, too, is the modern pharmacy with its sterlizing boxes, its disinfectant sprays and countless instruments, all scrupulously clean and orderly, different from the old-fashioned and very dirty collection of instruments of torture which more often brought death than recovery. Here, with everything in its place and with a constant supply of drugs sent from the base veterinary stores, one understands the change which has come over the whole profession, and has brought it into line with its elder brother, that of the physician and surgeon for human beings.

The arrangements for the treatment of the horses are almost as elaborate as those provided for the wounded troops, and include a Convalescent Horse Depot, where the recovering animals, like human patients, lead an open-air life and have special feeding. Situated in the richest grazing country in Northern France, and covering an area of something like twenty miles, the patients, some resting from the too often necessary overwork and strain which produce debility, others recovering from the wasting effect of bad wounds, injuries to their feet, or skin disease, can graze at will amidst ideal surroundings, sheltered from cold winds by high hedges, in paddocks with an ample supply of good, fresh water. Constantly under the keen eye of an A. V. C. officer and a staff, which on War Establishment should be 404, these horses, some 5,000 or more, grow sleek and are cared for as though they were candidates for some local horse-show. Here, too, are shelters built from the R. S. P. C. A. Fund for those that need special care; "skin lines" for those

whose troubles in this direction have not been completely cured, and handy little enclosures for other horses who need extra watching or diet. Here, as everywhere else, were sad-looking animals, weary in body and mind, but I think the most pathetic were those poor artificially reared creatures who wandered aimlessly about in the rich land, unable to grasp the fact that the grass was to be eaten, and who had consequently to be acclimatized to their novel surroundings and educated to benefit from the grazing which surrounded them.

Figures, of course, speak more eloquently than words, and surely the good results of the work already done by the A. V. C. will more than justify the remark already quoted—that it has "surpassed itself." And it must not be forgotten here that forty of the veterinary officers are employed on horse transport duty, when they are responsible for the feeding, watering, and treatment of all horses and mules on the ships, and for the destruction of any incurably diseased or injured animals. The losses of horses under their charge, except in one or two serious instances which were unavoidable, have consistently been under one per cent. This, when one recalls the fact that the animals are imported almost from the four corners of the earth, is reassuring. But it is the figures showing the whole work of the A. V. C.—so far, of course, as one is allowed at this juncture to publish them-that reveal the value of the work. The total number of animals treated in hospitals up to date has been 81,134: of these 47,192 have been returned to Remounts as cured, 4,266 have died, 4,843 have been destroyed, and 1,842 have been cast and sold, while 29,991 still remain in the hospitals and at the Convalescent Horse Depot under treatment. The sick rate has been approximately reduced by one-half, the number of convalscents by one-third, the death rate by a little less, and the number cast and sold is an infinitesimal proportion of the whole number.

It is gratifying to feel that the great British public have been able, by voluntary aid over and above the cost defrayed out of the national taxation, to help towards this end through the medium of the R S. P. C. A. Fund for Sick and Wounded

Horses. This Fund, under the Chairmanship of the Duke of Portland, is the only one authorized by the War Office to aid the Army Veterinary Corps, and has endeavored by practical means to he'p on the work The Society realized at the outset that work for the animals on the battlefields could only be done effectively if organized as a department of the Amry, by a personnel specially trained for the purpose and under military orders. Therefore the Committee of the Fund concentrated their attention on the provision of horse ambulances motor lorries for the carriage of fodder, etc., corn and chaffcutters, rugs, bandages, and other requirements. The Fund has also built and provided hospitals for 2,500 horses on the lines of communication. Of the worth of this work the Commander-in-Chief, Field-Marshal Sir John French, has written:

Sir John has received most satisfactory reports of the work done up to now by the Society, and has no doubt that its efforts for the care of the sick and wounded horses will have a most beneficial effect in shortening the period of sickness, and in reducing the wastage of horseflesh in the Army in France.

The Inspector-General of Communications Overseas, with special reference to the R. S. P. C. A. Fund Hospital, wrote:

The Veterinary Hospital is now in full use, and the Society may rest assured that the splendid facilities for treatment which have been placed at the disposal of the State, and the extreme care and forethought which has been shown in providing the same, will bring the reward of an increased number of animals made serviceable to the State, and the alleviation of animals suffering under the trying conditions of war.

The Ear of Lonsdale, who is so well known as a sportsman and horse-lover, paid a visit to France in the early part of the year, and subsequently wrote to the Daily Telegraph with reference-

to the remarkable and to me extraordinary Army Veterinary Corps organization that exists at the front in the interest of animals. • • • I had heard much of the difficulties and suffering connected with the animals, but I have not the slightest hesitation in assuring the whole of the English horse-loving world that I do not believe, in all the various departments of the army, there is any branch of it that deserves more credit and shows more astonishing foresight in the preparation, alleviation of suffering, and general superintendence of the animal than do the Army Veterinary Corps and the Remount Department.

I found that the veterinary surgeons, some of whom I knew, were most capable. The dressers were all that could be desired. The operating theaters were arranged as perfectly as could be done in our own city of London. The instruments, medicaments, and everything necessary for the respective hospitals were of the finest quality, and, to my great surprise, up to strength for all requirements, and most fully equipped.

Having said this, I think it is only due to all those in the Veterinary Corps and the Remount Department to testify to the extraordinary energy, the love of the animal, the time, hard work, and forethought displayed by all those connected with these two Departments. It certainly was a surprise to me, and I went into every detail, and have every facility granted me. I saw every horse, and I do think that we—the real lovers of animals (if I may so express it), whose interests we have so deeply at heart—should be not only satisfied, but most grateful, too, for the forethought, hard work, and endurance of all officers concerned.

It is, of course, one thing to plan and arrange for an army, or even one of its many departments on paper, so as to fit in the various units of an immense force as part of the great "War Game," but it is a totally different affair to transfer the whole scheme to actuality, and to transport the complete machinery to a country across the sea. All the best organization on paper may be upset in an instant, and may have to be adapted to circumstances which, again in their turn, may give place to fresh ones dependent on the unexpected happenings of the moment; so that the elasticity of a scheme cannot be calculated with precision. The preconceived and defined work of the Army Veterinary Corps—which, in its present organization, is largely a result of the experience gained during the South African campaign, and which, as a Corps, dates, back only twelve years—is a case in point.

To appreciate fully the change that has come over this special side of war, one must have some idea of the veterinary organization which existed in the past. About twenty years before the outbreak of hostilities in South Africa, the "Regimenta" system obtained, with a veterinary officer responsible to no one but the commanding officer of each regiment. This meant, of course, that no other regiment could call on his services, and in time of war he would only attend to the animals of that regiment to which he was attached. The result was that each regiment had to look after its own sick horses under a system, which, years before, was shown to be impossible for the care of men on service, and applies with equal force to animals.

This service, having at last been recognized as a failure, was converted into a department, to which the veterinary officers were attached, but as no subordinate and definite personnel or hospitals were provided, the difficulties under which it labored during the South African campaign were immense and necessarily led to an inefficiency of method which was unavoidable. But while the British Army authorities still "economized" in this important direction, and withheld their sanction for the formation of veterinary hospitals, the Veterinary Department of the Indian Army had been given a free hand to create its own organization and was able on the outbreak of the South African War, to send veterinary stores and three fully equipped hospitals, each of which was capable of sub-division into two complete, self-contained establishments. From India also came the first mobile veterinary field chests, containing the necessary instruments, dressings, and medicines, which have served as a model and are being used at the present time.

It may not be out of place here to note that the necessity for veterinary hospitals, though it was forgotten or overlooked subsequently, was recognized a good many years prior to the South African campaign. In a War Office publication of 1887, entitled Notes on Transport and on Camel Corps, by Major D. B. Brown, Eighteenth Hussars, the following appears:

Depots for sick animals must be formed on the line of communication at convenient intervals, each one being in charge of a veterinary surgeon, with a suitable number of farriers and attendants under him. These depots must keep pace with the formation and expansion of the transport, and should not be an afterthought called into existence only when the number of sick animals has increased to a large figure. They should be of two kinds—large and small. The latter are pushed up close to the Army, and take charge of fresh cases. All animals whose recovery depends upon time, and cases of debility requiring nourishment, such as the small depots are unable to furnish are passed to large depots in the rear. In the Abyssinian campaign depots for the treatment of the sick were formed at intervals of seventy-five miles apart.

Here we have, as it were, the ground-plan for future veterinary work which had, unfortunately, been ignored when our troops and horses first went to South Africa, and, though the evolution of a perfect hospital system, as it exists now, came slowly and with almost grudging assistance, the ghastly sacrifice of horses during that campaign will not have been made in vain,

novel circumstances.

if the present system is allowed to become a permanent feature of our Army. And this wastage of horses and mules, which naturally involved a tremendous loss of trained and, in the majority of cases, acclimatized or partially acclimatized animals was caused by having either to take along the sick of each regiment or leave them on the yeldt to shift for themselves—a course which soon gave Brother Boer the advantage of free additions to his remounts! It was also largely augmented, after the discovery was made that the British sick horses were being cured and utilized by the Boers, by an enormous sacrifice of life which would have been quiet unnecessary had hospital arrangements been made. This led to the hasty organization of depots, in farms or any other places available, where some system for the care of the sick and wounded could be carried out. These centers, because of the shortage of qualified veterinary officers, were put under civilian veterinary surgeons, the majority of whom did excellent work under most difficult and, to them,

It was not until six or seven months of the campaign had passed that the Veterinary Service of the Army was officially instructed to take charge of the sick, and provide hospitals for their accommodation and treatment. On the 18th of May, 1900, arrangements were made for the cavalry to supply the subordinate personnel, and units were to furnish stores from their scanty supply, which were to be supplemented by medicines found in the Dutch hospital in Kroonstad, where the hospital was inaugurated.

The site selected for the hospital had to be near the railway for forage supply, and close to water. This left very little choice of ground within the defended perimeter, but the best available site was selected between the railway station and river. The river ran between high perpendicular banks. A road was cut in the side with as gentle a slope as possible, for many of the horses had not strength to climb up the usual stiff path which is generally cut. The next thing to be found was an officer to place in charge. With so few with the force this was a matter of great difficulty. Generals do not like parting with their officers, and no officer likes the lines of communication, where the drugery passes unrecognized and unrewarded.

On the following day, the 19th, the hospital, with all its imperfections, was ready to receive cases, and on that day 358 cavalry horses and 400 from other units were admitted. This would be a good day's work for a well-organized establishment in thorough working order, but a crushing load for an establishment where no one knew the other by sight, not even the

veterinary officer in charge. There were scores of horses without head ropes, hundreds without nosebags, many without forage, which should have accompanied them for the day of admission. Non-commissioned officers had to be found and appointed to the various lines, instructed as to their duties, and given a proportion of men whom they had never seen before to carry on with. Non-commissioned officers and men were, during the day, taken away by their regiments for other duty without any reference, and their absence only discovered by accident. The men were tired and lay in groups on the ground, every attention to their horses being given grudgingly. As usual, the only men who, under these conditions, did any thing were the farriers and the shoeing-smiths; these were used as "dressers." The officer in charge, besides endeavoring to infuse some form of system and life into the inert mass, was being called to attend urgent cases, operate on backs, required here and there, and yet, in order to get any work out of this machine of mushroom growth, his constant presence in the lines was necessary.

On the 20th the cavalry furnished 156 more sick, a total contribution of 514 horses, and on this day there were 900 horses in hospital.*

This is but an example of how work poured in, and it is little to be wondered at that at Kroonstad, at Pretoria, and elsewhere where the new scheme of forming A. V. D. hospitals with makeshift men and scanty supplies was adopted, organization and discipline were difficult to maintain. All that happened was proof positive that "so long as the body remained a department, and not a corps, it was impotent."

But beyond all the difficulties of treating a constant stream of newly arriving patients, with scant veterinary necessities, the work was greatly-complicated by an increasing dearth of qualified veterinary officers. To make up the deficiency civilian veterinaries new to military discipline and without military authority, or officers who, for various reasons, were unfit for work in the fighting line, were put in charge of these hastily constructed veterinary hospitals. A step had, however, been taken towards the desired end and another advance was made at the end of the year 1900, when—

the authorities decided that one thoroughly equipped Veterinary Hospital should be erected, equipment and personnel being withdrawn from other hospitals and sources, to complete what was intended should prove a model establishment. Here was developed, under successive administration, a hospital with stabling for 500 sick, general accommodation for over 2,000 horses, together with a good subordinate staff, and equipment for dealing with matters on a basis not previously permitted. The beginning of the year 1901 saw this hospital in full work, and it is fortunate that during the remainder of the war the Headquarter Staff of the Army, and others, had an

^{*&}quot;A Veterinary History of the Waf in South Africa.",

opportunity of seeing the organization the Veterinary Service could put into their hospitals when given a free hand and assistance. From January to December, 1901, the total number of admission to this hospital was 24,606, of which 14,594 were cured, 6,540 were destroyed from various causes, and 2,142 died. In round numbers, it may be said that nearly sixty per cent. of the admissions were cured and returned to duty—a sufficient evidence, if any were required, of the value of a hospital.*

Yet, in spite of this, the fight for adequate recognition and help was not over. History was repeating itself. The medical department had fought and had won, though it took over forty years to consolidate the new position. The veterinary department had fought but had still the victory to win, and in the meantime it was the Cinderella of the Service. The idea that a veterinary hospital must needs be an offensive place took a lot of eradicating, and the notion that such a place should be central as well as healthy was regarded as presumptuous! But autres temps, autres mœurs. Now the organization is complete, from the veterinary stores at the base to mobile veterinary sections at the Front—each is a link in the chain which enables the Army Veterinary Corps to do its highly economic and really humane work.

The experience of the South African campaign demonstrated clearly the disadvantages of the old system, and the period of peace, which happily existed until that fateful day in August last, gave opportunity for organizing the work of the Army Veterinary Corps as it is at present carried out.

It will readily be understood that a very special training is in peace time, required so that the work of healing sick and wounded horses can be carried on by competent men. For this purpose, one of the first things to do was to establish a veterinary school where the men, mostly selected from cavalry regiments, could be instructed under the veterinary officers. In the many class-rooms and laboratories of this school, the practical training, as well as the theoretical teaching which is indispensable, is given, and the men renew their school days. In one room they learn the elements of anatomy; in another they take notes on the structure of the horse's foot; while in other parts of the building they are taught dental work, far-

riery, stabling, food selection, hygiene, and a thousand and one items which make for the comfort and health of the Army's four-footed charges. They learn to clip horses, to poultice them, and to feed them with this or that food, according to the nature of their work, or their state of health. Before leaving, too they are instructed in their management on the march and on board ship; and last but not least, are taught to destroy them when necessary, with certainty and humanity. Attached to the school is a splendidly equipped Röntgen-ray department, and research laboratories are provided where officers may carry out advanced work in the prevention and cure of disease.

Extremely interesting, too, is the museum, which contain a large collection of bones showing the effect of saber and gunshot wounds. Here also are to be seen papier-maché models of field hospitals and concentration camps.

From these fully trained non-commissioned officers and men the military veterinary surgeons gain the assistance in carrying out their special work which was formerly supposed to be rendered by untrained, but perhaps very experienced farriers. The commissioned officers of the Corps, as in the old days of the Army Veterinary Department, are qualified veterinary surgeons who have passed four years at a veterinary college or university. They do not pass into the Army through Woolwick or Sandhurst, but sit for a special examination after their collegiate course. On joining the Corps each undergoes three years' probation, during which the fitness of the young officer for his career is decided. Of course in time of war this period of probation is waived, and civil veterinary surgeons are given commissions and work under military discipline. It says much for the patriotism of these men that so many have been found ready to throw up their private practices for this national work. For instance, at the present moment, some of the leading professors, now holding the comparatively humble position of lieutenants, are working in veterinary hospitals under men who have in former times attended their classes as students!

The Corps has, of course, been greatly strengthened for the period of the war, and the enlistment and training of the neces-

^{*&}quot;A Veterinary History of the War in South Africa."

sary and often raw men—a work shared by the R. S. P. C. A.—has added to the task of organization. From a peace strength of 166 officers and 249 non-commissioned officers and men, it has been increased to 700 officers and 8,000 men. These numbers include, of course, the men of the special units working in the field, besides the mobile veterinary sections and veterinary hospitals, which are naturally increasing with the growing needs of the Army.

On active service each division of troops, in addition to veterinary officers attached to units, has a mobile veterinary section, consisting of one officer and twenty-two men, all mounted and provided with all the necessary veterinary medicines, instruments, dressings, etc., contained in a veterinary chest for the officer, and small chests and wallets for his subordinates. The work of this section is controlled from divisional headquarters by a senior veterinary officer, to whom the officer in charge of the section is accountable. This officer is the responsible adviser of the Commander and his staff on all technical matters appertaining to the veterinary service of the division, and administers the personnel of the Army Veterinary Corps attached to the division. The officers attached to the units are responsible for the treatment of the sick animals, and submit a weekly return of casualties to the senior officer; they also advise the commanding officer on all matters relating to the well-being of the horses under their charge. The detection and control of contagious diseases is one of their most important duties, another being to decide when a horse, owing to his condition, should be painlessly destroyed...

Mobile sections are divided into two sub-sections—one to collect fit horses from the firing lines and other places and to destroy the badly injured ones; the other to receive the sick and wounded animals and convey them to railhead, and thence to the nearest base veterinary hospital. Each of these hositals—which are organized to deal with 1,000 cases—has a staff of 399 officers and trained men, including farriers, shoeing-smiths, saddlers, dressers, stable hands, and Army Service Corps drivers for the ambulance, forage and other service wagons.

From the Veterinary Stores the medical stores are sent to base stores overseas, which control and superintend the sending of supplies to the various veterinary hospitals on the lines of communication, and to the mobile section in the firing line.

Medicines, dressings, instruments, and bandages are of course necessary; but the veterinary officer on the battlefield does not rely on them to a great extent. His chief anxiety is to get his casualties, whenever possible, and if this can be done without unnecessary suffering, transferred at once to one of the hospitals where, naturally, there is every provision for their treatment. Should circumstances permit, however, cases of slight sickness or injury are treated on the spot, and a temoporarily incapacitated horse is turned out to grass for a few days at a neighboring farm. In the event of a rapid advance, when time does not allow on the immediate transfer of horses to railhead they are left at some suitable place in charge of a non-commissioned officer, and are collected later by the second sub-section of the Mobile Section.

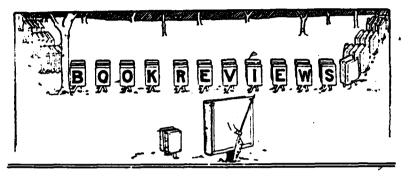
From the foregoing we may surely sed that the British nation and the Army authorities have come to realize the value of the horse in warfare, not only as a most important factor in the success of a campaign, but also as a sentient creature, for whose comfort, health, and well-being every care should be taken. And so horses in war—regrettable as it is that these fine animals should have to be so utilized and sacrificed—are at last, and as far as possible, coming into their own, for with a special Corps to look after them they are within sight of being treated on a level with their human friends and foes.

When, without any undue and insular partiality, we contrast our own splendid Veterinary Service with the corresponding organization of other armies and learn that at every point the British system has established a marked superiority, we may well congratulate our Army veterinary authorities for their thoroughness and foresight. When we reflect, too, that this admirable system is a product of but twelve years' growth, and that all its diverse arrangements have been made on original lines, we realize with pride that our Army is second to none in initiative, and sets an example to the whole world in humanity to its dumb servants.

The time, unfortunately, has not yet come for animals—drawn into the strife of nations—to be recognized as deserving protection under the flag of the Red Cross Society. Let us hope that, at the close of this war, that important recognition—which has been accepted by the British Government, in principle, on the plan suggested by the R. S. P. C. A.—will surely receive international sanction. And why should it be withheld?

E. G. FAIRHOLME.





This is a handbook of 187 pages—5" x 7½"
—by Major Bond, Corps of Engineers, U. S.
Army, a well known military student and writer.
It was expected that an extended and critical review of this work would be received for this number of the Journal, but in this we have been disappointed. We can, therefore, give only a brief notice of its contents at the present time.

The following are extracts from the Preface of the Bock:

"In the following pages is presented a brief outline of the relation of Engineering to the conduct of war and the adaption of the principles and practices of civil engineering to military requirements. If the author succeeds, to however a small degree, in arousing interest of the engineering and contracting profession in this important question of national defense, he will feel that his effort has not been in vain.

"While intended primarily for the engineer and contractor, it is hoped that the subject matter of this volume may

^{*&}quot;THE ENGINEER IN WAR." With Special Reference to the Training of the Engineer to Meet the Military Obligations for Citizenship. By Major P. S. Bond, Corps of Engineers, U. S. Army; Member Am. Soc. C. E.; Honor Graduate Army Field Engineer School; Graduate Army Staff College. McGraw-Hill Book Co., Inc., 239 West 39th Street, New York. 1916. Price unknown.

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prove of interest to all who contemplate the possibility of military service to the country in case of need. This for the reason that the practice of military field engineering is not limited to officers of engineers. Because of the comparatively small number of engineers that will be available, any officer of the combatant forces may be called upon to practice the art and cannot be regarded as properly trained unless he is prepared to do so."

The titles of the several chapters are as follows: The Military Policy of the United States; General Duties of the Military Engineer and Economics of Military Engineering; Tools, and Equipment Employed in Military Engineering; Stream Crossings; Military Roads; Field Fortifications and Siege Operations; Military Demolitions; Military Reconnaissance; Sketching and Surveying; Military Sanitation; The Mobilization of Material Resources; How May the Engineers and Contractors of America Prepare to Meet the Military Obligations of Citizenship; together with a Bibliography, Glossary and Index.

Not the least valuable of the several parts of the book is that of the bibliography.

Trained Citizen Soldiery.*

This is a new book on preparedness that proposes a scheme of universal training for military service which differs in many respects from any that has been advanced heretofore.

Some "Military Expert" has written of this book: "The more I read and study the various and sundry schemes placed on the market for National Defense, the more convinced I am that your plan combines and makes feasible the best and most practical features of them all."

Briefly the author quotes from Upton's Military Policy of the United States to show our military weakness and the main features of his proposed system for bettering these conditions. He then enlarges upon these conditions and finally evolves a system based upon a trained citizen soldiery in support of a moderate regular army.

The headings of the several chapters are as follows: Failure of our Present System; A New System (so headed, although devoted to giving specific faults of our present system); Preliminary Data for Estimates of Cost; Estimate for Permanent Personnel; Financial Estimates; The Alternative; Preliminary Discussion of Military Organization; The Proposed Organization; Commissioned Personnel; The Transition Period, and finally a rough draft of his proposed bill is given.

In short, the author proposes a sort of continental army, which scheme was recently turned down by Congress and will be kept down in any plan that does not consider the National Guard as a part of the first line of defense.

Patrols, Scouting, Messages.* This is a very neat little pamphlet prepared by Lieutenant Joyce and issued by the Adjutant General of California for the instruction of the National Guard of that State.

It contains much information of great value to the cavalry non-commissioned officer and trooper of both Regular and Militia Organizations. Every soldier should be given an opportunity for reading it.

The text, consisting of only twenty-two pages, is especially well arranged and can be carried in the blouse bocket.

B. L.

^{*&}quot;TRAINED CITIZEN SOLDIERY." A Solution of General Upton's Problem. By Major John H. Parker, U. S. A., Pioneer of the Machine Gun Service, Gold Medalist Military Service Institution. George Banta Publishing Co., Menasha, Wisconsin. Price, \$1.25.

^{*&}quot;PATROLS, SCOUTING, MESSAGES." By First Lieutenant Kenyon A. Joyce, Sixth Cavalry. California State Printing office. 1916. (It is understood that the edition of this pamphlet is nearly exhausted but that it will be reprinted in case there is a sufficient demand for it.)

BOOK NOTICES.

"WITH MY REGIMENT FROM THE AISNE TO LA BASSEE."
By "Platoon Commander." This is the first of a series of books either written or compiled from notes and letters by those participating in the great European War. In this case the writer is unknown but he gives an interesting account of his experiences as an English subaltern who was sent out with a batch (draft) of recruits to join a regiment at the front to which he had been assigned. He finally, after much difficulty with drunken and undisciplined men, joined on the Aisne and served with his regiment until wounded in front of La Bassée when he was invalided home. The book gives one an insight into the life of English officers and men in the field and of trench warfare. J. P. Lippincott Company, Philadelphia. Price, \$1.00, net.

"DIXMUDE. THE EPIC OF THE FRENCH MARINES—OCTOBER 17 TO NOVEMBER 10, 1914." By Charles Le Goffic. Translated by Florence Simmonds. Maps and Illustrations. This is a compilation from letters, notes, reports, etc., giving the history of the work done by the Naval Brigade of French Marines at Dixmude, where, in covering the great retreat, they, with 5,000 Belgians, held at bay for over a fortnight three German Army Corps. Dixmude is spoken of by the French as their Thermopylae. J. B. Lippincott Company, Philadelphia. Price, \$1.00, net.

"IN THE FIELD. (1914–1915.) THE IMPRESSIONS OF AN OFFICER OF LIGHT CAVALRY." By Marcel Dupont. Translated by H. W. Hill. An interesting story of the service of a Light Cavalry Regiment of the French Army during the retreat from Belgium and the advance from the Marne and their

experience in the trenches. It was evidently written by a gay, lighthearted cavalryman, but at the same time a gallant soldier. The account of Christmas day spent in the trenches is most pathetic. J B. Lippincott, Philadelphia. Price, \$1.00, net.

"An Army Woman in the Philippines." By Caroline S. Shunk. The book is made up of extracts from letters of an army officer's wife, describing her experiences in the Islands. It is quite freely, illustrated with views of scenes in Manila and elsewhere which adds to its value. "That these letters were not written for publication enhances their value, because of the kind and quality of the information given. After reading the manuscript, a well-known critic expressed the following opinion: 'They are delightful, vivid, interesting, and charmingly written.' Franklin Hudson Publishing Co., Kansas City, Mo. Price, \$1.25.

"Company Training—Infantry." By Captain Cromwell Stacey, U.S. Infantry. A small book of 173 pages—5" x 7"—intended for the instruction of the National Guard. The troduction states: "It is at the request of friends in the Guard that this little book is written. * * * The handling and training of military men is a science as old as the world itself. I claim nothing new." Franklin Hudson Publishing Co., Kansas City, Mo. Price, \$1.00.

"Attack and Defense of Fortified Harbors." By Captain Arthur P. S. Hyde, C. A. C. (Second Edition.) Map and Illustrations. This book of 81 pages—5" x 7"—was originally published as a series of articles in a Seattle newspaper and has reference particularly to the defense of Puget Sound. It is primarily intended for the instruction of the coast artillery officers of the National Guard. Franklin Hudson Publishing Co., Kansas City, Mo. Price, seventy-five cents.

"Coast Artillery Material—Description, Adjustment and Operation in Drill and Target Practice." By Captain W. P. Platt, C. A. C. A book of 170 pages—5" x 7"—which was "prepared especially for officers and enlisted men of the National Guard, and recommended for their use by the Division of Militia Affairs of the War Department." Franklin Hudson Publishing Co., Kansas City, Mo. Illustrated. Price sixty cents.



THE ARMY BILL.

The Act of Congress for the reorganization of the army—the so-called National Defense Bill—became a law on June 3, 1916. The bill as finally adopted was as usual a compromise. Probably, however, there never has been in the history of legislation in this country, a case where there had been so many widely divergent provisions to be reconciled as in the redrafting of this bill from the two separate and distinct bills that each branch of Congress had adopted.

In some respects at least the compromise measure was an improvement on either of the bills, while on the other hand several objectionable riders were tacked on in conference.

As a whole the result as regards the mobile army, and we are principally interested in those features of the reorganization scheme, was far better than the most sanguine of our officers anticipated, especially after the bill had passed the House with but a moderate increase in the infantry and with none whatever in the cavalry arm, and more particularly after the house had persistently voted down any proposition for any further increase.

The cavalry arm and the country at large is to be congratulated on the decided increase in our branch of the service. We all knew that such an increase was necessary and none too large, even if large enough. It will be understood that no such increase would have been given were it, not for the existing conditions along our southern border and in Mexico and that the activities of one Pancho Villa had a strong influence in retaining the provision for ten extra regiments of cavalry as well as for the increase in the other arms.

In addition to the increase in the number of regiments of the mobile army, the giving of the headquarters troop, company or battery, the supply company to each regiment and the machine-gun troop or company to each regiment of cavalry and infantry was a step in the right direction. More particularly is this true as regards the machine-gun troop or company which has been heretofore an orphan and much neglected organization.

We are also to be congratulated that the three squadron, four troop organization has been retained and which so large a majority of our cavalry officers favored.

The principal good features of the bill, as regards the mobile army, are as follows:

The increase in the number of general officers and the requirement that they shall be selected, in time of peace, from officers of the next lower grade of the line of the army.

The status of veterinarians has been greatly improved and deservedly so.

The establishment of the grade of first class private in the troops, companies and batteries.

The requirement that all appointments to the grade of second lieutenant, other than graduates of the Military Academy shall be provisional for a period of two years. At the end of such period their appointment shall be made permanent, provided they shall have demonstrated their suitability and moral, professional and physical fitness for the service. This is a most important provision and if we do not, by strictly observing its requirements, weed out the inefficient, the lazy and the booze artists, we deserve to be hampered with them until the end of their military days.

The provision that the increase in the army shall be made in five annual increments is a wise one, were it not for the fear that the other two, three, four or five increments may never be made. The great difficulty in obtaining suitable men and officers for all the increase at once would be difficult if not impossible. In addition, the training and disciplining of so large an increase with so many new and untrained officers would be a long and tedious job that would last nearly if not quite the five years now provided for, and then it is doubtful if the results would be as satisfactory. On the other hand, it was plainly indicated in the debate in the House that should conditions on the border and in Mexico become settled and should the country-wide hysteria for preparedness subside, Congress could and probably would see that the remaining unfilled increments were not made.

Probably the section which has caused more discussion, which has more provisos and provisions and which is more difficult to understand of any in the entire bill is that regarding the Detached Officers. In addition to giving over a thousand extra officers, including those already authorized, it is intended as a sort of cure-all for the equalization of promotion. Whether or not it does this the writer is free to say that he does not know nor has he found any one that does know. It certainly contains many provisions that will afford opportunity for deep thought on the part of those whose duty it will be to interpret its many subjects. One thing that is known is that it gives seventeen extra colonels of cavalry and four extra colonels of infantry with a view further to equalize inequalities in past promotions of officers of the line.

That the provisions of the bill as regards the attempts to equalize promotion is not satisfactory to all is shown by several letters already received from cavalry officers regarding its effect. One writes as follows:

"There seems no great reason for the cavalry service to congratulate itself on what was obtained. The vital issue—that of using the detached list as a reservoir for equalizing—was lost, and the gain made by the bait of seventeen additional colonels is, comparatively, very, very small, except, of course, for about seventeen junior lieutenant colonels and the same number of senior majors. In fact the increase of the army makes the cavalry more behind than ever before. * * * I do not deny that we are getting promotion, but equality—No! That is now impossible."

Another complains of the injustice that will be done those coming in from the volunteers in 1898-1901, by not counting all their service in selecting for the Detached Officers' List

under this section. While, as stated above, your Editor does not understand or comprehend the provisions in this respect, a hasty glance at the requirements would give the impression that his fears are groundless. The parts mentioning "length of commissioned service" read as follows: "And thereafter any vacancy created or caused in any of the said arms of the service by the assignment of an officer of any grade to said Detached Officers' List shall be; filled, subject to such examination as is now or may hereafter be prescribed by law, by the promotion of the officer who shall be senior in length of commissioned service of those eligible to promotion in the next lower grade in the arm in which such vacancy shall occur," and again: "Provided further, That after the apportionment of officers to said Detached Officers' List shall have been made as authorized by this Act, whenever any vacancy shall have been caused in said list by the separation of an officer of any grade therefrom, such vacancy shall, except as prescribed in the last peceding proviso, be filled by the detail and assignment to said list of an officer of the corresponding grade in that arm in which there shall be found the officer of the next lower grade who at that time shall be the senior in length of commissioned service of all the officers of the said lower grade in all of the four arms hereinbefore specified. (The italics are ours.)

All this goes to show that the only just, fair, equitable, honest and righteous scheme for equality of promotion is that of "THE ONE LIST FOR PROMOTION."

The remaining numerous sections, outside of those relating to the length of enlistment and providing for a regular army reserve, is devoted to the National Guard, the Volunteer Army, the Officers' Reserve Corps, the Enlisted Reserve Corps, and many other minor provisions.





Modern Horse Management.

The advertisement of this important book appears in this number. It is a work that should be in the hands of every cavalryman and other horsemen. A review of the book appeared in the January, 1916, number of the CAVALRY JOURNAL. There it was stated that it was: "A thoroughly practical treatise on every phase of horse management."

The Savage Arms Co.

This well known firm manufactures the Savage automatic pistol, the Savage rifle and the Lewis machine gun. The first is a small, light weight automatic pocket arm intended for police and defensive use; the second is a sporting rifle of great accuracy, while the third is the famous machine gun which has proved its worth on the battlefields of the great war in Europe.

W. Bianchi.

Attention is invited to the advertisement of this firm which manufactures fine woolens for uniforms for the Army, Navy and Marine Corps.

Jacob Reed's Sons.

This old and well known firm of military tailors has branched out and now supplies all kinds of standard equipment for officers of the army. In addition to their old establishment in Philadelphia, they now have branches at Washington, New York, Atlantic City and Annapolis.

The E. I. Du Pont de Nemours Co.

This long established firm of manufacturers of powder of all kinds has a reputation that is world wide. Their advertisement which appears in this number of the JOURNAL mentions only the various kinds of rifle powders made for them. It includes any and all that is needed for any kind of small arm cartridges.

Mills Woven Cartridge Belt Co.

It is scarcely necessary to call the attention of our readers to the articles manufactured by this firm. Wherever there is an army in the world, their there goods are to be found. The originator of the woven belt principle is an old cavalryman who first learned the necessity for such belts on our western plains where we formerly made our field belts out of old canvas which, however, never filled the bill as do those now manufactured for the service by this firm.



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JOURNAL OF THE



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October, 1916.

Standing on Quality



The reputation of Capewell nails has been won on quality.

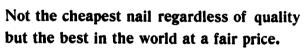
For years they have led and the vast majority of horseshoers have used them.

Nothing but the best in material and workmanship goes into

Quality

CAPEWELL HORSE NAILS

The wonderful holding qualities and the safety and ease with which they can be driven make them especially adapted for Army shoeing.





The Capewell Horse Nail Co.

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Largest Makers of Horse Nails in the World.

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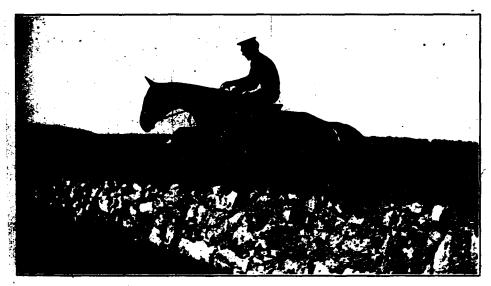
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NOVEMBER, 1916.

No. 112

MOUNTED SERVICE SECTION

FIRST LIEUTENANT HENRY R. ADAIR, Tenth Cavalry, lost his life at the hands of Carranzista soldiers, near Carrizal, Mexico, June 21, 1916. He was a graduate of both the First and Second Year Courses at the Mounted Ser-



LIEUTENANT HENRY R. ADAIR.

vice School, and was not only a fine type of cavalry officer, but embodied in his life and character all the attributes which make

the perfect "officer and gentleman."

On the occasion of his funeral at Portland, Oregon, the following poem by Dean Collins, appeared in the Portland, Oregonian. In the House of Representatives, on July 29, 1916, Representative Rogers, read the poem as part of his speech on the Mexican situation and evoked much applause.

ADAIR OF CARRIZAL.

I had thought our hearts would leap, Adair,

That our hands would clutch at the sword and gun;
I had thought that our spirit of old would flare

At the tale of the deed that you have done.
But silent we walk and silent you lie,

And "Peace," says the bishop above your pail—
But the blood you shed is red, how red!

Red on the sands of Carrizal.

I had thought we would rise on the wings of fame;
That a river of swords would southward flow,
And voices of battle would cry your name,
As they cried the name of the Alamo.
But we mutter our prayers for the rest of your soul—
And now shall rest on your spirit fall
When we bow the head, while the blood you shed
Cries from the sands of Carrizal!

I had thought—but my thoughts were lies, Adair,
For my heart was not with that art imbued
That fashions a diplomatic snare
To throttle a nation's gratitude.
The statesmen build up the forms of peace,
Where words look large and where lives look small,
While my hot cheeks flame with the blush of shame
For the cry, unanswered, from Carrizal.

The funeral honors are done, Adair,
And under the earth your body lies;
Thrilling and sweet on the vibrant air
That last long wail of the bugle dies.
Well was your duty done, Adair,
And duty to us alone may call;
And the blood you shed, how red, how red!
Cries like a bugle from Carrizal.

CAVALRY MOBILITY.

In a well written editorial on Material for Field Service, our esteemed contemporary The Infantry Journal discusses the wonderful results accomplished in the concentration of infantry units by the use of motor transportation. This has indeed been one of the remarkable developments of the great war in Europe, and even in our little campaign in Mexico, it has been demonstrated that where adequate and easily rerepaired roads, exist, the mobility of all arms has been increased by the use of the omnipresent motor-truck. And granted, also, that we have motor transports while our possible adversaries have none, such expedients for rapid concentration and supply, will have a most important bearing on military operation, especially where rail transport is lacking.

But in the course of its interesting discussion, The Infantry Journal rather fails to "stick to its knitting" in the following statement:

The difficulties of supply, already serious enough in the infantry division, will be enormously increased in the case of the cavalry division. The latter comprises more than 12,000 animals for riding and draft purposes, and its daily requirements in the way of forage will be 276,000 pounds. One day's forage for a cavalry division will therefore require more than 100 wagons. When to this is added other special requirements in the supply of mounted organizations, such as horseshoes, veterinary supplies, horse equipment etc., it can be seen that the difficulties of supply may become so great as almost to immobility these units.*

We cannot presume that our contemporary refers to such a serious state of affairs during a campaign in our own country, because a rapid maneuvering of cavalry divisions using wheeled transportation hauling practically the same food and forage ration as now obtains, is an old story. The cavalry divisions of Sheridan, Stuart, and James H. Wilson, have certainly never been criticized for lack of mobility.

^{*}The italics are our's.

If reference is had to the difficulties of a campaign in Mexico, it cannot but be apparent that wherever roads exist over which motor transport can be used, the mobility of cavalry will be tremendously increased in the same relative proportion as that of other arms; rations and forage will meet tired troopers and their mounts at convenient bases and subbases with astonishing regularity and ease; and the less important articles of the trooper's packed saddle, may even perchance find a convient lodgment on the willing motor-truck, to lighten the burden of the tired horse.

Where roads do not exist or where they are so inferior as to forbid the use of motor transport—and this, we take it, is what the *Infantry Journal* particularly refers to, all arms of the service will necessarily suffer in mobility, because of the difficulty of supply; the cavalry and field artillery more so, because of the weight and bulk of the forage ration. Then will it be imperative as in all campaigns such as the Mexican terrain offers, to keep the railroads in operation, and for the cavalry, at least, to live wholly or in part off the country.

In Mexico, corn is a staple article of food for both man and beast, and is readily procurable by the payment of American money; while the grazing for mounted troops varies from poor to excellent, with the locality and rainfall. Proof of the practicability of local supply for a limited time and in limited degree, appears in the successful provisioning of a provisional cavalry division of two brigades for a period of some five months operating in Mexico some two hundred miles from its principal base. This achievement was accentuated by the remarkable cutting loose by our cavalry from all communications for weeks at a time, and living entirely off the country—the most mobile force for offensive warfare in such a country as Mexico, that could possibly be organized.

No, we confess that we can hardly conceive of a situation on the American continent, unless it be the tropical jungles of South America, where cavalry divisions organized, armed, equipped, and trained as are our cavalry, would be in danger of immobilization by reason of the problem of supply. In Mexico as well as more normal terrain, our principal battles will always be fought by our splendid infantry and field artillery.

But for rapid operations against a mounted enemy in such country as Mexico, cavalry is the only arm which will meet the situation away from good roads and the ubiquitous motor-truck.

And this, we take it, is why the wise forethought of the War Department and Congress, has provided a substantial increase in cavalry—making possible the organization of such a force that while the use of motor-trucks will many times increase its mobility, the lack of such trucks will nevertheless leave the arm immeasurably more mobile than any other arm which military experience and ingenuity has as yet been able to develop and organize.



PROBATIONARY OFFICERS.

A KEEN observer at one of the citizen training camps modeled after the Plattsburg idea, cannot help but be struck with the wonderful change which comes over all classes of recruits through the medium of patient, uniform, intensive training, under intelligent, painstaking, tactful officers. This moulding of the mass is all the more remarkable when one considers the widely different trades and professions represented by these volunteer soldiers; and how, after the application of the system, their physical carriage, mental alertness, and intelligent performance of allotted tasks, is improved a thousand fold.

The American initiative, the characteristic Yankee thinkfor-yourself resourcefulness is still present, but chastened and immeasurably enhanced in its usefulness to the engine of destruction called an army, by wise subordination to the will of the one who is held responsible by the country for all moves in the game of life and death.

Why is it then, that in the appointment of our junior officers—other than graduates of the Military Academy—we are perhaps the only one of the great nations which requires the officer-recruits to join the colors without a day of military instruction?

Reply is perhaps made that after joining their organizations, these ambitious young men will absorb from day to day, a tremendous amount of knowledge through observation and practice. And besides, "the troops need 'em!" It is feared that the latter reason is too often the underlying motive for this "throwing the man overboard to teach him to swim" method.

Anyone who has observed the pathetic and oftentimes pitiful efforts of the boy lieutenants from civil life to get to the bottom of things military during these first rough months with the colors, cannot help but be convinced that the system

is not good. It is unfair to the embryo officer, and a waste of potential energy in the military system. The boy tries hard enough; he usually bends over backward in his efforts to please. But he usually works at cross-purposes, he is subjected through his woeful ignorance and many mistakes, to a certain amount of humiliation in the eyes of his own soldiers, and the ideal company commander, who lays out for his subalterns a wise scheme of theoretical and practical study and requires them to keep to it, is not to be found in any great numbers in our service.

Besides, the element of competition, that stimulating factor which energizes all of us and which enables the youngster to measure himself alongside his fellows, is almost entirely lacking.

How then shall we impart a system of uniform, fairly competitive training; well-balanced as to relative theory and practice; and yet covering such a minimum of time, as will not deprive the clamoring organizations for an unreasonably long period of the services of their junior lieutenants?

For some years a successful system has been followed in the Coast Artillery Corps by sending the newly appointed officers to Fort Monroe for a period of intensive training; and there seems no good reason why a similar system should not hold good for the mobile army, by requiring second lieutenants of infantry from civil life and the army to go to Fort Leavenworth, and of the mounted service to Fort Riley and Fort Sill, for intensive work of this character.

The course need not be long, it need not last more than three months. And to make it truly intensive, as well as cut loose from all those artificial obstacles which ordinarily hamper such work in our service, these officer-cadets should be treated somewhat as cadets—lodged and messed in barracks or in camp, receive a minimum of drill with rifle, pistol, and saber, and study mess-management and the conservation of the ration; but spend most of their time in learning to march and ride, in theoretical and practical work involving guard-duty and the drill regulations of their arm, in hearing talks on various useful subjects not always found in books, and in instruction in such elementary problems in minor tactics as would ordinarily

fall to the lot of a young officer who has never before commanded even a corporal's squad.

Judging from the results at Plattsburg and elsewhere, the officer-graduates of such training schools would be immeasurably more useful to their captains at the end of the three-month's period, than if left to the present haphazard method. So important is this preliminary training in our eyes this application of first principles at the most impressionistic period in the young officers' career, that no conditions of field service, not even a state of war itself, should be allowed to interfere with it. For there is another side to the shield, and that is the almost criminal responsibility of entrusting the lives of soldiers in the hands of those who through no fault of their own. have absolutely no military experience antedating their appointment in the most responsible of all professions. For more than any other calling, be it law, medicine, theology, engineering the military profession holds in the hollow of its mighty hand, the awful responsibility for thousands of helpless but precious lives; and this, we take it, places the training of the probationary officer, in a class distinct from all others.

The matter needs renewed consideration at the hands of our military authorities, for it may be recalled that General Wood, when Chief of Staff, maintained that no officer should be sent to troops who had not had a reasonable period of intensive training to fit him for the discharge of the elementary duties of an officer. It was planned at that time to send civilian appointees for the coast artillery to Fort Monroe, and for the mobile army to Fort Leavenworth. The law officers of the government decided that the manchu law would prevent the detachment of these young officers until they had served two years with troops, and of course the same ruling would now hold good. It therefore behooves the War Department to have the law changed, so that this absurdity in our military service—the impossibility under the law, of sending uninstructed officers to school for three months before entrusting them with the lives of our soldiers, may be remedied.

GENERAL SIR DOUGLAS HAIG.

THE cavalry service has some right to be proud of the fact that the commander-in-chief of the British armies in France, is, like his predecessor Sir John French, a product of the cavalry arm.

After graduating from Oxford, young Haig joined the 7th Hussars in the year 1885, took part in the Nile Expedition under Kitchener, and saw a great deal of that active service which usually falls to the lot of a cavalry officer in a country which, like Egypt, as well as Mexico, calls for all the resource-fulness and initiative possible, to overcome the difficulty which cannot be forseen.

During the Boer War, General Haig was chief of staff for General French, in the brilliant operations of the cavalry division, and was subsequently made Director of Military Training in the British War Office in a determined effort to correct defects in training brought to light by the South African War.

Later, General Haig was made chief of staff of the military forces in India, and as a result of his work there, more especially certain staff rides under his supervision, he produced the important work—Cavalry Studies, Strategical and Tactical, a professional treatise on cavalry which is not alone authoritative in Great Britain, but is used as a book of reference in our own Army Service Schools.

In 1911, when not yet fifty years of age, General Haig was appointed to the important and much coveted Aldershot command, one of the very youngest brigadier generals in the entire British army.

During the present great war, he was repeatedly mentioned in orders and despatches by General French for especially distinguished and valuable service. During the retreat from Mons for the "skillful manner in which Sir Douglas Haig extricated his corps from an exceptionally difficult position in the darkness of the night;" at the Aisne the action of his corps was "of so skillful, bold, and decisive a character that he gained positions which alone have enabled me (General French) to maintain my position for more than three weeks of severe fighting on the north bank of the river." He was praised again for his work at Ypres and at Neuve Chapelle, and when General French chose to be transferred to another field of usefulness, there was really no other prominent or logical candidate but General Haig in the public eye, to fill the tremendously responsible position of leading the British armies against the Teutonic allies.

We call attention with some pride to the fact that General Haig is a product of that service for which this JOURNAL stands sponsor, not because the cavalry arm or any other arm has or should have a monopoly of the grade of general officer; but to point out what is borne out by the military history of all time—that great commanders are developed independently of the arm of the service to which they have belonged and in which they have been trained. We canot say, nowadays, that the technical impress of any one arm makes generals, or that necessarily any one branch of the military service should graduate more general officers than another.

Rather is it a real fact that the qualities which make up the successful general are most of all dependent upon character and mentality, especially character; and that the possession of these two exceptional traits, backed up by experience with all arms and a proper physique, go very far towards bringing to the front the man of the hour.



FIELD NOTES FROM MEXICO AND BORDER.

Field Tests.

UR regiment has been having the very hardest kind of service in northern Mexico, operating in all kinds of country, under a great variety of conditions, separated from our wagons for two months at a time; and the lessons have been brought home to us hard."

Lariat and Picket Pin. "These have proved indispensable. Some idea may be gained of the use to which these articles were put when I state that every lariat in Troops—— and—— (Major T.'s command) were worn out in the expedition to P. When they were gone, we bought such Mexican rope as we could find; made ground picket-lines out of horsehide, etc.

"The new issue lariat is very poor. I was told by a member of the 1912 Equipment Board that this new lariat had greater tensile strength than the old one, but this is no test. The lariat which will last longest, when horses stamp and paw, is the one we want."

Halter Tie Rope. "These do not last long when the animals are tied to a ground-line. I think it no exaggeration to say that one good leather halter-shank will outlast ten tieropes."

The Web Bandoleer. "Our troops did not have these, but we have constantly wished for them. We left our base carrying cotton bandoleers. These were so worn when we reached X. (125 miles), that we repacked them, taking new ones for the expedition south. It was only a short time when these too, were so worn that we lost much ammunition along the trail, and were compelled to carry ammunition in the saddlebags. We now have a lot of loose ammunition, with no means of carrying extra ammunition on the person, should we go into action. I know of no article more necessary to us now, than the web bandoleer."

The Halter. "Our experience leads us to believe that a good leather halter is the only one that will stand the wear and tear of field service. I think the halter-bridle (new equipment), has not proved durable enough."

The Canteen. "For our arm, I believe the old-issue canteen to be better than the new (1912 equipment). It will not keep water cool, but it lasts well."

The Meat Can. "Only the tin meat-can should be considered. The aluminum model will not last long when individual cooking must be resorted to."

The Cup. "The old deep model is by far the best. It should be of tin."

Stirrups. "I have been told that a new stirrup, having a hood that can be removed, has been devised. I think this an excellent idea."

The Saddle. "We have had a wonderful opportunity to see how the old McClellan saddle works on horses much reduced in weight by arduous work on slim rations. It certainly does not fill the bill. The saddle proposed by the Cavalry Equipment Board seems excellent to me, and I hope it is adopted."

Carbine. "Have been interested in the article on Cavalry Equipment in the April number of the CAVALRY JOURNAL. * * I fear the carrying of the rifle on the back, will result in a lot of kicking! I have been sounding the views of a number of good cavalrymen here, and they, like myself, favor a carbine. You could then carry it in a boot hanging vertically in rear of the leg. The infantry naturally have to retain the long rifle on which to carry the bayonet, which of course does not apply to the cavalry."

Guidon Head. "A recommendation was made to the former Cavalry Equipment Board, which they appeared to approve, but which they failed to carry out, to add to the guidon-staff a knife-head of some kind, so as to convert it into a good lance. As matters now stand, the guidon bearer is helpless, when, with a little addition to his guidon staff, he could be made a good lancer. This war-head could be attached to the tip of the guidon-staff in campaign only, using the present head for ordinary use."

Officers' Saddle, Ordnance Model. "I have been riding the new Ordnance field saddle, modeled after the Saunur type, and am more than pleased with it. It is very comfortable for the horse and the rider. I have not been able to try it in the rain, for rain is a rarity along this portion of the border; but I have soaked it in water, and allowed it to dry under me on the march. There was no blistering noticeable. * * * Several other offiers have ridden my saddle, and all are very much pleased with it."

Clothing. "The men like to wear a large handkerchief around their necks as a protection against the sun and the dirt. Many Americans and Mexicans wear a handekrchief over the nose and mouth to keep out the dust which irritates the membrane of the nostrils and throat. Goggles are worn by many people; the best type is that with amber glass and side protection. Low shoes are both unsanitary and uncomfortable; many of the officers and some of the enlisted men are wearing boots. Personally I think them very good; they are comfortable, and keep out the dust better than shoes and leggings, or the regulation boots."

Clothing. "The sweater has been found of little use and less warmth, a fact known before this to anyone who has worn one on a cold day.

"The leather legging has been found unsatisfactory. It is cheaply made and does not stand the gaff. It wears out the back of the shoe. I believe that a type of high, laced, hunting-boot with hob-nailed sole, will be strongly recommended.

"The material of which breeches is made is too light, both in olive-drab and khaki. I believe a double seat and leather reinforcement at knee, such as is used at the M. S. S. would be far better. There has been some little agitation to have breeches lace down the side instead of the front, but I do not believe the objection to the front lacing would hold, were a laced boot adopted, as the fault lies in strapping a stiff puttee too tightly, and drawing the eyelets in breeches into the shin bones.

"A short coat for field service will be almost universally recommended. Canvas, blanket-lined, with shawl collar seems to meet with most approval."

Horse Equipment. "My outfit is equipped with the 'Davis' (1912) saddle, and I have heard but one man say he liked it. The seat is uncomfortable, and there are far too many buckles, snaps, and straps, to adjust, especially at night."

Rifle Carrier. "The average soldier is scared of this 'Old Oaken Bucket' (1912) arrangement for carrying the rifle, as they know that while it works in theory, it does not do so in practice. Many favor carrying the rifle under the leg as of old, with a strap from the end of the boot under horse's belly to offside cantle-ring to steady it. Have been preaching carrying the rifle on the trooper's back with the arrangement which the Rock Island Board sent to Fort Riley for trial, and believe the service would come to it if given a fair try-out."

Lariat and Picket Pin. "Both these articles have been invaluable, not from the fact that horses were lariated out much, but because several lariats put together make a good picket-line. Lariats also make good halter-shanks when hungry horses eat their tie-ropes, which is of common occurence. I heard one officer propose a jointed picket-line, to be carried in three-foot sections, a section to be placed in front fold of. saddle-blanket. It sounds reasonable, but do not know whether it is practicable or not. He claims it would prevent the blanket from slipping back.

"The picket-pin has been most useful as a camp tool, when organizations were separated from wagons, as they have been most of the time. The same may be said of the intrenching-tool."

Cartridge Belts. "The cartridge belts and web pistol magazine pockets wear out very quickly, particularly where the bottom of the pocket rubs against anything. In three months use in my troop, forty out of sixty magazine pockets (for pistol magazine) have worn out to such an extent that it is not safe to carry the magazine in them. The leather ones (such as are issued for garrison service) are preferable. Out of 60 belts, only 10 remain fully serviceable. Of the remaining 50, 105 of the pockets are so worn or else the catch has pulled out, that the pockets are unserviceable, for carrying ammunition."

Pistol Holster. "The pistol holster is too long, that is, hangs too far down on the leg and wears out where the metal swivel attaches holster to hanger."

Flash Lights. "Every officer should have a flash light with extra batteries, as these things are invaluable for fooling around at night. A good pair of auto-glasses, preferable of amber-colored isinglass, because the latter will not readily break, is a necessity and not a luxury."

Stirrups. "The knife-tread, open stirrup (steel) is generally condemned for the field."

Picket Pin. "Keep the most useful articles of our equipment, the 1912 picket-pin. As a picket-pin proper, it is seldom used, but is a good handle for the intrenching tool, and is invaluable as a shoeing-hammer, and to drive shelter-tent pins.

"A day or so ago, while on a patrol, a member of the patrol lost a shoe from his horse's foot. A few minutes work with the picket-pin replaced it and saved a badly broken up foot which the horse would have otherwise had, for the trails in this part of the country are very rocky and rough."

Horse Exercise. "Last March a young second lieutenant had just joined his troop on the Mexican border. He came to this land of cactus and rattlesnakes from the Mounted Service Schools at Fort Riley, filled with enthusiasm. One Saturday his troop commander sent him out with the troop for horse exercise, instructing him to give them a good work-out.

"This enthusiastic young equitator left camp at 7:00 o'clock A. M., and returned at 12:00 noon, having made exactly forty miles! It should be added that none of the horses died!"

The 1912 Cavalry Equipment. "Isn't this a great time for our cavalry to be going to war? No saddle and no drill regulations. My squadron is equipped with the 1912 stuff, and I am sure we would not last long in campaign. In one troop here, fifty-nine of the seventy-nine saddles are defective from a crack in the metal part of the tree—the part to which the movable side-bars are attached. The crack is very slight in most cases but is bad in others. I am sure that the Cavalry Equipment Board can give us a good saddle, if it is given time to work it out."

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Cartridge Belt Fasteners. "The Cavalry Equipment Board at Rock Island Arsenal, has received several reports concerning the difficulty of opening the pockets on the web cartridge belt under field conditions, the difficulty becoming so serious in some cases as to make it impossible to get to the cartridges without tearing out the "glove fastener" buttons which close the pockets. It was at first thought at the Arsenal that the trouble lay in not pulling the fasteners open in the right direction, or perhaps to the fasteners becoming upset, through an accidental blow; but investigation shows that the trouble lies in the interior of the button fasteners becoming corroded. As a temporary measure troop commanders are advised that a drop of oil in each fastener, will overcome the difficulty. Meanwhile, a more serviceable fastener for the cartridge pockets will be sought."

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Saddle. "I think the saddle suggested by the Cavalry Equipment Board, a revised McClellan, will be best, as some of the Namiquipa Board suggested. The pommel has about two inches of useless height, but I don't believe the arch itself is high enough, especially as we get better bred horses with more pronounced withers. In the present McClellan the arch always spreads a trifle. Then, as the horses run down in weight, as ours have, the men find it next to impossible to keep the saddle off the withers of some of our best horses. So either a higher arch is necessary or else two or three widths in the arches.

"Most people seem to favor a little more slope to the cantle of the saddle (over the old McClellan) and I think it would be comfortable and also prevent a tired or lazy trooper throwing his weight against it. The side-bars should be a little longer."

Rifle Carrier. "A great many men down here (in Mexico) say the rifle should be carried as now, but a great many more say on the trooper's back. I think that is undoubtedly so.

"Most sore withers come on the side opposite from the rifle, or the right side. I believe the rifle causes eight out of ten sore backs, and I have been carefully watching that point.

"I hope the Cavalry Equipment Board insists on the rifle being carried on the back of the man. In our troop we have done that a great deal, and, also, have switched the rifle-boot from side to side on alternate days, and I must say that I have not seen any better horses—or rather better conditioned horses, than in this troop. That's rather boastful, but we have given the closest personal attention to the horses. That's the only thing necessary."

Thoroughbreds. "My own horse has done beautifully, and he has gone farther than any horse in this regiment, I know. Incidentially, he is a thoroughbred."

Machine Gun Packs. "An officer of my regiment who has had lots of experience with machine gun units, is bitterly opposed to the Ordnance aparejos for the machine gun troop. Colonel A proved satisfactorily that machine gun pack mules cannot keep up with a cavalry command. Hence, a suitable pack should be devised for a horse, similar to the Belgian idea. The pack horse can keep up with cavalry on the march."

Depletion of Regiments. "It seems absurd to me to put all the old cavalry regiments on their backs for the possible so-called advantage of starting the Sixteenth and Seventeenth Cavalry Regiments out as old, trained regiments. We could not turn a wheel if we had to, no matter what the emergency. Few lieutenants are available for troop duty; all are on special duty with the militia. My outfit is scattered to the four winds of heaven, occupying half a dozen stations. Regimental efficiency is a physical impossibility under the circumstates. We are down to eaxctly one officer per troop."

Fight at Ojos Azules. Although official details are still unavoidable, the march of the squadron of the Eleventh Cavalry under Major Robert L. Howze of that regiment to this Mexican town and the subsequent routing of the hostile troops. cannot but be accounted one of the most brilliant accomplishments of the Mexican occupation to date.

The cavalry left camp at 8:45 o'clock P. M., and was delayed two hours at C. After covering thirty-six road miles, it hit the enemy just at daylight, but not until, at one and a half miles from the town, the head of our column was discovered and began to receive some hostile fire, although at first the Mexicans believed the American command were Carranzistas.

For full five minutes our cavalry did not return the fire, but employed the time in closing in and maneuvering for such position as would make victory worth while. When the enemy realized that the advancing force was American, they became so demoralized that they were unable to deliver any aimed or controlled fire, and our cavalry pushing rapidly in, rode them down and killed many who attempted to get into the wooded hills.

The pursuit was continued for four good miles, until there was nothing left to chase, and the result was sixty-one Mexicans killed, seventy captured (including wounded), with seventy-five Mauser rifles and eighty horses and mules captured. This accounted for the greater part of the band.

The fight was marked by the expert use of the automatic pistol by our cavalry, at least forty per cent. of the Mexican killed and wounded resulting from its use. By very strenuous effort, the American machine guns were gotten into action during the last part of the chase.

The American losses were inappreciable, although six or eight troopers had clothing or equipment hit by hostile bullets, and four horses were killed or mortally wounded.

Although the horses of the little American command were not in the best condition a the beginning of the hike, due to previous marching, all but two went through the thirty-six mile march to Ojos Azules, the last one and one-half miles at a run, and the four-mile chase successfully. The two animals mentioned fell exhausted through fatigue.

The 1912 Cavalry Equipment. "The 1912 saddles in this troop are not standing the gaff at all. This equipment was issued in September, 1914, and at an inspection today (June 30, 1916), I found fourteen of the steel frames that connect pommel and cantle arch broken. Some were cracked on one side; some on both sides; and some broken all the way through."

Drowning in Feed Bag. "We had a peculiar incident here recently. During a heavy rain, lightning struck near Lieutenant X. who was in camp. He looked out of his tent and saw a horse on the picket line pawing madly and rearing. He ran down to the line and found the horse drowning, with the feed-bag full of water. Horses had just been fed, prior to the storm, and the heavy rain had filled the animal's feed-bag so fast that it could not run out."

Uniform. "Officers in Mexico have many new ideas as to equipment and uniform. They all want the short overcoat and the laced or hunting-boot, of the old Thompson variety."

The Soldier's Mount. "This service (in Mexico) has shown that the compactly built horse stands the campaign much better than the tall, leggy type. The horses never even got half-feed, and it was a constant effort to keep the big ones on the job. The little fellows also did better in the mountains and rough places. The cavalry horse should be an animal low on his legs, of full form, one that when in low flesh does not show it; a horse whose bone, muscular development, energy, and reserve power are denoted by a certain balance not often seen in horses over 15 hands 2 inches. The height of the cavalry horse should range between 14—2 and 15—2."

The Bridle. "The bridle should be strong and of simple construction, with but few buckles; and should admit of the use of the bit and bridoon. In the field the curb-bit should be left at home, as a horse can drink easily and quickly with the snaffle bit in his mouth, when he cannot drink with two bits; and for the same reason he can graze with one bit, when he cannot with two, it being often dangerous, or through lack of time impracticable, to remove the bits from the animals' mouth. Each bridle should be equipped with the link-strap. This strap should be attached to the off-snaffle-ring, pass under the chin through the near-snaffle-ring, and snap into the bridle on the left side of the horse's head. In linking, unsnap and snap into halter ring of horse on the left. This is not only quicker than tying horses together by reins, but it is certain, and there is no reason for bungling in moments of excitement."

The Halter. "This should be made strong. The nose-band should run through a ring attached to the throat-latch by a short strap—the tie-chain being snapped into a ring in the nose-band. Thus, any strain on the chain simply conveys the pull to the animal's nose, with but little strain on the throat-latch. The present halter is constantly breaking at the throat-latch. The tying device should be a chain with a snap and swivel at each end. In the field, away from salt, horses soon chew up leather, webbing, and rope shanks, thus getting loose at night and in some instances wandering off and not returning.

The chain is durable, will not break, and cannot be eaten, and when passed around the animals' neck on the march is sound-less."

The Saddle. "I believe the McClellan saddle a better military saddle than the hinged saddle. The McClellan, however, should be changed in certain minor points; the pommel arch should be higher and wider, more like the stock saddle. All of our saddles are modeled to fit the backs of horses in full flesh, while as a matter of fact, horses in campaign are always thin. Why not have the saddle made to fit a horse when he is thin? The stirrups should be hung about two inches farther to the rear, and should have the same tread as now, with the hood. The knife-edge metal tread is hard on the feet, and offers no protection from the sun, rain, or snow. In emergencies, the hood can be used to sole the trooper's shoes. This campaign (in Mexico) has shown that both officers and men must carry on their saddles in addition to the usual pack, food and grain in quantities never before thought possible; and to do this, the saddle must admit of being packed with as little injury to the horse as possible. I believe the McClellan saddle can be better and easier packed than any other saddle in the service."

The Rifle. "The rifle should be carried on the saddle, under the trooper's leg, on the near side of horse. When carried with the butt in a bucket, or on the trooper's back, the barrel sloping upwards with the muzzle above the soldier's shoulder, is very apt to catch in low-hanging trees, resulting in a heavy and dangerous fall for the man. This accident has happened several times with men equipped with the new equipment (1912)."

Bandoleers. "The cotton bandoleer was never intended to be carried day after day over the soldier's shoulder. This, however, has been done in Mexico. We soon found out that the friction wore holes in this bandoleer, and much ammunition was lost. Each trooper, in addition to his belt, should be issued two web bandoleers, like those of the new equipment. These web bandoleers could be made to take the place of the cartridge-belt suspenders."

Lariat. "Should be retained. A light, but strong, rope, similar to the kind used by cowmen. The picket-pin might

well be dispensed with. Hobbles should be issued, as they would be a great aid in herding horses, and many times grass is the only food a horse can get. The use of hobbles would make a stampede impossible."

Pistol. "I believe the .45 caliber, Colt's revolver is a better weapon than the automatic pistol. The automatic sometimes jams, when the pistol is dirty, and then it is dependent absolutely on the magazine. Damage or lose the magazine and the weapon is useless. It is an arm of two parts, while the revolver is all in one piece."

Sword. "The present saber or sword is too heavy. I believe in a straight, short blade, with a cutting edge, like a machete. This weapon would not only be dangerous to an enemy, but it would find many uses in camp. A trooper equipped with such a tool, could cut a bundle of grass for his horse in short order."

Breeches. "They should be reinforced at the knee, so as to cover the knee above, below, and to the outer seam. There should be also a reinforcement covering the seat. The breeches first give away at the knees, and then at the seat."

Sweater. "The coat is better, and should have bellows pockets."

Leggings. "The leather legging is a failure, in that it soon wears out, and is uncomfortable to the average soldier. I recommend the adoption of the canvas legging used in 1898, with the spat effect over the instep and the strap under the instep. This legging for cavalry, should be reinforced with leather on inner side of calf."

Shoes. "Of a less dressy type than at present issued—unlined, flesh side out, heavy soles, hob-nailed, with leather laces."

Shirt. "Favor the present issue, but with longer shirts. The long shirt acts as an abdominal band, is a protection to the stomach, and can be used as a suspensory in case of need."

Canteen. "I favor the old issue, to be carried on the saddle and not in the saddle pocket. The old quart cup is best. The Aluminum mess-kit soon melts under daily service in individual cooking. The old issue is the best."

Rifle. "The present rifle is too long and too heavy for the cavalry. I suggest a carbine, about the size of the old Krag carbine, chambered to shoot the same ammunition as the Springfield rifle.

Pack Transportation. "Each cavalry troop should have five pack mules, equipped:

1 mule carrying cooking outfit and one day's rations.

1 mule carrying horseshoer's outfit and extra horseshoes.

1 mule carrying picket-line and extra shoes.

2 mules carrying rations and forage."

Individual Cooking. "This is a mistake. It is better to dismount a man and use his horse to pack the cooking outfit. When each man does his own cooking, there is a waste of rations, sickness, and the horse suffers a certain amount of neglect that would not be the case when cooking is central."



THE CAVALRY FIGHT AT COLUMBUS.

M UCH has appeared from time to time in the public press in regard to the attack by Villa bandits on the town of Columbus, New Mexico, in March last—some of it true, much of it distorted or exaggerated. But comparatively little of authenticity has been published, covering the real fighting between the outlaws and our cavalry, and the severe punishment inflicted on the Mexicans in a pursuit which the American cavalry has every reason to view with pride and gratification.

The CAVALRY JOURNAL has therefore taken pains to secure the actual facts for its readers, and publishes them herewith, without the personal knowledge of any of the participants, in order that the true circumstances may be of record for all time.

By dawn of March 9, 1916, most of the Mexican troops which had been in possession of the town of Columbus, had been driven out, and Colonel Slocum, commanding the Thirteenth Cavalry, was holding a hill west of the cavalry camp, the troopers firing from a prone position on the retiring bandits, whose left flank rested on the railroad tracks.

As the Mexican force had begun to show signs of demoralization, the regimental commander gave permission to Major Frank Tompkins, Thirteenth Cavalry, to mount up as many troopers of Troop "H," as were available, and pursue. About thirty-two enlisted men were gathered together (later reduced to twenty-nine), and under Major Tompkins and Captain Smyser, eagerly moved south-west from the town, being joined en route by Captain George Williams, Adjutant of the regiment.

In the dim light of early morning, the Mexican forces could barely be seen, withdrawing across the international line, and although much delayed by wire fences, the little pursuing force endeavored to overtake them by paralleling

the enemy's march. About 300 yards south of the border fence, our troops found a covering detachment of Mexicans holding an isolated hill, as a protection for the Mexican left flank. The fence was cut east of this hill, and, deployed as foragers our cavalry charged the Mexican position with drawn pistols. The Mexicans held their ground until our cavalry reached the lower slope of the hill, when they broke and ran. The American detachment reached the crest of the hill at a gallop, dismounted, and opened fire individually with their rifles on the fleeing enemy, killing at this point th rty-two Mexicans and many of the latter's horses. This success was undoubtedly due to the brave and bold advance of our force in the face of many odds, and the expert markmanship which followed.

The enemy then took up a second position about 1,500 yards south of the border fence, and Major Tompkins here sent back to the regimental commander for permission to use Troop "G," (Captain Stedje) in the pursuit; reply was unavoidably delayed for forty-five minutes, and meanwhile Troop "G" had moved towards the Border Gate, where firing had been heard. Tompkins then resumed the pursuit with his original force of twenty-nine troopers, augmented by twenty-seven additional soldiers under Lieutenant Castleman, fifty-six men in all, with Captains Smyser and Williams accompanying.

Deploying with wide intervals, the little command advanced on the new Mexican position at a fast trot, and at about 400 yards from the enemy found good shelter for the horses where the line dismounted and opened fire. In this second contact the Mexican rear-guard was soon driven back upon the main body, with a great many killed and wounded.

The pursuit was again taken up, and in thirty minutes our cavalry again hit the Mexican rear-guard, and endeavored at short rifle range to turn the enemy's left flank. Here, the squadron commander was slightly wounded in the knee, his hat rim was perforated by a bullet, and his horse was slightly wounded in the head, showing the close character of the fighting.

At this stand, the Mexican main columns were plainly visible only 800 yards away, so that while the dismounted troopers of Troop "F" fired at this objective, those of Troop "H" held the attention of the Mexican rear-guard using the battle-

sight. The latter could not stand the American fire and soon withdrew, allowing the pursuit to be resumed. In passing over the ground lately occupied by the Mexican main body, our cavalry counted twelve of the enemy's dead on the field.

At this point and in order to prevent the Mexican rearguard from again taking up a defensive position, the squadron commander detached Troop "F" as a flanking detachment to parallel the enemy's line of march, while Troop "H" pressed in pursuit of the rear-guard. The latter was soon overtaken, but this time on a level plain devoid of cover. Hard pressed by our cavalry, and encouraged perhaps, by the comparative weakness of the detachment directly in pursuit (only 29 men), the retreat of the Mexican main body was covered by an offensive movement by some 300 Mexicans, against the American position, and the latter, in the face of such numbers, was forced to fall back about 400 yards to a stronger position. In this withdrawal, our cavalry lost only one horse killed and one wounded, and the Mexicans failed to follow up their movement.

The horses had now covered between twelve and fifteen miles and had not been fed or watered for eighteen hours, so that this in addition to the fact that the ammunition was running low and that the troopers had been fighting for many hours without food under a blazing sun, determined the detachment commander to withdraw his little command to Columbus, where he arrived about noon of March 10th.

The results were significant: Between seventy-five and one hundred dead bandits were counted by the officers of the American force, actually killed on Mexican soil, together with many killed and wounded horses. The enemy also abandoned two machine-guns and many rifles, pistols, ammunition, and loot. He was apparently completely demoralized by the determined pursuit of the insignificant little force, and the moral effect of such punishment must have been great. The command was absent from Columbus about seven and one-half hours, having driven many times its numbers fifteen miles across the border fighting under a tropical sun without food and without water, other than the little carried in canteens. The achievement is something for the entire cavalry arm to profoundly admire and be proud of.

A FORCED MARCH.*

N reply to your letter of July 15th, requesting that I send you a description of the little expedition recently made by my troop into the San Simon Valley and the Chiricahua Mountains, I take pleasure in submitting the following:

Late in the afternoon of July 8th, I received orders to prepare my troop ("C," 1st Cavalry), for field service. I was instructed to carry on the saddles two day's "reserve rations," and one ration of grain, as we would have to march without transportation of any kind. I was aslo instructed that each trooper should carry 150 rounds of rifle ammunition but this was later changed to 90 rounds.

My orders directed me to march to Moore's Spur in the San Simon Valley and investigate reports of a raiding party of thirty Mexicans, supposed to be in the Chiricahua Mountains. It was reported that this and intended to raid the San Simon Valley ranches and the store at Chiricahua Siding on the night of Iuly 9th.

Having watered, fed, and groomed the horses, and the men having had their supper, we mounted at 7:30 p. m., each man fully equipped for the field and carrying the rations, grain, and ammunition mentioned above. Contrary to the practice of troops in Mexico, we also carried sabers. Having been inspected by the colonel, we left Douglas, Arizona, a few minutes after seven-thirty, and marched north-east towards the San Simon Val ey.

During the early part of the evening we got along very well, for although the sky was a mass of heavy, threatening clouds, there was enough moon behind them to give us a little light. However, when the moon set about 11:00 p. m., it became very dark. In fact, I think it was the darkest night I have ever tried to travel in, and we had a great deal of difficulty from then on until daylight, in finding our way. To add to our troubles, it began to rain hard at about the time the moon set, which made it very bad footing for the horses. It had rained a good deal in that country during the preceding few days, and in many places our horses floundered into mud-holes up to their bellies, for it was so dark that riders could not see the holes or avoid them.

At 5:30 A. M., having marched forty miles, I halted two miles north-east of Moore's Spur in the San Simon Valley. I first had the horses' legs and bellies cleaned of the mud, leaving the saddles on. After about twenty minutes, the saddles were removed and the horses given a thorough grooming and later were watered and fed oats. The men then prepared their breakfasts, after which I caused the horses to be grazed until 10:00 A. M. While the animals were grazing, I spent my time in making inquiries of the whereabouts of the band of Mexicans, of which I was in search. I was told that the band was in Teck's Canon, in the Chiricahua Mountains, but opinions seemed to differ greatly as to their number and probable intentions.

Having secured a guide, at ten o'clock I set out for Teck's Cañon, about fifteen miles north of Moore's Spur. On arrival in the Cañon, I found my so-called "bandits" to be peaceful wood-cutters, so that as far as any action was concerned, I "drew a blank."

However, my mission was not yet completed. My orders required me to be at Chiricahua Siding on the night of July 9th—10th, the night that the raid was supposed to take place. So we marched back to that point, arriving at 4:30 p. m., having made thirty miles since 10:00 a. m., and seventy miles since 7:30 p. m. the night before—twenty-one hours altogether, inincluding a halt of four and one-half hours.

[&]quot;This interesting account of a forced night-march under difficult weather conditions by a distinguished graduate of last year's class, Mounted Service School, was submitted at the express request of the Commandant of the School. It not only reflects great credit on the officer making the march, but exemplifies what the Mounted Service School attempts to teach—not alone the art of equitation, but the conservation of the energy and endurance of troopers and horses under all conditions of service in the field.—Editor.

We were met at Chiricahua Siding by wagons containing rations and forage, and at this point we bivouacked for the night, waiting for the raid which has not occurred up to the present writing. The next morning, our mission being completed, we marched thirty-one miles into Douglas, arriving just at 12:00 o'clock noon, having marched one hundred and one miles in forty and one-half hours, seventy miles of which had been made in twenty-one hours, carrying all forage and rations on our horses.

On arrival in Douglas, I found that one horse had had his withers rather severely bruised, but aside from this small disability and several minor contusions, the horses were in first-class condition. All were more or less "tucked-up" in the bellies, but a good night's rest and plenty of hay, put them in shape to take the road again next day, for a change of station to Slaughter's Ranch.

It may be of interest to some officers, who are particularly fond of well-bred horses, to know that on this trip I rode my thoroughbred horse; Lieutenant Sliney, my second lieutenant, rode his half-bred mare (thoroughbred—standard bred); and 1st Sergeant Sorensen rode a three-quarter bred horse. This last horse was the same animal with which Sergeant Sorensen won the enlisted men's "Prize Riding Competition" at the Panama-Pacific International Exposition Horse Show and Military Tournament in 1915. These three horses were no more "tucked up" than the coarse bred horses at the end of the trip, and showed a great deal less apparent fatigue.

Slaughter's Ranch, San Bernardino, Arizona. J. M. WAINWRIGHT,

First Lieutenant, 1st Cavalry,

Commanding Troop "C."

EARLY EXPERIENCES OF THE FRENCH CAVALRY.

LIEUTENANT COLONEL CHARLES D. RHODES, U. S. CAVALRY.

A UTHENTIC accounts of the experiences of the French cavalry in the earlier part of the great European war have been almost entirely lacking, although enough information has filtered through the censors to create a rather well-defined impression that the mounted troops were so mishandled, overworked, and misunderstood, during the advance into Belgium and the subsequent retreat towards Paris, as to require a long period of rest and recuperation before being again ready for the field. By that time their opportunity had passed.

There can be no doubt that the French cavalry had a herculean task before it, and the military student can therefore look upon their ordinary shortcomings with keen appreciation of the enormous difficulties which beset their advance into Belgium. Germany's violation of the neutrality of Belgium, coming as it did like a bolt out of a clear sky, set in motion aross the frontier an almost irresistible wave of Germany's best troops, moving on a comparatively narrow front with flank protected by the North Sea. Cavalry maneuvering on a large scale was apparently an impossibility; reconnaissance in force meant merely dashing men and horses against the rocks of long-range artillery, machine-guns, and small arms fire.

The following acount by a well-educated and intelligent trooper of the 22nd French Dragoon Regiment, throws some new light on the impressions and experiences of the French cavalry during the first month of the great war.

The military student, accustomed to the rapid concentrations of continental troops through railroad transportation specially planned for its strategic utility, cannot but be struck with the needlessly long marches in getting to the theater of operations and later in the operations themselves. "Each day," says the narrator, "we spent ten, fifteen, twenty hours in the saddle. One day we actually covered a hundred and thirty kilometers in twenty-two hours."

With his "helmet, lance, sword, carbine, and full kit" the French dragoon would have difficulty in conserving the strength and endurance of his horse under ordinary conditions. When to this is added a torrid sky, and the covering of over one hundred miles between five o'clock in the morning and three o'clock the following morning, one can but wonder that any useful results were accomplished, commensurate with the sacrifices entailed.

And what was accomplished? The almost continuous reconnaissance which this dragoon regiment appears to have carried on during the early advance of the German host, seems almost devoid of serious contacts with the enemy. One is impressed by the phanton like disappearance of the enemy's cavalry; or, if they stood at all, it was to lure the unlucky dragoons into a surprise attack by the German infantry. "Everywhere, 'says the writer,' the enemy's cavalry gave ground, vanished in smoke, became a myth for our regiment, in spite of our forced marches."

The spirit of the French cavalry was admirable, their boldness and dash cannot be questioned. But considered entirely from a military standpoint, one cannot but admire the wise frugality with which the commander of the German opposing cavalry, conserved the numbers and the endurance of his troops; avoiding unnecessary battle, drawing the French troops on towards his artillery and machine guns, and in reconnaissance work accomplishing through a myriad of small patrols what the French cavalry may have tried to accomplish through mass formations.

Although the information at hand is too meager and superficial to be used as the basis of any accurate estimate of the situation which confronted the French cavalry at this period of the war, the American cavalry officer cannot help but indulge in some speculation as to how our own cavalry would have handled such a situation.

In the first place, our troopers would have traveled lighter than the French dragoon, and would have subsisted as far as

possible on forage and rations furnished by the friendly Belgians. The American rifle would have outranged any cavalry carbine that either the French or Germans possessed. The forced marches, if entirely necessary, would have been made at night. on account of the unbearable heat. A retreat on the part of the French cavalry was of course inevitable when the enemy's main columns were encountered, even though the French and British infantry divisions had been ready to support them. But with our traditional mobility, the rare markmanship of the American trooper, and his natural adaptability to fighting on foot when necessary, the American cavalry officer cannot but think that our cavalry would have been able to more stubbornly contest every mile of the German advance through Belgium and towards the French capital, than was the case with the cavalry of the allied armies; and would at the end, have been in condition to take the field within a reasonable time, when efficient cavalry was so sorely needed by the Allies in an endeavor to. strike the German right flank foiled in its effort to take Paris.

ACROSS THE BORDER INTO BELGIUM.*

Sixth August to Fifth September, 1914.

I T was on the 6th of August that we crossed the frontier into the Walloon district of Belgium at Muno, to bring succour to the Belgians whose territory had just been violated by the German Army.

In turning over my diary, I select this incident from among many others and stop to describe it, for it seems but right to recall the enthusiastic and touching welcome with which the whole people greeted us—a people now, alas, crushed under the German heel. We were welcomed with open arms—they gave without counting the cost, they threw open their doors to us and could not do enough for the French who had come to join forces with them and bring them succour.

^{*}This interesting sketch constitutes the second chapter of the book, Impressions and Experiences of a French Trooper, by Christian Mallet, published by E. P. Dutton & Company, New York. Reprinted by permission of the publishers.

There is not a trooper in my regiment, not a soldier in our whole army, who does not recall that day with feelings of profound emotion.

From the time we left Sedan, our ears still ringing with the cheers that he sent us on our way from Rheims, we received the heartiest of welcomes and good wishes at every village we passed through, but once across the frontier we were acclaimed, prematurely, as it turned out—as veritable conquerers.

Cavalry on the march, squadron after squadron, has a marked effect on people, and takes the semblance of an invincible rampart against which any enemy must go down.

After seventeen hours in the saddle, with helmet, lance, carbine, sword and full kit, now by a night-time more than disagreeable by reason of an icy cold fog, now under a tropical sun which scorched us, all the while in a cloud of dust, tormented by swarms of midges and horse-flies which hung about us, and tortured by the sight of cherry trees heavy with fruit, which hung over the road, but the branches of which were out of our reach, we approached the frontier.

On the road we passed all the vehicles in the district which had been requisitioned by the military, interminable convoys of them, amongst which, irrespective of class, were humble peasant carts, old-fashioned shaky barouches, motor cars with the crests of their owners blazoned on the doors, all filled with oats and forage.

Aeroplanes followed us and passed ahead of us flying all out towards the east. Every now and again we had to draw to the side of the road to allow streams of motor omnibuses drawn from the streets of Paris, filled with chasseurs* and infantry to pass by; and our teeth crunched the fine dust that we incessantly breathed.

At length we passed by a fir wood and a post, painted yellow and black, showed us that we were in Belgium; then, we came in sight of a village, almost a hamlet, from which, as we drew near, there rose a noise, the sound of singing, growing louder as we drew near—the Marseillaise sung in welcome as all the folk from the country-side gathered at their country's gateway to greet us.

All joined in, women, children with shrill voices, even the old men. They ran along after us till we reached the place, when the song ceased and a thousand voices cried: "Vive la France! Vive les Francais!" with such vigor that the horses were startled and cocked their ears in alarm.

One and all brought us gifts, each according to his or her means, fruit, bread, jam, cakes, cigars, and cigarettes, pipes and tobacco. I should fill a page with a list of what was thrust upon us. To our parched lips women held flagons of wine or beer, which refreshed us more perhaps when it ran down our cheeks, caked with dust, even than when it found its way down our throats, as the jolting of our horses caused us to spill the precious liquid. It taxed us to stuff away all the dainties in our already overfull pockets, and we stuck cigars into our tunics between the buttons, and flowers in the buttonholes.

A number of French nuns with white head-dresses, like huge white birds, presented us with sacred medallions. I shall always retain graven on my memory the agony depicted in the beautiful, sad eyes of an elderly nun with white hair, who held out to me the last of her collection, a scapular of the Virgin in a brown wrap, and as she did do, said, to me, "God guard you, my child."

And in each village we passed through, that day and the days which followed, we met with the same welcome and the same generosity. It was the same at Basteigné, at Bertrix, at Rochefort, Beauraing, and Ave; indeed everywhere, in the towns as in the villages, the crowd hailed us and fed us. Belgians have handed me boxes of as many as fifty cigarettes.

After exhausting days of twelve or fourteen hours in the saddle, I noticed that the troopers worn out with fatigue, suffering from the heat, from hunger and thirst and intolerable stiffness, sat up in their saddles instinctively as we approached a village, prompted by an unconscious pride in holding up their heads, and I can say, for my part, that such a welcome as we received always banished any feelings of fatigue.

One of our bitterest regrets was having to pass through Belgium in the reverse direction and to read the dumb surprise on the faces of the people who had thought us unconquerable, but whose great hearts were full only of commiseration for us,

^{*}Light infantry.

worn out as we were, and who, forgetful of their own anxieties,

did all in their power to help us.

A peasant woman, I remember, gave us the whole of her provisions, everything that remained in her humble dwelling. The enemy were then advancing on our heels in a threatening wave, and on my expressing astonishment that she should strip her shelves bare in this fashion, she shook her fist towards the horizon in a fury of rage and exclaimed: "Ah sir, I prefer that you should eat my provisions rather than leave a crumb of bread."

Up till the 19th August we had advanced in Belgium; the retreat of the division commenced that same day from Gembloux. We kept on seeking, without success, to get in touch with the German cavalry. Nothing but petty combats took place with insignificant details, a troop at most, but more often with patrols, reconnaissance parties and little groups who surrendered on our approach in a contemptible fashion.

I saw a German major, Prince R——, accompanied by two or three troopers, surrender themselves while still some two hundred metres from one of our weak patrols. They threw down their arms and put up their hands. It was a sickening sight.

Everywhere the enemy's cavalry gave ground, vanished in smoke, became a myth for our regiment, in spite of our forced marches. Each day we spent ten, fifteen, twenty hours in the saddle. One day we actually covered a hundred and thirty kilometres in twenty-two hours, and reached our culminating point to the east, almost under the walls of Liege.

Although we hardly saw any Germans during the first month, we could, per contra, follow them by the traces of their crimes.

By day, from village to village, lamentations spread from one horizon to the other, and I regret not having noted the names of the places which were the scenes of the atrocities of whicy I saw the sequels. I regret not having taken the names of the unhappy women whose children, brothers and husbands, had been tortured and shot without motive not to speak of the assaults of lechery and Sadism of which they had been the vic-

tims. They alluded to these in a fury of rage or made an involuntary confession in an agony of humiliation and grief.

By night a furrow of fire traced the enemys' path. The Germans burnt everything that was susceptible of being burnt—ricks, barns, farms, entire villages, which blazed like torches, lighting the country-side with a weird light.

We entered villages of which nothing remained except smoking and calcined stones, before which families who had lost their all, grieved and wrung their powerless hands at the sight of some black debris which had once been all their joy, their hearth and home.

I wish particularly to insist that these deeds were not the result of accident, for we were daily witnesses of them for a whole month. I still shiver when I think of the confidences which I have received. The pen may not write down all the facts, all the abominations, all the hateful things, all the lowest and most degrading filthiness inspired by the imagination of crazy erotomaniacs. It was always Sadism which seemed to guide their acts and predominate amongst their mis-deeds.

Here a mother mourned a child, shot for some childish prank; there a young girl grieved for her fiance, hung because he was of military age; farther on a helpless old man had had his house pillaged and had been brutally treated because he had nothing else to offer. At every step we heard the story of crime, and those guilty deseve to be hung. Such are the things of which such an enemy was capable—an enemy who refused combat, who advanced hastily under cover of night to rob and burn a defenseless village, and who seemed to vanish like smoke at the approach of our troops, leaving in our hands hardly more than some drunken stragglers unable to regain their army, or some robbers who had waited behind to rob a house or to violate a woman, and had been taken in the act.

We passed through all that in our endless quest, always in the saddle, sleeping two or three hours at night, in an exasperating search for the German cavalry, which was constantly reported to be within gun-shot, but which disappeared by enchantment each time we approached. To give an idea of what we endured, I have transcribed word for word the notes from my field pocket-book describing some of these August

days. These notes were written in most cases on horseback by the roadside during a halt.

August 7th. Torrential rain; twelve hours in the saddle; we are worn out with fatigue; put up at Basteigné; arrived at night. My troop is on guard. I mount duty at the bridge; we are fed by the populace, nothing to eat from rations.

August 8th. Reveille 3 o'clock, mounted, a last turn of duty at the bridge at 5 o'clock. Departure; rested at midday in an open field for dinner. While we were eating, enemy is reported near; we follow immediately towards Liege. Don't come up with them. March at night till one in the morning; have done one hundred and thirty kilometres and twenty hours on horseback; asleep in an open field from two to four.

August 9th. Torrid heat, men and horses done up; billeted at Ave after twelve hours in the saddle. First squadron ambushed. Lieutenant Chauvenet killed. The Germans flee, burning the villages, killing women and children.

August 11th. Leave Ave at 5 o'clock. The heat appears to increase, not a breath of air. For two hours we trot in clouds of blinding dust. A regiment of Uhlans is reported. The colonel masses us behind a hill and we think we are going to deliver battle; but the enemy steals away once more. Thirst is a torture, my water-bottle lasts no time. Arrive at Beauraing at six o'clock. Thirteen hours in the saddle.

August 12th. We unsaddled at 5 o'clock. False alarm;

wait at Beauraing.

August 14th. Alarm, the regiment moves off; I am left behind to accompany a convoy of reservists. The village is barricaded, the enemy is quite near. Only a handful of men are with the convoy. Wait at the side of the road with Fuemin-ville and Lubeke. Five dismounted men arrive, without helmets, done up, limping, prostrated, grim as those who have seen a sight which will forever prevent them from smiling; the fact is that the remains of the 3d squadron of the 16th have been caught in an ambush by the German infantry concealed in a wood. They have been shot down at point-blank range without being able to put up a fight. Never have I seen human waifs more lamentable and more tragic. They had seen all their comrades fall at their side and owed their lives only to

the fact that they had themselves fallen under their dead horses and to a flight of 40 kilometres through the woods. Montcalm is amongst the killed. The convoy marched out at half-past nine at night, at the walk, an exasperating pace of 4 kilometres an hour. We took all night to do 23 kilometres. I ask myself when we are likely to rejoin the 22nd, even whether the 22nd still exists.

August 15th. We bivouac near the village of Authée, with the convoys of the 61st and 5th Chasseurs. It is dark and cold, and this night has tired me more than my longest marches. The waiting about unnerves us, and my blood boils when I think that the 22nd must be on the eve of having a fight. The Germans, lay siege to Dinant, eight kilometres off. One hears the guns as if they were alongside. Our turn is near, I think. No one is affected thereby, and we prepare our soup to the whistling of shells. The cannonade seems to redouble, they are giving and taking hard knocks, and some there will be who wont answer their names tonight.

Ten o'clock. The different convoys move off, 16th, 9th, 28th, 32nd Dragoons, etc. All at once we are stupified by seeing a battalion of the 33rd of the line, or rather what remains of the battalion, some thirty terrifying beings, livid, stumbling along, with horrible wounds. One has his lips carried away, an officer has a crushed hand, another has his arm fractured by a shell splinter. Their uniforms are torn, white with dust and drip with blood. Amongst the last comers the wounds are more villainous; in the wagons one sees bare legs that hang limp, bloodless faces. They come from Dinant where the French have fought like lions. Our artillery arrived too late, but they had the fine courage to charge the German guns with the bayonet. The guns spit shells without cease and the crackle of musketry does not stop. We go across country to billet at Florennes. These last days of tropical heat give place to damp cold. It is raining. We meet long convoys of inhabitants who, panic-stricken, quit their houses to go and camp anywhere at all. It is lamentable. Two kilometres from Florennes we"incline." The cold is biting in spite of the cloak I wear. We arrive in black darkness at a village where we bivouac in spite of the torrefitial rain. I rejoin the regiment

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with infinite trouble; clothes, kit, horses are dripping wet. They must stay so all night. I do a stable guard at three in the morning without a lantern. The horses are tied up by groups to a horseshoe. They kick and rear, upsetting the kit and the lances in the mud: I dabble about and lose myself in the night. The village is called Biésmerée.

Sunday, 16th August. The weather has cleared up. I leave again with the regiment. We are going to put up at the Maisons-Saint-Gerard. Just before arriving there a storm bursts and wets us through; the water runs down into our breeches. I am as wet as if I had been dipped in a river; and one must sleep like that * * * and yet one does not die!

August 17th. Off at 5 o'clock. We bivouac at Saint-Martin in the meadow between two small streams. I have hurt my left foot badly, and at times I feel an overpowering fatigue. but one must carry on all the same. The bivouac is admirable. Big fires warm up the soup for the troops. The little stream shimmers, all red, and encircles the bivouac. The day ends; splendid. Some Cuirassiers bivouac a little higher up on the village green. We hear them sing the Marseillaise. We sleep in a barn in heaps one on top of the other.

August 18th. The 4th Squadron is on reconnaissance. We start alone at a venture. We are in the saddle all day. At night we make a triumphal entry into Gembloux and we are baited with drinks and food. The Germans are at the gates of the town and the crowd is wildly excited. The sun goes down without a cloud, round as a wafer. I forget the day's fatigues and we venture acrosss the plain and the woods. It is an agonizing moment; we hide ourselves behind a long rick of flax; the enemy is some hundreds of metres off and all night we have sentries out. I slept two hours yesterday, today I am passing the whole night on foot. The cold is cruel. Now and then my legs give way and I nearly fall on my knees. We have had nothing to eat but bread, the chill damp gets into our bones. Some Taubes pass, sowing agony.

August 20th. I am one of the point party under Lieutenant Chatelin. We fire on some horsemen at 600 metres. The squadron is still on reconnaissance. One could sit down and cry from fatigue. We advance towards Charleroi, whose approaches are several kilometres long. A population of miners.

Everywhere are foundries, mines, factories, and for two hours unceasing acclamation. We arrive at a suburb of Charleroi. done up, falling out of our saddles. Interminable wait on the place: night falls. The camp kit comes up at last, but the march is not yet over, we are camping five kilometres farther on. It is enough to kill one. We get to Landelies. Rest at last, we bivouac. I share a bed with Delettrez, for the first time for three weeks. In a bed at one side a fat old woman is sleeping. No matter, it is an unforgettable night.

EXPERIENCES OF FRENCH CAVALRY.

August 21st. Are we going to have a little rest? No. we were out of bed all night and we are at it again. We do not understand the movements we are carrying out. Are we retreating? The fatigue is becoming insupportable. We get to Bousignies at three in the morning. On the road I lost my horse during a halt and I found myself alone in the night and on foot. I had all the trouble in the world to catch up to the squadron on foot. We slept two hours in the rain in a field of beetroot. Off again at 9 o'clock. Loud firing twenty kilometres off. All the peasants are clearing out. They say that Charleroi is on fire.

And so it goes on each day till the end of the month. The 26th we marched in the direction of Cambrai; we put up at Epehy, which the enemy burnt the following day. The peasant replied by themselves setting fire to the crops to prevent their , falling into the enemies' hands.

At Roisel, a whole train of goods blazed in the midday heat. We went on to Peronne. The 28th we were at Villers-Carbonel, where I was present at an unforgetable artillery combat. I saw shells throw some French skirmishers in the air by groups of three and four at a time. We left Villers-Carbonel in flames, and from that moment we best a rapid retreat towards Paris, passing by Sourdon, Maisoncelle, Beauvais, Villers-sur-Thère, Breancon, Meulan, Les Alluets-le-Roi, and after a last and painful stage we put up at Loges-en-Josas, four kilometres from Versailles, where the fortunes of war brought me to one of our own estates.

Thus it came that my mother, who believed me to be at the other end of Belgium, caught sight of me one fine morning coming up the central drive to the chateau on foot, leading my horse, my lance on my shoulder, followed by a long file of troopers.

THE PUNITIVE EXPEDITION FROM BOQUILLAS.

BY FIRST LIEUTENANT STUART W. CRAMER, JR., EIGHTH CAVALRY.

WHEN General Pershing went in pursuit of Villa, after the latter's raid on Columbus last March, the Eighth Cavalry at Fort Bliss hoped and expected to go with him. It was felt that much cavalry would be required; the regiment was opportunely on the border within seventy miles of Columbus; and altogether it appeared that with one exception, the Eighth was the most available regiment at hand. Furthermore the regiment had been on border duty for a long time, officers and men were more or less familiar with the country, the people, customs, and the Spanish language, and most of the horses as well as soldiers were acclimated. The regiment therefore were unable to understand why it was to be a so-called "Home Guard," and marvelled at the train-loads of troops from the north and east, which passed through El Paso on their way to the Columbus Expedition.

And so it was that when two troops of the Eighth finally had an opportunity to enter Mexico in pursuit of the Glen Springs raiders, great was the rejoicing in the fortunate organizations. And when it was all over and the troops had returned to the relatively great comforts of garrison life with its mission accomplished, the less fortunate organizations dubbed us the Get-Rich-Quick-Campaigners.

On Sunday morning, May 7, 1916, an orderly from head-quarters suddenly summoned a number of officers from an engrossing practice game of polo, and while enroute to head-quarters, half a dozen additional messengers indicated that the matter at hand was urgent. At headquarters we were informed of the Glen Springs raid, and glaring headlines in the extra morning paper gave additional interest to the news. Our orders were that Troop "A" and "B" would entrain as soon as possible for Marathon, Texas, written orders to follow later.

This was at eleven o'clock, and the intervening time between then and the hour of arrival of the railroad equipment, was spent in arranging property and money accounts, and looking after the odds and ends of field equipment. The commissioned personnel of the little detachment which was to invade Mexico, consisted of Troops "A" and "B" Eighth Cavalry, with Major George T. Langhorne, Commanding and Captain George W. Kirkpatrick, Captain James C. Rhea, 1st Lieutenant Victor S. Foster, 1st Lieutenant Hugh H. Broadhurst, 2d Lieutenant William A. Raborg, and 2d Lieutenant Stuart W. Cramer, Jr., all of the Eighth Cavalry; and Captain Guy V. Rukke, Medical Corps.

The train left Fort Bliss at five o'clock, P. M., and most of the people of the post, many friends from El Paso, and quite a number of correspondents and moving picture men were at the train to bid us farewell. In El Paso, we stopped for an hour in the railroad yards where we picked up four motor trucks loaded on flat cars; while the detachment commander reported for last instructions to the Department Commander who was in El Paso in connection with the Scott-Obregon conference. His instructions included permission to cross the international line in pursuit of the bandits, if considered necessary; and information that the Commanding Officer, 14th Cavalry would bring troops of his regiment to Marathon, to cooperate with our troops.

Our train left El Paso a little after six o'clock in the evening and arrived at Marathon about six o'clock the next morning. There we got details of the bandit raid, from which it appeared that some sixty Mexicans had gathered at a point in Mexico about eight miles south of Boquillas, and entered the United States in two columns, on the night of May 5th, striking Glen Springs where there was a wax factory guarded by a detachment of the 14th Cavalry; and the second column entering Boquillas at dawn on the 6th instant.

The Glen Springs bandits attacked the American detachment vigorously, the latter defending themselves against great odds until the roof of their house fell in; in the retreat of our soldiers, three were killed and a couple wounded. A small child was also killed. The Boquillas raiders looted a store

owned by Mr. Deemer, capturing the latter and a negro named Munroe Payne, and then went to a mine some six miles by trail in Mexico where they captured seven American employes and looted the terminal of the aerial tramway of the mine. It was stated that some twenty of the Mexicans were supposed to have come from the American side of the Rio Grande.

At Marathon we stored certain equipment which would have impeded our movements, and including our sabers; and at 11 o'clock A. M., started on our march to the Rio Grande, our four escort wagons hauling ammunition and thirty days rations, while the very necessary forage was left for the motor trucks. Major Langhorne and Captain Rhea with three troopers went on by motor car to reconnoiter Glen Springs and Boquillas, in order to secure advance information, if possible, of the whereabouts of the bandits.

At a place called Garden Springs, about thirteen miles out of Marathon, we made a noon halt of about three hours. This was a very propitious beginning for our trip, being a truly remarkable spot for West Texas. There were several fine springs, together forming a small brook, which ran for a mile or two before drying up. Six enormous cottonwood trees, growing in a cluster, formed the only real shade that we found on the entire trip, except for the two big Wisatcha trees at Del Piño, Mexico.

We made camp at about 10:00 p. m., at Henderson's Ranch after watering our horses at Henderson's Well, about a mile distant. Our wagons were close behind us, having made the thirty miles from Marathon in good shape. Reveille was at 5:30—just dawn. We marched at 6:50 a. m., about twenty minutes after sunrise. Just as we were pulling out a man who came up in an automobile told us that Major Langhorne had sent word by him for us to change our camping place for that night from Miller's Ranch—which had been tentatively decided upon before leaving Marathon—to McKinney Springs. Although a little doubtful about taking verbal messages from unknown motorists, Captain Kirkpatrick, who commanded the march, was not greatly concerned, as the two places were close together, the same road taking us to within a few miles of each.

Although it was warm enough in Marathon, as we descended from the high land in that vicinity towards the river, it grew steadily hotter and hotter. As guide we had a Mr. —, an El Paso lawyer, who knew the country, but who had not been in it for a number of years: he had volunteered for this, and came down with us on the train. We intended to make a noon halt at Bone Spring, which we understood to be a march of about fifteen miles. Having marched about eighteen miles, we halted and dismounted, while Mr. S---looked about for the spring, whose location he had forgotten; it was rather discouraging, as we were hot and tired, had no water for horses or men, and were beginning to become a little skeptical about this Bone Spring. At last, however, after a delay of about three quarters of an hour, the spring was found; we reached it about 11:30 A.M., estimating the distance to be about twenty miles. Here we stayed until 3:15 p. m. A corporal of "A" Troop developed a case of appendicitis: we left hime there, telling him we would notify the first automobile we should pass on the road to go by Bone Spring and pick him up. Our mules were beginning to show signs of tiring, so that we were a little worried as to whether our wagons would make the remaining twenty-two miles to our camp for that night.

Leaving Bone Spring, the road began to get very bad, so that we had to proceed mostly at a walk. Near Marathon the road had been fairly good, but as we approached the River it got softer, and was hence badly cut up, very dusty, and full of deep ruts and chuck holes. At five in the evening we met Major Langhorne's car on the road. He mounted his horse, which was of course being led along with us, and marched into camp; his car he sent back to Marathon with a report to Colonel Sibley who had reached that point the evening before, with two troops and the machine-gun troop of the 14th cavalry. After a long hard march, we reached McKinney Springs at 9:15 p. m.

As none of the wagons had come in by eleven o'clock, Major Langhorne sent me back along the road to look for them, and bring them in. The mail auto happened to be at our camp this night and the driver generously offered his car for the purpose. Nobody had had anything to eat as yet. Three of the wagons I met about five miles out and I gave instructions to

these to rest for an hour at the foot of a steep hill about a mile from camp, and then to pull on in, changing and doubling up the teams, if necessary. Continuing back along the road, I finally located the fourth wagon only four or five miles out of Bone Spring. There they had been forced to stop, as three of the mules were down, and likely to die. Two of the mounted guard had gone back to Bone Spring with a water can, but they were entirely without forage. I instructed the corporal in charge to stay with the wagon, to use Bone Spring for water. to take forage from passing trucks, to try to pull in to McKinney Springs the next day, and to send us news by autos, going our way. For immediate use I left with him a sack of oats I had brought along in case of an emergency. Returning to Mc-Kinney Springs, I passed the other three wagons just at the top of the hill. By improvising a six-mule team of the freshest animals, they had gotten all the wagons up the hill without much trouble. When I had finished reporting to Major Langhorne it was 3:55 A. M. Walking down towards my troop I stumbled over Lieutenant R-, who had a shelter-half over him. With great forebearance he refrained from swearing at me, and instead, offering me a part of his shelter-half. I gratefully accepted, crawled under, and slept soundly until awakened by reveille at 4:45 A. M.

At 6:15 A. M., we were on the road, which was a little better than that of the day before. The twenty-three miles to Boquillas were made without incident or fatigue. Mr. Deemers store had been restocked since the raid, a circumstance appreciated by us all. There were several other houses making up the settlement of Boquillas; one of these, also belonging to Mr. Deemer, his friends turned over to the officers to live in. There we put our bedding-rolls, which were somewat late in arriving, as some of the mules were again in distress. This news we received about two o'clock in the afternoon; cans of water were sent back by auto to where they were stuck, only a few miles back, and thus refreshed, the teams brought the three remaining wagons into camp; one mule died, however. We also got word that our fourth wagon was still stranded near Bone Spring, having lost three of its four mules.

Having ascertained from the Commanding Officer that there would be no further movement of troops before five o'clock, we spent several hours thoroughly cleaning up, both our persons and equipments. There was a large hot spring about a hundred yards from our house, a part of whose flow was diverted into a huge tub hollowed out of the rock, and all of us took full advantage of it. Most of us even shaved. These luxuries are rarely appreciated until you have to go for a couple of days without a chance to even wash your face, as I had. The remainder of the overflow of the hot spring went into several large pools, where the men also had a chance to wash up. Altogether, Boquillas, though fearfully hot, seemed to us a miniature paradise.

Captain Rhea, who had gone ahead by motor to Boquillas, and had remained there during our march down from Marathon, had gathered a considerable quantity of information, including a report that a number of the Mexicans resident of the American side, who had acted as guides to the bandits in their raids, were now in Boquillas, Mexico, three or four miles away. To help identify them (these had worn handkerchiefs over the lower part of their faces during the raids) we had the seven Americans who had been captured from the mine, and who had just returned to Boquillas, Texas. These were men of education and position, including the manager, superintendent, and assayer of the mine; several were graduates of our greatest universities. Their's was a weird tale to tell. It appears that the bandits had taken them along instead of killing them, because they would be of use in handling a truck, which was a part of the loot. During the retreat of the band into Mexico, the leader, Lieutenant Colonel Natividad Alvarez, rode on the motor truck, which, with the Americans and a guard of two bandits, brought up the rear of the column. Mr. Deemer and Payne had been taken on ahead. About thirty miles south of the river, the road became so bad that the motor truck fell far behind the rest of the bandits. At a particularly steep grade the truck stalled. Even when all the Americans, exclusive of the driver, got out and pushed, they were unable to get it to the top. One of the Americans then suggested that if the Mexicans were to get off and help push, they might have better luck. The

bandits complied, leaving their rifles on the truck. While everybody was leaning over, pushing with might and main. one of the Americans gave a sign to the others; their pistols were vanked out of the holsters and hip-pockets of the Mexicans and they found themselves looking down the barrels of their own weapons. Having turned the tables on their captors. the Americans lost no time in abandoning the truck, and striking across country for the Rio Grande with their prisoners. After a series of very close escapes from recapture they made their way at last back to Boquillas, Texas, where they turned over their three prisoners to the sheriff. This was by far the strangest and most amusing episode of the whole expedition. Upon their return to the United States the Americans were a sight to behold! The bandits had taken away their clothes, leaving them discarded clothing of their own to wear; they had not shaved for many days; in short, they were so frightfully dirty and unkempt that they were hardly more presentable than their bandit friends.

Taking several of these Americans with us, we forded the river at several points, making the crossing at about five o'clock in the afternoon. Some of our detachments went to outlying houses, where they found a number of the Mexicans we were looking for. Our two largest detachments surrounded the town and closed in upon it, driving in all Mexicans as we went. Without firing a shot we took control of the town, and herded all of the men into the principal plaza. Before proceeding further it was necessary to search the houses, to find out if any men or arms were hidden in them. I made this search personally, in my section of the line, and must admit it was a dirty and disagreeable job; each room was the dwelling of a dozen or more Mexicans, living in indescribable filth; all the corners were piled high with vermin-covered bedding, which, of course, had to be handled in the search; many of the rooms had no windows at all, resulting in a condition of the air that was almost unbearable. When all of the men were assembled in the plaza, assisted by our guides the commanding officer picked out about a dozen to take back to camp with us.

Shortly after our return from Boquillas, Mexico, Major Langhorne's motor, which he had sent to meet Colonel Sibley,

came dashing back into camp. The chauffeur, much excited, claimed that when near McKinney Springs he had been ambushed and fired upon. His story was partially supported by the occupants of another car, which had been about a mile behind him; these two men stated that they had heard several shots fired. As these shots might easily have been fired by the chauffeur alone, however, and as we all had some difficulty in forming a mental picture of the Major's big Cadillac turning completely around on the narrow road during a hot, close range engagement, this report was very skeptically received. Nevertheless, a car was loaded with soldiers and sent back along the road to act as guard to Colonel Sibley, who was reported coming to Boquillas by motor. In a very short time they both returned without adventure.

Following a conference with our detachment commander, Colonel Sibley decided to form a flying column, made up of about forty men selected from each regiment; to be followed up by the remainder of the troops with supplies. The 14th cavalry troops were expected to reach Boquillas early in the morning.

The following day we spent in Boquillas, continuing the work of cleaning up, and preparing for our dash. During the forenoon news came in that the 14th cavalry troops, who were marching without a guide, had become lost on the way down, and gone some fifteen or twenty miles out of their way. This unfortunate incident rendered it impossible for them to reach Boquillas on their original schedule, but would delay them a day. Upon receipt of this information, Colonel Sibley gave up his plan of a picked force, and not wishing to delay in getting started after the bandits, authorized the detachment commander to start after them with his two troops intact, promising to bring the 14th on behind with supplies and for support.

Acting upon these instructions, and upon information gathered concerning the route of the bandits into Mexico, the detachment commander decided to cross the Rio Grande that night at San Vicente Ford, about thirteen miles up the river from Boquillas. Our wagons would accompany us to our first camp, just on the other side of the river; from this point we were to cut loose from our communications, and with stripped

saddles only, make a rapid dash after the main body of the bandits. Permission was given to correspondents and moving picture men to accompany the expedition provided that they would travel in motor cars, leaving the tonneau of each at the disposal of the commanding officer for carrying grain and supplies.

The afternoon was spent preparing for our trip. An "A" Troop horse became so sick that he had to be shot, and a little further excitement was furnished when a recuit of the same troop shot himself through the foot while cleaning his pistol. It is noteworthy that these were the last casualties to either horse or man, in the two troops of the Eighth Cavalry, during the expedition.

At 11:40 p. m., May 11th, we crossed into Mexico at San Vicente Ford. About a mile beyond the crossing was a large field of a very stiff variety of grass. Here we camped, with the idea that the horses would enjoy the grazing; they did not care for it; however, for I saw none of them eating it. Another peculiarity of this camp was that it was full of burrs of tremendous size and sharpness. This I noticed upon first sitting down; putting my right hand down to assist in rising, I filled it also with the thorns, which stuck in so far and so thick that at the present time, a month later, the palm of it is all mottled, as with the measles. Our saddle-blankets, too, were coated with them, and it was long before we got rid of them; most of us had no other bedding; the horses did not seem to like the burrs, either.

Major Langhorne spent most of the night down at the ford, personally supervising the crossing of the wagons and motor cars. By hitching the mule teams to the autos, and utilizing a large squad of men to help push, all of the vehicles were brought into camp by reveille, at 5:30. The loads were taken off the wagons, which were sent back to Boquillas. One of the Ford cars broke down right here at the start, so it also had to return with a couple of the correspondents. Our transportation train, as finally organized, consisted of one auto truck, two Ford cars, and the commanding officer's "Cadallic 8". Between the two troops we had about a hundred men, mounted,

with about twenty led horses, extra horses led along with the column for alternate use.

We did not attempt to carry any hay, but were able to distribute between the different autos two days' grain for the command. A number of soldiers were put on the truck to help push. Three days' reserve ration, was issued to each man, to be carried in his saddle pockets, and consisted of bacon, hard bread, coffee and sugar. One emergency ration was issued to each man, in addition to the reserve ration, to be carried on his person; this emergency ration, by the way, as I later learned, is a splendid thing, consisting of a base of chocolate, mixed with dessicated vegetables, meats, etc. Except for the saddle bags, the saddles were stripped, the blanket rolls and "slickers" being left behind to lighten up the load on the horses. Grain for one day was carried upon each horse.

In addition to the three employed guides, P—, H—, and K— (the latter formerly a Texas Ranger), we were accompanied by the assayer of the Boquillas Mine, Mr. H—, and Mr. F—, the El Paso agent of the mine; we furnished horses, rifles and equipment to these men. One Ford carried two correspondents, the other two moving picture men. The Cadillac was driven by a chauffeur.

At 8:00 o'clock all was ready, and the chase began. We could not march rapidly, as we were afraid to leave the autos far behind, and they were having great difficulty with the rough road and deep arroyos near the river. At several places the truck had to be entirely unloaded, the banks of the arroyo cut down, the truck pushed up, and again loaded. Under such conditions the progress of the train was necessarily slow, so that when we halted at 12:30 P. M. at some pools of akaline water called Agua Salada, the autos had been last reported about five miles in the rear. We had come some twenty miles. Here we watered the horses, cooked a meal, and rested for several hours. At three o'clock Major Langhorne directed me to go back, find the autos, take charge of them and their personnel, and bring them in. Just as I was starting out, however, the exhaust of the truck was heard approaching, sounding like a battery of artillery. To me it was a grateful noise. The train soon came in. The truck had stuck for a long time in a deep arroyo, from

which it was finally extricated by the aid of a team of Mexican burros that came along the road. I was put in charge of the auto train for the remainder of the day, with instructions to go out ahead of the troops, and to try to stay ahead.

At 4:30 I started out, and as the road was much better, was able to stay in front of the troops, who had waited thirty minutes longer in camp before marching. At Lojan, just a house full of Mexicans, about five miles from Agua Salada—I met a Mexican boy, who said that he had a message for the commander of the American troops at Boquillas. I opened and read the message, which was a letter from Mr. Deemer. He stated that he and Payne were held captive at Del Piño, but were being well treated; that the chief of the bandits was willing to swap them for the three prisoners of their's that we held, Lieutenant Natividad Alvarez and his two companions; that the exchange would be made at the river. Noting on the envelope that I had opened and read the contents, I turned the message over to the commander of the advance guard, who had just come up.

All day we had been going up a valley, with the San Vicente range of mountains on our right. At a little before seven o'clock in the evening we made camp at Taraizas, a small group of houses close to the south end of the mountains, about thirty miles from the river. Here was good water, and plenty of it flowing out of springs.

A council of war was held. Mr. Deemer's note showed us that the bandits were only about fifteen miles ahead of us, and that they were as yet unaware that we had crossed the river. This was corroborated by the Mexican boy, Miguel, who also told us that there were about sixty of the bandits at this place Sante Fé del Piño, and gave us some valuable information as to their habits, the terrain, and the location of the house in which Mr. Deemer and Payne slept. Miguel, who was a half-breed Mexican-Italian, said that he had nothing to do with the bandits, that he was on his way to Boquillas and that when passing through Del Piño he had been given this message by the bandits, and agreed to act as guide for us in our attack on the bandits if we would promise to take him back with us to El Paso. It was highly desirable that we should

strike the bandits as soon as possible, before they could be warned; on the other hand, our horses were already weary with the long hard marching of the last few days, and it seemed doubtful whether they could make the remaining thirty-five miles to Del Piño before morning. Miguel told us that for five miles we should have to climb over a divide, but that after that point we should find a first class road.

The detachment commander then decided to take a dozen of the best shots from each troop, and to go forward with them in the autos, leaving the rest of the troops to follow with the horses as rapidly as practicable. The dismounted men in the autos were to attack Del Piño at dawn, and we hoped that the mounted troops would come up in time to help take up the pursuit, or in case of misadventure, to support the attacking party.

After cooking a meal at Taraizas, all mounted and proceeded to the top of the divide, helping the truck along. There we organized the motor expedition. The Cadillac went ahead, with Major Langhorne and six men in it, including Captain Rhea, and a couple of guides; next came the truck, of which I had charge, with twenty soldiers aboard; last came a Ford with Lieutenant Foster, two soldiers and a guide. There was a good moon, but the road did not come up to expectations. We were afraid to use the headlights, for fear that the bandits might see it from afar, and become alarmed. A set of signals was devised to help the truck make time; a pocket light was flashed back to us from the rear of the Cadillac, indicating "Good road", "Bad road," "Stop," etc. The tightly crowded truck was most uncomfortable over the rough road: I can vouch for the fact that the top of a gasoline drum is not the most voluptuous couch in the world, under such conditions.

The remainder of the troops, under Captain Kirkpatrick, were to graze for several hours in the hills—(we had no "long feed" for our horses)—and then to follow us as fast as they could.

We had set out at midnight, with about thirty miles ahead of us. By making eight or ten miles an hour, we expected to get within a very few miles of Del Piño by 3:30 A. M., when the moon would set. At the end of two hours, however, in spite

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of our best efforts, we had made but nine miles. We were at this time close by the only water on the road to Del Piño, so it looked best to abandon the motor project, wait for the mounted troops, bivouac here, and postpone our attack until the next night. Captain Rhea and I walked back down the road about a mile, to inform the troops upon their arrival of the change in our plans, and to direct them to the grassy place that had been selected for the camp. We lay down in the road. I fell asleep at once; I suppose Captain Rhea did likewise. Anyway, we were awakened at about four o'clock by the arrival of the mounted troops. They too were very tired and sleepy; everybody seemed to be intermittently grumbling and falling asleep. Arriving at the camping place, the saddles were taken off, and every man dropped in his tracks, halter shank in hand, not seeming to care whether he slept on a clump of grass or a cactus plant. During the next four hours, there were only three men awake in the entire camp: We had brought Lieutenant Colonel Natividad along with us, thinking he might be useful; he rode in the midst of "B" Troop, and had a guard assigned to look after him. On this occasion, Captain Kirkpatrick watched the prisoner himself. This was not an arduous task, however, as the Teniente Coronel was snoring louder than the rest, with never a dream of escaping.

At about eight o'clock people began to wake up, and soon we had the camp organized, and thoroughly outposted to prevent anyone from going on to Del Piño to warn the bandits. Nearby was a little well, with three Mexican shacks around it; the place was called Aguaita (Little Water) or Las Delicias (The Delights). Aguaita was well named, for the well soon ran dry.

I spent four hours down at the watering place in the afternoon, watering the horses of "B" Troop. The water had to be pulled up from the well in a bucket by hand; when it came up, the bucket would be only about one-third full, and mixed with slime and sand. After the horses were watered, the men were allowed to fill their canteens. The Mexicans living there were very curious about us and our way of doing things. The moving picture men nearly frightened them to death, by lining a row of them up in front of their cameras. They had a pretty

good idea of what it meant to be stood up in a row and have a machine aimed at them.

About noon a fire started in the high grass of our camp—the only place I saw in Mexico where there was enough grass to make a prairie fire. By hard work, and the loss of several blankets, it was finally put out. Fire-fighting in the blazing sun for an hour or two is a joyful occupation! We were worried for fear that the smoke of the fire might be seen at Del Piño, but later learned that it was not remarked.

All things considered, though, Aguaita was pleasantly remembered, as a place where we got some sleep and rest, as well as bacon, hard bread and coffee.

At 10:20 p. M., all mounted. We marched without incident to within a couple of miles of Del Piño, where we dismounted. Leaving the led horses to be brought up at the first sound of firing, we moved up to Del Piño, and advanced under cover of a low hill some 400 yards distant upon the place, where we knew the bandits slept. From this we attacked at dawn, but the birds had flown the night before. We made camp in the lair of the bandits, under two big Wisatcha trees, the only trees more than six feet in height that I saw in Mexico. Mr. Deemer and Payne had been left back in charge of the jeje of the place, who was responsible for them with his life. We liberated them, of course.

This was Sunday morning, May 14th. We had hardly been in Del Piño a half an hour, and I was just starting to drink a cup of coffee, when I saw a bunch of men getting into the autos, which had just come in. As I never liked to be left out of anything that was going on, I dropped my coffee, borrowed a rifle and two bandoleers of ammunition from the soldier nearest me, and ran over to investigate. It appeared that information had been received that some twenty of the bandits were camped only about fiftteen miles up the road, at the Mexican settlement of Rosita. So with about a dozen men in the Cadillac and the two Fords, we started after them. Four or five were sighted only a few miles from Del Piño, running out of a house into the brush. We chased them on foot for some distance, but they got away. Another, on a horse, went straight down a road. The Cadillac followed, its occupants shooting.

The last we saw of them the big car was bounding over the ditches and bushes like a steeplechaser, to the tune of a merry cannonading.

In the two Fords the rest of us went on to Rosita, but found that the bandits had been warned, and had gone. We searched the houses, and bought jerked beef, cortillas and coffee from the pacificos living there. It was here that I got my first introduction to that succulent article of the ration upon which I practically subsisted for the next few days-jerked beef. A cow is killed, the meat cut in strips and hung up in the sun to dry; in a couple of days, during which it has been constantly and completely covered with flies, it has dried out, partially spoiled, and is ready for consumption. It may then be either fried in grease or stewed; I never had an opportunity to try it fried, having no grease, but when stewed I found it delicious.

Unwilling to give up such a hot trail, we decided to go on to San Francisco, a ranch about seven miles further on. One of the Fords having broken a rear axle, it had to be abandoned at Rosita. The other took us in two installments to San Francisco, where we were again disappointed to find that we were just too late. It was now about two o'clock in the afternoon. Here we learned from the inhabitants that the bandits were gathered to the number of fifty-nine at Cerro Blanco, a big ranch eight miles beyond us.

This information we sent back to Major Langhorne, at Del Piño. We decided to remain where we were until reinforced. There were nine of us here, all told, including Captain Rhea, Lieutenant Raborg, and First Sergeant L-, of "A" Troop. We had nothing but our arms and the clothes on our backs. There was a fine masonry tank here, and very good water. We spent an hour or two cleaning our weapons and washing our faces, arms and shoulders, and feet, then went to sleep, taking turns to keep one man awake to keep an eye on the Mexicans. As we had marched all the night before, and had been hustling around busily all day, we were rather tired.

At 7:00, having gotten no word from the rear, we held a council of war. We had no assurance that the Ford had gotten back to Del Pino, nor even that Major Langhorne had returned. On the other hand, after having gotten so close to the bandits,

we did not like to turn around and go back, and were also much averse to walking so far. Captain Rhea, who was the senior, was in command of our little outfit, and I think it was his idea to employ the "Wooden Horse of Troy" stratagem. The Mexicans at San Francisco had a large covered wagon. We determined to wait until about midnight, then get into the wagon, make the Mexicans cover us up with blankets, and drive into Cerro Blanco. In this way we hoped to be able to get into the middle of the place without being discovered. If it failed we should be in an awkward position, but if it worked. we were going to shoot up the town vigorously, scare the Mexicans away, collect all the stock, and get away with the loot before the bandits could discover how few we were.

This course had just been decided upon, when the sound of a motor came to our ears; I must confess that it was welcome. The Major's Cadillac came in. He said that the truck was following him with about twenty dismounted men, and that behind it fifteen men from Troop "A" and ten men from "B" Troop were coming mounted. We were rather surprised to hear that these bandits who had been running away so fast were supposed to be terrible fighters. At Del Piño it was said that a couple of times the bandits had seen dust, which they thought might be our column; that they had thereupon rushed out eagerly to meet us, deployed to receive us, appeared vastly grieved that we did not materalize, and boasted loudly of what they would do to us when we would show up.

Soon all had come up. As we did not intend to leave for several hours, we thought it well to put a small outpost down the road toward Cerro Blanco, to ambush any reconnoitering patrols they might send out, or to stop their advance guard. should they attack. Guides H- and P-, Mr. H-, the assayer, Lieutenant Raborg, and myself, went about a mile down the road, and ensconced ourselves behind bushes near the road. Although extremely cold, and exerting every effort to stay awake, I could not help dozing off a few times. So did the others. At 2:00 in the morning we returned to camp. knowing that we must very soon start, if we were to be in position to attack Cerro Blanco at dawn. We found a big camp fire lit, and coffee being made. While we drank the coffee, the

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detachment commander explained the plan of attack on Cerro Blanco, and gave his orders.

At 2:40 A. M., we started off in automobiles, followed by the mounted detachments. We ran to within about three miles of the town, left the cars, and approached on foot, surrounding the place just at dawn. We had a splendid position, as the town lay between two hills; "A" Troop took position on one of these, "B" on the other. Each line was only about three hundred yards from the middle of the hacienda. Remaining in our position until some time after dawn, we began to suspect from the appearance of the place that the bandits had gone away. A reconnoitering patrol established this fact.

Cerro B anco had been one of the big fine ranches of the old days, with stone masonry corrals, and a large court several hundred yards across, surrounded by the different buildings—nearly all joined together—that had composed the ranch. It was now very much run down, but yet showed traces of its former sp endor. We camped there, ate ravenously of tortillas and jerked beef, cleaned up a bit, and slept the rest of the forenoon.

At noon the detachment commander gave orders for the men to go back to Del Piño in the autos, having decided to make that point an advanced base, from which to operate. It was well selected, for there was good water, a few beeves to kill, and a most providential wheat field that was just ripe. We had by this time run out of practically all our supplies, and had as yet heard nothing from the Fourteenth Cavalry. Captain Rhea asked to have all of his "A" Troop horses brought up to Cerro Blanco, so that he could go after the main body of the bandits, in the direction of Sierra Mojada. The last of our Fords had broken down here, so it was decided that as the Ford at Rosita was more damaged, and also nearer to our base, he would stop there, take out the necessary parts, and bring them back to Cerro Blanco for the car at that place. The detachment of "A" Troop was to wait at Cerro Blanco until the rest of the troop came up.

Instead of sending the detachment of "B" Troop back to Del Piño, as planned, the detachment commander decided to let me take command of it, and bring it in to Del Piño by a

different route; a party of a dozen of the bandits were reported to have separated from the main band, and to have gone in the direction of the Castillon Ranch, about fifteen miles southwest of Cerro Blanco; I was to follow this band as far as Castillon, and then come back by a roundabout road, subsisting on the country for the two or three days that the trip would require. At this time the horses had had absolutely nothing to eat since leaving Del Piño, and there was only about enough food in the detachment to do for two men one day.

The prospect of subsisting on the country for several days did not look particularly good to me. In the hills there was a little poor grass for the horses, if you could but find it; on the flats there was none at all, and most of my route lay over the prairies. As for food, the chances were against my getting any. The country was called the Guaje (gourd) Desert, and was as barren as the name indicates. One species of cactus, growing sparsely, has a rather moist root, which has been-known to keep people from dying upon occasions; not even a pretence of eating could be made of anything else that grew. As for getting food from the inhabitants, the chances were that I should see none; and even the Mexicans that one came across were almost starving, themselves. This distressing condition of the natives was, of course, principally due to the chaotic conditions during recent years; the soldiers of the different factions vied with the bandits in taking whatever they could find from the poor pacificos. The common people were not permitted to have arms, thus putting them absolutely at the mercy of even a small body of raiders. The only means of livelihood in this desert was to raise cattle, and now only the poorest of the stock remained; these poor animals were so weak that they constantly were bogging up at the water holes and dying there.

As the rest of the troops were going back to our advanced base, where there was a little food, I requested permission to collect any food that could be found among the soldiers, for the use of my detachment. This request was denied on the ground that to make a march of three days through the desert without any supplies, with men and horses already worn and hungry, "would be a valuable experience for me" and would "require

the exercise of great ingenuity" to get away with it. I at once exercised my ingenuity by giving my sergeant carte blanche to buy every bit of food that could be found among natives or soldiers—coffee, flour, jerked beef, bacon, emergency rations, etc.—paying any price. By this means we collected three emergency rations, and small quantities of coffee, bacon, and hard bread, at from five to twenty times their value. Even then, we had not enough food for one day.

I prepared to pull out at 5:30 P. M. Just before I left, the detachment commander returned from Rosita and Del Piño, with the news that "A" Troop had started out under Lieutenant Poster, but had gone back to Del Piño, on account of fatigue and lack of food. Captain Rhea then said that he would remain at Cerro Blanco, taking general charge of my detachment and that of Lieutenant Raborg, to scout about for a few days until the rest of his troop came up. Before leaving, I talked to Captain Rhea who said that we would make Cerro Blanco our headquarters, working from there on short trips. He told me to go ahead with the trip I had planned toward Castillon; that he would wait in Cerro Blanco until the following morning, when he would start out to meet me if I had not returned.

As I was in no hurry, I started off, taking the trip leisurely; I planned to go ten or twelve miles, then stop where I could find a little bit of grazing and stay there until dawn. Then I intended to move on the Castillon Ranch, so as to be in a position to make a surprise attack as soon as it was light enough to see. If the bandits were there, I would attack them, and my movements later would be governed by the situation as it developed during and after the fight. If they had left the place, I would try to cut their trail by scouting, and pursue them as far as my horses were able to go.

At about 8 o'clock in the evening, nearly an hour after sundown, I sighted the top of a windmill, about a mile down the road in front of us. This I knew to be the Santa Anita well, having consulted a map before starting out. This well was supposed to be abandoned. I did not expect to find anyone there, but as I was in no hurry, I decided to reconnoiter the place before going up to it to water. By taking advantage of the slight inequalities of the ground, and having the troopers

follow me in single file as I picked my way. I put a small hill between us and the well, without coming into view from it; this hill had its crest about two hundred yards to the west of the well, and a command of about fifty feet. At the foot of this hill, on the side away from the well, I dismounted my detachment, left two men as horse-holders, and took the remaining six men and the guide with me to the top of the hill afoot. Arriving near the summit, I halted the squad, and proceeded to the crest alone, whence I used my field glasses on the windmill. There at the well, to my surprise, I saw a dozen men watering their horses. For several minutes I examined them with great care through my glasses, for fear of shooting up a group of harmless pacificos, or a detachment of Carranzista soldiers. I ascertained that the men were carrying rifles, and were wearing bandoliers of ammunition over their shoulders; they also wore white shirts and felt hats—the former circumstance indicated that they were not regular soldiers, and the latter that they were bandits, for the pacifico always wears a big straw sombrero. Then too, their number-about a dozen-corroborated the indications that they were the band which had been reported at Castillon. At the same time I made an estimate of the situation, and decided on my plan of attack. The fact that these men had left Castillon, and that they were at the time watering their horses, and that the mules, which they had, drawing a wagon I could discern, were still hitched up, led me to believe that they were on the move, and would not stay there until morning. Between me and the well were a group of adobe houses and corrals: they would have cut off my field of fire after I had descended the hill about twenty feet, but on the other hand, did not sufficiently cut off the view in my direction to permit me to sneak up closer to the bandits under their cover. On no other side was there as good an opportunity of approach to attack as the one I had. So all things considered, I decided that as the light was failing rapidly, my best plan was to attack at once, a decision I reached about three minutes after reaching the top of the hill. I was afraid to go over the crest before opening fire, or to try to get around the side, for against the sunset sky my movements would have been sure to attract the attention of the bandits. So I formed my men in a firing line on

the crest itself, taking the disadvantages of having our silhouettes on the skyline in exchange for the advantage of surprising them completely.

I cautioned them to take good aim, and not to fire before I did so. At the first volley the bandits broke and ran, scattering in all directions away from us. Seeing them break, I signalled my led horses to follow, and ran down the hill in pursuit. One Mexican, who had been hit in the first volley jumped into a bush on our flank as we ran down the hill-a most unwise policy, for everyone, expecting him to fire out at us as we went by, sent a shot into the bush as we went by for good luck. As a result he was hit six times. At the foot of the hill we came up to an old man, who was holding up his left hand, in token of surrender; as we approached, seeing that he appeared harmless I ran up to him, and called to my men not to fire on him. He had had his right forearm shattered by a bullet, but was not otherwise injured, and was crying out that he was a pacifico. As he was not armed, I believed him. All this time my men were shooting at the fleeing bandits as we ran down the hill, and while they were running off in the bushes. There was a big arroyo, with high thick bushes, about two hundred yards from the well, running in a northerly direction. Down this they all ran. As they were making for this I saw personally two of them fall. One fell about fifty yards from the brush; two of his comrades who were slightly behind him, swerved in his direction, and helped him along into the brush. Another fell right at the edge of the brush, but got up again and kept on. My men reported others hit; I should say that besides the two prisoners we took, probably three or four more of the Mexicans were wounded.

Collecting my men at the mill, I mounted our horses, which had by this time come up. Forming a line of skirmishers with twenty yards intervals, we galloped down the arroyo after the bandits for a couple of miles, looking for them in the brush. The two horse-holders I left back at the well, to take charge of the camp and prisoners. We hoped to find and capture some of those who had run away, but could not find any of them on account of thick underbrush, the growing darkness, and the fact that the bandits did not have the nerve to fire at us from the

bushes, although we must have passed very close to all of them. and presented a splendid target. After going a couple of miles, it was then completely dark, so I gave up the chase, assembled my men and returned to the well. There I found that my two horse-holders had gotten things pretty well in order, had collected the animals, searched the houses, etc. We had captured two men, seventeen horses and mules, a wagon full of supplies, nine rifles, two swords, together with a good many saddles, bridles, packs, etc. Most of the rifles were found on the ground near the well, but a couple were picked up a couple of hundred yards away, at the edge of the brush, showing that the bandits had started to take them with them, but had decided that they were too heavy. So those that escaped had nothing left but their pistols, and the clothes on their backs.

One of my horseholders, being somewhat busy about the camp, had stuck the old man in the well, for safe keeping-a safe enough provision, but entirely spoiling that water, as he was bleeding like a stuck pig, which prevented me from staying there until morning, as we had very little water left in our canteens.

I interviewed the old man, who said that he had been picked up by the bandits a couple of days before, and forced to accompany them, to drive their wagon. He stated that there were twelve of them, that they had been at Castillon for a couple of days, but had left there a few hours previous, because they had heard that a force of Carranza troops was pursuing them from the opposite direction.

I should have liked to stay there for the night, and try to trail some of the bandits down in the morning, but decided that it was impossible to do so. We were short on water; there was nothing for the horses to eat there; I was anxious to get my loot into our camp; I was not anxious to run into the Carranza troops, as complications might ensue.

So after collecting the loot, I put the two wounded men on the wagon, herded the animals behind it, and started back to Cerro Blanco.

About three miles from Santa Anita I found some fair grazing on a hill. So I stopped there, and grazed for three hours. During this time we looked through the contents of the wagon and pack saddles, and found a good quantity of flour, tortillas sugar, salt, etc. We also found a number of new Stetson hats, several pairs of new shoes, and quantities of original packages of underclothing, socks, etc., things that had been taken from the store at the mine and Boquillas. Also at least a dozen new Ingersoll watches, in boxes. I let the men have the hats, shoes watches, etc., as many of their own were getting sadly worn out.

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Rejoicing at the discovery of the provisions, I had a bonfire built, and cooked up a fine meal of coffee, bacon, tortillas, with emergency rations for dessert, to celebrate the victory.

At 1:00 A.M. I started on to Cerro Blanco, reaching it at 3:00 A. M. Progress was slow, as the road was bad, and the wagon, as well as the Mexican horses we were herding, were hard to push along fast.

Upon reaching Cerro Blanco, I left the animals down at the corrals to water, and proceeded up to the ranch house to report to Captain Rhea. Hearing me come up, the Mexican jefe of the ranch came out to meet me, and gave me the startling news that Captain Rhea and the "A" troop detachment had gone back to Del Piño shortly after sundown, and had left word that I was to follow. He was much excited, and all I could get out of him was: "The Captain and all the Americans went back to Del Piño in a hurry ("andando,!" "andando!"). They left after sunset. He said for you to come on back there." I was much perplexed and worried, as after his parting instructions, I could not surmise why he had changed his plans, as he is the sort of man who can be counted on. Perhaps Major Langhorne had received orders for his command to go back to the river, and had sent for Captain Rhea to come at once; or maybe he had gotten information about the bandits or the Carranzistas which made it seem inadvisable to stay there any longer with his small detachment. In any event, I did not like the looks of things, and determined to march straight through to Del Piño with my captures, without stopping at Cerro Blanco as planned. As my horses were much fatigued, I changed to the Mexican horses which we had captured, as most of them having been recently stolen from ranches were in fair condition. So I mounted all my men, including myself, on the captured horses, and let mine come on free. My men, too, were very

tired, having had only about three or four hours sleep during the last two nights and days. However, when I told them the situation, it revived them enough to keep them awake for a half an hour or more.

Toward dawn it became frightfully cold. We had climbed a couple of thousand feet since leaving the river. As we had nothing to put over us, most of the men, including myself, took Mexican blankets from the pack saddles, to put around us. It was a big risk as there was a good chance of their being full of vermin, but I was too cold to care much. I never discovered any later, however. A queer looking column we were, and might well be taken for a bandit crew. All of my men were wearing the Mexican blankets; one who had lost his hat was wearing a big straw sombrero; we had the wagon drawn by Mexican mules with us, and a large number of horses.

At dawn I was riding about a quarter of a mile ahead of the column with the guide, acting as an advance guard, when one of my men came tearing madly up. As he approached he shouted that a big volume of dust was coming up fast behind us. My heart sank as I was not in any shape to fight, with my men nearly dead with fatigue, and all the plunder to hamper us. I saw visions of being attacked by a big bunch of bandits or Carranza troops, and the spoiling of my success, and the losing of my loot, just as I was about to get in to camp with it. "Tell them to leave the stuff on the road, get into the brush and ambush them as they come up to the loot," I said, at the same time turning to go to the rear. The messenger, out of control—as he afterwards assured me-shot past me and down the road. As he went by he replied, "They can't. They're right on top of us." Swearing at the turn things had taken, I galloped back down the road to my outfit. The guide, referring to our troops who had deserted us, turned, and galloped after me, but could not help from exclaiming: "Jesus Christ! Why'd they done us this way?"!!

As I galloped up I found my outfit deployed prone in the brush, and some fifteen men advancing in open order against them about fifty yards away. In another second the two lines would have opened fire on each other, had not one of my men discerned that the other fellows looked like American soldiers: he could see that their horses in rear were all black, and of uniform size, and that the men were uniformed. He called to them, whereupon all was well. It turned out to be Lieutenant Raborg's detachment of "A" troop. It developed that after my departure the previous evening, Captain Rhea had gotten information concerning the main body of the bandits, which had made him want to pursue them but also made him want to get all his troop to do it. So he had gone back with Major Langhorne leaving instructions to Lieutenant Raborg to bring in his detachment, grazing for a while on the road. Lieutenant Raborg stayed there close to Cerro Blanco for several hours, during which time I had passed him without knowing it. He had then followed on and of course being unhampered, had overtaken me.

It was a close shave, for each of us had every reason to think that the other outfit consited of bandits. Raborg, because he imagined that I was still out toward Castillon, and also because my outfit looked exactly like a bandit crew; I, because I had been told that all the American troops had gone on in to Del Piño the evening before, so I knew of no one but the bandits who could be in my rear. The growing light was just enough to prevent a catastrophe; had he overtaken me ten minutes earlier, we might have shot each other up badly. Raborg's outfit went on by; I followed as fast as I could travel.

Stopping twice for water, and to cook breakfast, I marched on into Del Piño without further incident, arriving about 2:30. The last two hours were very hard on the men; they were so sleepy that in the hot sun some of them literally fell off their horses while marching along. While I myself did not actually fall off it was a continuous process of nod, then fall forward on the pommel, wake with a start, nod again, fall back on the cantle, wake again, and so on. Warned by Raborg everyone at Del Piño was out to receive us, and watch the strange cavalcade march in.

Supplies of all sorts were very low at Del Piño. For rations we were practically reduced to jerked beef; the field of wheat still helped out for the horses, and there were two or three sacks of oats left, which were given to Captain Rhea, for the trip he was to make; the gasoline was down to about twenty gallons.

During the night Colonel Sibley came in with a troop of the 14th cavalry, with two wagons, and supplies of all sorts. It seemed like Christmas. Upon Major Langhorne's report to him, he decided that our mission was about accomplished, as we had rescued Deemer and Payne, dispersed the bandits, and captured and wounded several. He therefore gave orders for the withdrawal of the expedition, in accordance with the Department Commander's instructions. The detachment commander took Colonel Sibley and a couple of his officers up to Cerro Blanco in his car. They found that Captain Rhea had taken his troop up toward Sierra Mojada. Orders were sent out to him to withdraw at once to Del Piño. H---, the assayer, and a corporal carried this message, and counting their return trip with the troop, rode one hundred and ten miles in twenty hours. "A" troop as a whole, marched the one hundred and ten miles in about thirty hours.

The following morning, May 18, a truck came in with more supplies, including a bag of mail. Life was now much pleasanter as we had exough to eat, a little rest, and were beginning to hear from the outside world.

About noon I went with Major Langhorne and a couple of soldiers back to Cerro Blanco in his car. There we found "A" Troop just returned, after an extremely long hard march. They had picked up a Mexican, crazy with thirst, who came up to them begging a drink of water; he turned out to be one of the bandits whom my detachment had driven from the Santa Anita well, and who had been in the hills without water for two days. I understand that he was hanged upon our return to the States. One more rifle had also been found in the bushes near the Santa Anita well.

Upon returning to Del Piño I took a bath in a bucket—the first real cleaning up I had had since crossing the river. I tried to shave too, borrowing a razor from a sergeant, but it was so dull that I gave up the job upon getting to my chin, leave ing a Van Dyke effect.

As there was not sufficient water at Aguaita for all of our troops to camp there at one time, the 14th cavalry pulled out this night, saying that they would wait for us at Taraixas.

On the morning of the 19th, "B" troop left Del Piño, reaching Aguaita at noon. Late in the afternoon H—, the guide, reported a large cloud of dust approaching from the southeast. Climbing to the top of a knoll, I examined it with my glasses. The dust resembled much that which would have been produced by about a hundred cavalry, marching rapidly, with as mall advance guard. It stopped advancing, and died away, several miles away from us. However, as a safeguard, we outposted our camp strongly.

The detachment commander came in at 11:00 p. M., in his car, with the information that his party had been fired upon on leaving Del Piño, but that they had not been able to get any of the snipers.

At 2:00 A. M., "A" troop arrived, making camp with us. At 4:00 A. M., a messenger arrived from Colonel Sibley. He brought a copy of a telegram from Department Headquarters, stating that 1,500 Yaqui Indians were reported marching to cut off our retreat, boasting loudly of what they were going to do to the Gringos; we were ordered to join the 14th at Taraixas as rapidly as possible, abandoning the truck, or anything else that would retard our progress. No Yaquis were supposed to be in this region, and besides, we did not believe a force much larger than our own could subsist in this locality, on account of the shortage of water; however, the dust episode made us cautious, and scouting patrols reported that our camp had been thoroughly reconnoitered during the night.

So when we started off in the morning, a strong advance guard was detailed, of which I was given charge. The advanced guard flushed a few pickets, who fled mounted, but no active resistance was encountered. One of my flankers, in thick brush, fell into a hole; as he could not extricate himself from under his horse, he started a fast cannonade with his pistol, to attract attention; a squad was told off to investigate, and returned much disgusted. At 11:30 A. M. we joined the 14th at Taraixas.

The whole command marched at 3:00 P. M., reaching Los Alamos at 8:00 P. M., without incident. There we met enormous quantities of mail; I got so much that I had to improvise a pack saddle of grain bags, to carry it. One officer, with no transportation but a stripped saddle, got a crate of oranges.

On the morning of the 21st, we broke camp at 5:20, and recrossed the Rio Grande at eight o'clock, delaying there about an hour to accommodate the movie men. After resting on the American side of the ford until 12:10 p. m., we marched on Boquillas, reaching that place at 3:20 p. m. Now followed several days of washing and gorging.

A fine supply train had been organized to Boquillas, and we had all that was necessary. A whole company of Packard trucks came down on the 23d.

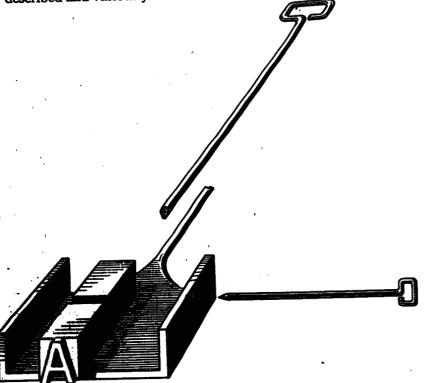
On the 23d there was great rejoicing in the 8th Cavalry troops, for we got orders to return to Fort Bliss. We marched the following morning, and got into Marathon on the morning of the 27th in good shape. Entraining there we set out for Fort Bliss, which we reached the next morning. We had been away for three weeks; we had done some very hard marching, but had not lost either man or horse during the trip.



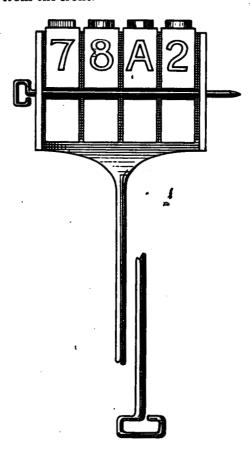


IDENTIFICATION OF PUBLIC ANIMALS.

THERE is presented herewith a rough perspective and slapdown projection of a branding iron for use in the application of an alphabetical and numerical system previously described and variously discussed in the JOURNAL.



It is designed to prevent misplacement of the characters by inversion or upsetting, and to enable reading of the brand before its application, from punch marks on top of the bars, rather than from the characters as they appear in reverse, when read from the front.



The bulk of metal in the bars themselves is designed for retention of the intense heat with which the brand is proposed to be applied. The greatest practical difficulty encountered in the branding of stock with old fashioned irons is in getting the animals near enough to the fire so the iron will not cool on its way to use.

The characters are one inch high and their web is exceedingly fine. The bars are of an alloy which will carry a high heat, well known in the founders' trade. The duration of the application will be but a fraction of a second.

The kit entire, with removable handle, can be carried in a small satchel, to be a part of the personal equipment of all

veterinary officers.

GUY H. PRESTON, Major, Second Cavalry.

CAVALRY EQUIPMENT IN MEXICO.

BY COLONEL ELLWOOD W. EVANS, TENTH CAVALRY.

CERTAIN needs stand out prominently as a result of the campaign in Mexico.

Undoubtedly the first is that individual cooking is an absolute failure. There is a waste of time, a waste of the ration, and poorly cooked food with consequent digestive troubles. I started, in this campaign, with four troops of my regiment, and what we had, we carried on our horses. We had neither wagons nor pack-mules. For twenty-eight days we drew neither forage nor rations.

I bought corn and grazed. I was able to get all the fresh beef and usually pork that we could eat, and also bought the Mexican bean. Attempts to boil beans in a tin-cup were disastrous; and the meat, issued raw to the men, was never properly or palatably cooked. We had no salt, no sugar, and no coffee.

That I came to the end of this phase of the campaign with my men in excellent physical condition, is due to their physique combined with their natural cheerful disposition, and not to any provision made by the Government for them.

This leads to what I consider the first lesson learned: We need as an integral part of each cavalry troop, five packmules with necessary equipment; these, to carry rations, cooking-outfit, and a picket-line. Grain, also, if there is any room left. These mules should be kept and cared for by the troop and under no circumstances should be subject to the orders of the quartermaster.

I would personally recommend a return to the old Buzza-cott oven, as being more easily carried on a pack-mule. Instead of one of larger size, four smaller ones would be better, for the reason that detachments from the troop could have means of preparing the ration.

Having a picket-line on a pack-mule will enable us to dispense with the lariat, except possibly ten to a troop, to be used in emergency for lashing loads, etc. The present picket-pin is a useless weight.

There should be carried with each troop, at least two sets of intrenching tools—pick and shovel, to be used in digging small wells near pools in order that drinking water can be obtained. More than once on this expedition, I have felt the need of these tools. Also, there should be carried a few hand-axes or hatchets. One of my troops had fortunately been supplied with these tools by its captain, and they were the only means we had of cutting fire-wood.

This may seem to be adding considerable weight to the equipment. To compensate for this, throw away the saber. The present so-called saber is an abomination, and all of those pertaining to my command have been for some time bundled up and stored at Columbus or at one of the sub-bases along our line of communications. The saber is heavy and unwieldy, and the American soldier will hit and not punch, no matter how much he may be trained. You may carry the saber through a hundred engagements, only to use it once. Is it the part of wisdom to carry this weight for but one using when we have two other weapons? Shock action is as effective without the saber as with it.

But I will not go farther into the saber-pistol discussion. I simply wish to emphasize my idea of making room on the horse for the weight of tools and other things, which I consider more necessary than the saber.

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The present issue of legging has fully demonstrated its ability to render unserviceable more shoes, than the rocks we had to climb over. All the men's shoes broke first, at just above the heels. By all means return to the canvas legging with the spat and strap, or give our men a laced boot.

The following telegram sent by the commanding officer of this regiment to the Field Equipment Board about June 1, last, reflects the views of the officers of my regiment:

"Of two majors, eleven captains, sixteen lieutenants, present, twenty-seven prefer the McClellan saddle; twenty-eight prefer a separate halter and bridle; thirteen prefer the rifle as carried now; six would have it swung on man's back.

"Eighteen prefer the present stirrup; eight prefer a leathercovered open stirrup. Twenty-two prefer a laced boot. Eighteen would retain the saber, and eleven would discard it. Twelve desire a cutting weapon and six a thrusting weapon.

"Nearly all desire retention of a limited number of lariats and pins, but also desire a picket-line to be carried on a packmule. Fifteen desire an intrenching tool; ten do not. All desire pack-mules, the vote ranging from three to five mules per troop.

"Depending on the number of mules, the picket-line, cooking utensils, rations, and forage, to be carried on mules. Majority are in favor of a short coat lined with wool."

EXPERIENCES IN MEXICO.

BY CAPTAIN EBEN SWIFT, JR., ELEVENTH CAVALRY.

SERVICE in Mexico has afforded an excellent opportunity to test articles of clothing and equipment, which should be of great value to the cavalry and the entire military service. The following observations are the result of experience in the field in Mexico.

- 1. The weight carried on the horse should be reduced. This can be done by, (a) reducing the number and weight of articles carried on the horse; (b) by furnishing each troop with two (2) or three (3) pack horses on which to carry parts of equipment.
- 2. The shelter tent should be made a combination shelter tent and poncho. The slicker is very heavy and in the tropics in the dry season is seldom needed. On this expedition the troops that went farthest south discarded shelter tents and sabers, and later either threw away, lost or packed their slickers.
- 3. Each troop should have a light cooking outfit carried on a pack horse

In the early part of this expedition the troops had only pack transportation and often not even that. It was found that individual cooking is unsatisfactory and very wasteful of time and rations. The following light pack cooking outfit was found very satisfactory, designed by First Lieutenant A. M. Graham, Eleventh Cavalry.

Two pack panniers to be made by lacing green rawhide loosely over coal-oil boxes and allowing it to shrink. Two rawhide loops on one side of panniers to hang same on "sawbuck" packsaddle. An open link or hook rivited to lower corner or edge of pannier to keep lash rope from slipping over corner of box.

Eight buckets made of 1-32-inch Norway iron with upper edge rolled over 3-16-inch stiff wire to stiffen edge. An eyelet brazed to opposite sides near top to receive handle. All buckets and pans to be crimped and brazed at joints. Outer two buckets to the 131/4-inch by 91/2-inch over all. Other buckets made to "nest" three in each outer bucket, but tops to be 1/2-inch lower than top of outer bucket to permit top to be kept on outer bucket and so keep all clean.

Two bakepans made of same material as buckets and reinforced longitudinally with iron straps 34-inch by 14-inch extending across bottoms and up sides of pans. These strips to reinforce pans and take strain of rope when pack is lashed to animal. Ordinary pan handle on each end of pan. Pans to have no "flare" to side and to fit over side of pannier. Pans

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to be 21½-inch by 14½-inch by 5-inch deep inside measurements. One pan fits over outside of each pannier.

Handles for buckets to made of 5-16 iron with hook for hanging on fire iron. Handles to be flattened so as to fit in between buckets when packed.

Buckets packed in near side pannier. Cooking tools, utensils, etc., packed inside buckets. Canvas buckets, fire irons, picket pins, etc., packed in off side pannier. Picket line packed as top load between panniers.

"Sawbuck" saddle used for packing. Narrow strip of canvas doubled covers entire pack to keep same rainproof. Rawhide panniers and inside boxes to be shellacked inside and outside to protect from moisture and rain. Picket pins to be made of 34-inch drill steel with head battered for driving into ground, and point tempered from a light strawcolor, same as for drilling. Picket line to be 34-inch silk, hard twist, Manila hemp rope. Load lashed on with lash rope and "diamond hitch."

- 4. The sweater should be replaced by a short canvas coat, similar to the one issued to troops in Alaska, or to the one worn by many officers. The canvas coat is much warmer, more durable, and nearly waterproof.
- 5. The light-top shoe or hunting boot has been found to be the most satisfactory foot-wear. The present shoe is too light for field service, it should be hob-nailed and double soled. The Hungarian hob-nails are the best.
- 6. The cotton breeches are best down here, as they do not absorb and hold dust and dirt as the woolen ones do, nor are they easily torn by mesquite and brush.

Breeches should have back pockets.

- 7. A great number of halter tie ropes are broken. A light chain might be better.
- 8. The troop saddler should have a shoe repairing kit and be instructed in how to half-sole and make minor repairs to shoes.
- 9. The pistol must be kept perfectly clean and free from dust or it will jam.

- 10. The holster attachment which causes the pistol to hang so low should be done away with.
- 11. The saber, if retained, should be much lighter. Something on the order of the *machete* would be better. Most of the cavalry in Mexico have packed up their sabers.
- 12. Owing to the dryness of the atmosphere there has been comparatively little trouble from sore backs. It has been noticed that practically all sore withers are on the right side, probably due to carrying rifle on left side and mounting and dismounting on left side.

In such cases it has been found that if the rifle is carried on right hand side and mounting and dismounting is done on right side, withers can be cured up.

13. Fasteners on field belts and magazine pockets sometimes catch so that it is impossible to open them without tearing out the fasteners.

REMOUNTS IN SOUTHERN DEPARTMENT.

BY CAPTAIN F. L. CASE, THIRD CAVALRY.

EVER since the Great War began, there have been many contradictory reports and statements as to the effect of European purchases on our horse and mule market. Figures have been shown that there are plenty of animals in the United States for all demands. Other figures have been shown that the drain would leave the Government in a serious position as regards supply for its own needs.

It is claimed by contractors that there have been shipped 100,000 horses and mules abroad from the State of Texas alone.

We are now in a position where the test is being applied.

When the Punitive Expedition went into Mexico in March, the Department Quartermaster, Southern Department, Colonel H. L. Rogers, realized that there would be a large demand for

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live transportation. This would arise from inevitable losses in Mexico, from demands for remounts on the part of the severely worked transportation on the border, and from the requirements of the regiments being raised to war strength.

That all these demands would be large was shown by the first call from General Pershing to replace losses incurred in three or four weeks. This was for 804 horses and 146 mules. Of the animals pertaining to two regiments, about 70 were reported as having dropped out on the first two days.

While it was foreseen that it would require eight motor truck companies to supply a line 170 miles long, it was also realized that the animate and inanimate transportation supplement each other. The horse and the mule cannot be replaced by gasoline, though the latter can relieve the former of much of their burden.

In order to distribute the stock to the troops in the western territory, an auxilliary Remount Depot was established at El Paso. Vacant stables and corrals were used at Fort Sam Houston as a quarantine and distributing depot for the troops east of Del Rio.

In addition to horses from the Remount Depots at Keogh, Reno, and Front Royal, and the horses and mules purchased by the Quartermasters regularly assigned to that duty, a board headed by Capt. H. S. Hawkins was appointed to buy in the open market.

All of these means were found insufficient to meet the pressing demands of troops at the moment of call. By April 25th the El Paso Depot had issued 790 cavalry horses, 44 artillery horses, 265 pack mules and 459 draft mules. On the same date there had passed into the Fort Sam Houston corrals 234 cavalry and 44 artillery horses 224 draft and 121 pack mules.

When the regiments were raised to war strength, and the militia ordered out, it was calculated that 2,600 animals would be required for the troops, supplied from Fort Sam Houston and upwards of 4,000 for those in the El Paso district. We were caught without the reserved animals which many had foreseen for some years would be needed. Good, serviceable, well broken animals were needed, and needed at once. Two questions at

once arose with reference to this supply. Were the animals to be had? How could they best be issued?

The problem was much complicated by the existence of a very severe infection, especially virulent in the Mississippi Valley. While "shipping fevers," distemper and strangles are old enemies of the remount, the best posted veterinarians appear to hold that the so-called "septic-influenza" or "septic-pneumonia" is a variety of disease of rather recent origin. Whether this be correct or not, it is exceedingly persistent and very infectious. European governments have lost very seriously from it, in some extreme cases ninety per cent. in a shipload. In the early stages of their purchasing fifteen per cent. loss was experienced by the British, according to the figures of Dr. G. W. Mackie.

The figures at Fort Sam Houston show about one-half the stock sick at one time, but out of 623 animals handled during the first two months, the losses were 14, or about 2½ per cent. only. Many of the cases were severe, but of those afflicted with the worst type "septic-influenza," very few recovered.

In consideration of the existing conditions, it was realized, first, that if remounts from the stock yards, known to be thus infected, were shipped direct to the stations of troops, a virulent type of disease would certainly spread throughout the service; second, that subsidiary depots must be established wherein the animals could be held until there could be certainty of their freedom from infection. As some animals appeared to develop the disease after ten days or two weeks detention, it was deemed necessary both to lengthen the quarantine period and to have ample room to segregate the different classes of animals.

The El Paso Auxiliary Depot was ultimately located at the old Target Range, with room for handling 4,000 to 5,000 animals.

At Fort Sam Houston the stables and corrals used were too crowded, and too near the post transportation as well. The Leon Springs Reservation would have been an ideal location in many ways, but was inconvenient to reach, having no spur tracks in the Reservation, and had no corrals, stables or sheds of any kind for the initial use of the Depot. As usual, what was needed was required at once.

In this emergency, three well built pack train stables at the Aviation Field (old target range) were utilized. Three other temporary stables were constructed, eight corrals were fenced in for receiving purposes, and six larger pastures were fenced off for detention purposes.

The lower portion of the Aviation Field runs to the Salado, which has clear, running water at all seasons. This portion of the field is covered with thick mesquite. Here the underbrush and cactus are being cleared and excellent pastures will be obtained for convalescent animals.

Before the work could be completed the horses and mules began to pour in. On June 11th there were 2,384 animals at the Fort Sam Houston Depot and 1,458 at El Paso, though considerable issues had begun to be made. One thousand six hundred of the number were at the Aviation Field, of which about 360 were sick. Of the 700 at Fort Sam Houston, about 200 were sick.

Two methods appear to have been used in combating the serious diseases encountered. One the "nature" method, where the animal is given plenty of pasture room and running water, being left largely to his own devices; the other, the use of serum. It has been the aim in the Southern Department to combine these methods. All purchasing officers under the Department Quartermaster have been ordered to inoculate with Influenza Antitoxin; also all animals received from other purchasing officers that have not been treated are inoculated. In addition every effort has been made to furnish fresh air corrals of large size for the stock. This has been to some extent an impossibility, but is now being measurably approached.

A careful study of the value of inoculation is being made. So far the results very largely favor inoculation under the conditions obtaining. In a report of June 9th from El Paso, it was stated that out of forty-one deaths thirty were from among the horses not treated previous to shipment. At Fort Sam Houston, at one date when twelve hundred animals had been received, there had been ten deaths. Six of these were from a shipment of three hundred and nine uninoculated mules from St. Louis. Up to the time of writing, seventeen thousand doses of serum had been used in the Department. The cost of this

medicine would have fitted up an excellent remount station at Leon Springs, where animals could have been held and acclimated without being subjected to the dangers of the shipping disease.

The M. K. & T. Ry. has shown its enterprise at San Antonio by building a switch and excellent loading platform at Aviation, about one-half mile from the depot site. Animals can be unloaded here and easily herded to the corrals, instead of making five to seven miles from the city sidings.

When completed the Fort Sam Houston Auxiliary Depot will readily accommodate 1,500 to 2,000 animals. One thousand will have ample room to run in the larger corrals or pastures.

Were there a sufficient reserve for all calls held at the permanent remount depots, auxiliary stations would not be so insistently needed. Even in shipments from these depots there ensues more or less sickness, however. But when it is realized that our small reserve has been wiped out, and that very malignant types of disease threaten all the mounts and mule transportation of the army unless stringent precautions are taken, the value of subsidiary stations can be seen at once.

With respect to the number and quality of horses obtainable, it is possibly too early as yet to determine.

A contract given for militia animals for 614 cavalry and 605 artillery horses has been filled in thirty days. The specifications allowed a reduction to fourteen two in cavalry and fifteen one in artillery horses. The officers who purchased in the open market reported that they could find plenty of fourteen two and fourteen three horses, but not many larger ones. However, a surprising number of the mounts furnished on this militia contract were larger animals, so far as the cavalry was concerned. The explanation of this fact was that sub-buyers would not take chances on the smaller horses, as same could not be disposed of to the British or French in case of rejection by the United States. A great many of these aminals were also of the same grade as those sent at the same time to the regular service.

The contracts for the regular cavalry and artillery called for 6,200 animals to be delivered in four months. About 1,000 of these have been delivered to the Southern Department to

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date. How completely and satisfactorily the contracts can be filled is still uncertain.

As to mules, there does not appear to be much difficulty in supplying the demand, either as to quantity or quality.

The case in a nutshell appears to be that horses can be obtained, as all horses appear to be for sale, but the mounts will not be up to the old cavalry standard: Secondly, if the country continues to be combed there will be a great dearth of animals to meet our future demands.

THE NEW AUTOMATIC PISTOL IN MOUNTED ACTION.

BY CAPTAIN H. J. MCKENNEY, 12TH CAVALRY.

RELATIVE to the merits and demerits of the new Colt's Automatic, Cal. .45, in mounted action, the question of its practicability and danger was brought up, during a recent conversation with Major Robert L. Howze, Eleventh Cavalry, at General Pershing's Headquarters, in Mexico.

The advocates of the new pistol and its use in mounted action will receive these statements with satisfaction and complacency, while those who have decried its practicability and have denounced it as being more dangerous to the trooper who uses it, and his comrades, than to his enemy should receive them with an open mind and endeavor to orient their ideas. We have the pistol and we may have to use it mounted.

That it can be used, mounted, has been proven. Because, it was used recently, in one short, sharp, decisive mounted action, "somewhere in Mexico." Two troops of Major Howze's "Picked Squadron" passed through a gate into an adobe corral; took a hurdle from two and a half to three feet high, in passing; deployed; drew pistol and charged; with the enemy firing from time they entered the gate.

The ability to do this was the result of training. During this training, in the filed and in action, the following items were noted:

- 1. The new Colt's Automatic, Cal. .45, must be kept constantly clean and oiled—cleaned daily, no matter how adverse the circumstances may be.
- 2. The horse must be so trained that he becomes accustomed to the sight and sound of it.
- 3. The trooper must know his pistol and, through training, must be able to handle it, almost unconscious y, when mounted, at a run; his actions being automatically sure in the manipulation of all parts of its firing and reloading mechanism.

The two greatest difficulties in its use, mounted, seem to be the changing of magazines and reloading the chamber, when galloping or at a run. These can be overcome only by training and practice.

There will be no argument, probably, as to whether or not the pistol shoots straight, dismounted. That it can be used mounted we have seen. It has been issued to us for both mount and dismounted use; and, there may come a moment in the service of every troop when its use, mounted, may become history of permanent fame and the failure to use it, mounted, may become history of another sort.

General Subjects # 9

SHIPPING FEVER FROM THE ARMY STANDPOINT.*

By Doctor W. G. TURNER, VETERINARIAN, Q. M. CORPS.

THE first mention, I find of shipping fever in army horses is that of Rusius, who says: "Great losses occurred among the war horses of Rome in the year 1301."

That shipping fever includes every disease of the respiratory tract—strangles to purpura haemorrhagicia—is a statement upon which I fear no argument. That it is, and always has been the bane of the horse and mule buyers existence, will not be denied. It undoubtedly has been the direct means of causing more dealers to discontinue the business, than all other causes combined; and, an additional goodly number count their profits in "dead ones" and accept a meagre living for their efforts.

That the buyer does not suffer equally with the seller is only because there are more of him, he does have to stand his proportional loss. In normal times our army is the largest individual buyer of horses and mules in the country, requiring in the past, something like three or four thousand remounts of all classes per year; hence our proportion of the risk of loss, of the grand total, is the largest; we have been superseded on this point, however, during the past two years.

By virtue of the Army being the largest consumer, the Army Veterinarian, has no doubt, more "shipping fever" in the form of influenza, epizootic cellulitis, pink eye, catarrhal fever, typhoid, pneumonia, pleuro-pneumonia, strangles, etc., etc., to contend with than the average practitioner.

In making this statement and assuming that you gentlemen will concede the point it should naturally follow that some of us should step forward with at least a few helpful suggestions, but even after more than twenty years service, a large portion of which was spent on the shipping end, with little more than a year on the receiving end (Chiekamauga Park), I am afraid that, personally, I have little, if anything, to offer as a practical remedy that is new.

By remedy, preventive remedy of course is what is meant. The only suggestion I would beg leave to make, to the treatment of shipping fever (all of them) is to urge a maximum of sanitation, hygiene and nursing, with a maximum of medication.

I have long held the opinion that the real exciting cause of shipping fever is the actual shipping, the railroad ride; of course, there are other contributing influences, many of them. Let us say, for instance, that a carload or more of horses, usually young ones, are assembled at a country point. They are loaded in the evening. You know all "stock trains" come to all points in the evening; that means the horses must be loaded between 5:00 and 7:00 o'clock for the fast (?) freight which is due at 7:21, but "unavoidably detained" until about midnight. In the meantime the twenty to twenty-five horses loaded in what is called a common stock car (of the open work variety) arranged snugly that they may ride better and with less liability to injury, gradually become nervous, restive, and irritable from the close confinement, the strange surroundings and the excitement of passing trains (going the other way); and by the time the freight train does arrive and the crew switches the stock onto the train (gently of course), the horses are in a profuse and frequently a dripping sweat. In this condition they are hustled along across the country at a thirty to fifty mile per hour rate, into and through the variable currents of wind, a probable rain, sleet or snow, thrown in for good measure with the inevitable result that they are immediately chilled to the proverbial marrow.

^{*}This paper was prepared by its author for reading before the American Veterinary Medical Association, at Detroit, Michigan.

This is shock number one, and succeeding shocks are limited only by the distance traversed. Stops at divisional terminals are it seems, necessarily long ones, the car or cars are frequently stopped, with a long warehouse or other such building on the one side and a row of freight cars on the other, when the Turkish bath process again becomes active; and when ready for the "drying room" they are, instead, whirled out through the country and once more exposed to the cooling influences of the omnipresent breezes. This process continues throughout the journey with the result that thus enervated and more or less exhausted from the over-taxing of the heart to accomodate the extreme and sudden changes, the animal seems to become a veritable incubator for the multitudes of bacteria, which we know are constantly on the lookout for just such susceptible prey as these animals have become, and upon or soon after arrival at their destination, from ten to ninety per cent. of the number develop some phase of shipping fever, which may prove to be strangles, pleuro pneumonia, or any one or more of the formidable list of respiratory diseases.

Then we have the horses or mules procured at the big commercial horse centers; these animals, probably purchased by the country buyer, are shipped to one of the numerous smaller markets, are then purchased by the fellow from the larger centers and re-shipped to his commission man. The next purchaser gets his horse or mule with at least two shipments to his credit or (discredit) plus the further possibility, yes probability, of having come in contact with animals in which "shipping fever" had already developed.

Through the insistence of the Quartermaster General of the Army and in one or more instances with the cooperation of the state veterinarian, strenuous methods were adapted in a thorough cleaning up of the entire plant of at least two of the big markets. The dealers entered into the scheme enthusiastically, and after seeing the good results, have since set aside one day per week for cleaning and sanitation.

I believe as a general proposition, that the sanitary conditions obtaining in sales stables and markets—large and small—throughout the country, are much better than they are usually given credit for. The one outstanding, crying, deficiency in

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practically every horse or mule stable or barn that I have seen is the ventilation. Allowing that a well horse requires about one hundred and twenty (120) cubic feet of fresh air per hour and a sick one at least one-third $(\frac{1}{3})$ more, if one were asked to estimate the quantity of fresh air available in these places per animal, with an average run of stock, stabled, I think they would have to divide the allowance by four; and then be plenty high in their estimate.

We all know the contaminating influence of such conditions and in my opinion it is a big factor in the propagation and intensification of "shipping fever."

The army always insists upon having its stock cars in a state of good repair, free from nails or other projections which might injure an animal; the car must be scrupulously clean, disinfected and bedded with sand. These are precautions which would return good interest, for the effort, to every shipper, but are too often entirely neglected.

It is with genuine regret that after having vaccinated thousands of horses and mules, using several of the best known equine serums and anti-toxins, I am unable to submit any data as to results on this most important subject, for the reason that I was on the shipping end and returns from the various points were spasmodic, incomplete and frequently unofficial.

During my connection with the remount service we requested and were granted authority to vaccinate nine horses in each car of eighteen (at that time we were using the stalled car) and allow the other nine to go untreated; but owing to the difficulty of providing for the professional and official observation of these animals for the period of not less than thirty days after arrival at their respective posts, the plan was abandoned. Had it been possible to carry out this scheme on three or four hundred animals, it would have furnished the most practical and in fact the only tangible data of its kind that I know of, on the real value of preventive serum—Therapy serum therapy. Occasionally we would hear from a shipment that had gone a long distance under adverse weather conditions, and landed in fine shape, and we would immediately wax enthusiastic over the particular serum we were using at that time. Again I recall on one occasion we sent a fine load of horses to a post,

treated them with the same serum, and while they were on the road, some four or five days, their condition was normal, yet the verdict came back of contagious pleuro-pneumonia in three horses on arrival, developed enroute, and some five or six more in the following few days, several of which died. Then we wondered whether we had vaccinated or inoculated.

I am firmly of the opinion that like the sanitation of the stock car, particularly for the initial shipment of the fresh country horse, if the maximum of prophylaxis is to be attained, his vaccination should also begin with leaving the farm and not to be deferred until he has been subjected to the discomforts of shipping, exposed to infections, and surcharged with disease before receiving the Prophylactic treatment. Of course, subsequent injections of serum should be administered when indicated.

We have on several occasions had young horses (three and four years old) gathered from a neighborhood and led, not shipped, to a clean, sanitary farm stable furnished by the contractor. From this lot we would select our load of colts, ship them, and the contractor would proceed to assemble another bunch for inspection, of a later date. So long as he was able to procure his horses within a leading radius, there were no signs of disease, but just as soon as he got far enough away from his rendezvous to necessitate his shipping in by rail, just so soon did the inevitable shipping fever (in some form) make its appearance.

There is another great element of probable infection, and that is the feeding yard or pen, provided and mismanaged by the railroads. The legislatures, no doubt, enacted wisely and humanely when they wrote into the statutes the law requiring the unloading of stock, in transit, at least one in every twenty-four or thirty-six hours for recreation, rest, etc. But they should have gone a step further; and this without embarasment to our great common carriers (not the kind you are thinking of) and insisted upon a clean, sanitary, uninfected and covered pen or yard in which to unload stock, and not the quagmire of filth and contamination too often found. These conditions can and should be overcome.

In this connection a thought suggests itself: Would the Horse Express Car with its extra capacity (from twenty-eight to thirty horses), its greater likelihood of always being clean, its scheme for ventilation without exposure to wind and weather, the elimination of laying on sheltered side tracks, as well as the avoidance of the feeding yard, and the cutting down of the time in transit by two-thirds, deliver these young fresh recruits to their destination free from shipping fever?

There is a strong probability that it would, and I believe it is worth a trial.

Many eastern shippers use this system exclusively in shipping horses from markets, having had all of the exposures mentioned and still they do it because it pays them, no doubt, in the end.

The proper kind and quantity of feed to be fed enroute is a much mooted question, but I want to hazard my opinion nevertheless. I believe as a rule they are overfed rather than the contrary, that grain of all kinds should be eliminated entirely from the ration, except in specific instances, and whenever possible, alfalfa hay (leafy and well cured) should constitute the main sustenance. It is laxative and diuretic, hence is febrifuge; and in a wide observation of its feeding I have never seen any of the ill effects so erroneously ascribed to it. The foregoing has reference to remounts only; of course fresh, clean water should be given ad libitum.

In peace time, the buying of horses and mules for our army is done largely from March to November and wisely so, too; for the months of December, January and February are the least desirable in which to make shipments, especially over long distances, owing to the weather conditions. Besides by staying out of the big markets—where after all we must go for large numbers within specified periods—we avoid the competition of the southern buyers whose season this is; and his "Sugar" mule and "turpentine" mule is our best wheeler, his "cotton" mule is our best leader, his "miner" is our best pack mule, and the best of his horses known commercially as the "top southerner," is the class that furnishes a large number of our cavalry and riding horses.

It is not surprising that our old troop horse—he of a year or more of service—rarely, if ever becomes a victim of shipping fever. In the first place he is largely immune, having had his ordeal as a recruit; and secondly he is more or less of a traveler, does not get excited about it and knows how to travel. Latterly and paramount, he comes from perfectly appointed stables, so far as sanitation, fresh air and highly efficient stable management are concerned; in fact is a seasoned and conditioned horse. He is usually transported in numbers great enough to warrant one or more trains, he is accompanied by the troops, who are commanded by efficient officers, none of whom will permit of his abuse by being walled in on some side track, with all fresh air excluded, nor will unnecessary delays be countenanced.

In conclusion, may I hope that somewhere in this paper, I may have been able to carry some suggestion or thought, that will inure to the benefit of the Army Remount Service, to our chosen profession and to man's best friend, the horse (and mule).



THE ATTACK ON OUR CAVALRY AT PARRAL.*

THE treacherous attack on our cavalry by Carranza soldiers at Parral, Mexico, which resulted in such a gallant but dignified resistance that a wholesome lesson was taught the attackers, took place on April 12, 1916, and was participated in by Troops "K" and "M," Thirteenth Cavalry, under Major Frank Tompkins, of that regiment.

This mobile little force had, on April 2d, been given a roving commission by the commanding general of the punitive expedition, with orders to scout southward and kill or capture Villa and his bandits; and after much laborious marching, combing the country in conjunction with two other cavalry columns moving with wide intervals, camped at the little town of Conchas in the valley of Zaragosa on April 10th. Here, a force of twenty-five Villistas under Montoya were forced to hastily decamp, after looting the factory at that place; and a mule, laden with stolen dry goods was picked up and returned to the owners. At this point, too, information was received that Hernandez with one hundred Villistas and an equal number of led horses, had moved south to Valle, in keeping with what was generally believed to be a movement of all the Villa forces towards Durango.

Late in the evening of April 10th, Captain Antonio Mesa, a Carranza officer from the garrison at Parral, entered the American camp at Conchas, and in a very friendly manner invited the troops to enter Parral, saying that he would arrange by

^{*}Compiled by the CAVALRY JOURNAL from official and authentic personal sources. The personnel of the command was: Major Frank Tompkins, Captain Aubrey Lippincott, Captain Frederick G. Turner, First Lieutenant Clarence Lininger, First Lieutenant William A. McCain, and Second Lieutenant Horace Stringfellow, Jr., all of the Thirteenth Cavalry; and Second Lieutenant James B. Ord, Sixth Infantry. There were also two interpreters, and three packers with pack train. The two troops ("K" and "M," Thirteenth Cavalry) aggregated about 100 men.

telephone for the reception of our forces, and that a camp site would be provided, together with rations and forage. The next morning Captain Mesa breakfasted with the squadron commander and renewed his friendly advances, stating that as the local telephone was out of commission, he proposed to send a special messenger to Parral to make the arrangements promised, and that this messenger would travel by mule so as to make the journey in one day.

In accordance with these plans, our cavalry marched on April 11th, to Santa Cruz de Villegas, where it camped unmolested; and on the day following, marched on to Parral.

On reaching the town, no official met the command, as had previously been promised by Captain Mesa, so that Major Tompkins closed up his little force, and with his advance guard went to the outer guard house near the railroad station and asked for a guide to headquarters. A Carranza soldier accordingly conducted the column to the latter, where the American commander met General Lozano and requested a private conference.

In the talk which followed, Lozano stated first of all, that Villa was northward in the vicinity of Satevo; and expressed surprise that the American troops had entered Parral, which he thought should not have been done. Tompkins stated that he would withdraw as soon as a camp site was shown him. This, Lozano agreed to do, but as a matter of fact, delayed half an hour, when he announced that he was ready to move out. Tompkins had meanwhile arranged with an American merchant by the name of Scott, to supply his command with corn, fodder, and rations.

During the time that Tompkins was in conference with the Mexican commander, the leading troop had dismounted in front of Mexican headquarters, and the rear troop was brought up in rear of the first, dismounted in the plaza. The school children, dismissed for the noon hour, scattered among the troopers, and evinced great curiosity as to the equipment and the huge size of the American horses. While halted here, also, two Mexicans excited some interest by rather hysterically shouting, "Viva Mejico! Mejico por los Mejicanos!"—the first unfriendly demonstration of the day. It was then noticed

that the school children disappeared, and the venders of dulce picked up their trays and went away. The shops began to close and the shop keepers to bar their doors and windows.

ATTACK ON OUR CAVALRY AT PARRAL.

Finally Major Tompkins appeared with General Lozano and a companion, and the American cavalry column moved out, Lozano leading. There followed a great shouting and hooting from the plaza; in several instances, old Mexican women appeared in windows waving mantillas, and shouting—"Muertan los Gringoes! Viva Villa!" At the railroad station, a south-bound train was pulling out, and from it came yells of like character.

As the column reached the outskirts of the town, firing was heard in rear, which proved to be shots fired at our pack train. Before, this, however, and after passing the Mexican cuartel, a force of probably fifty armed, mounted Mexicans was observed turning into a cross-street and apparently arranging to intercept the American column; but they thought better of it, and hastily withdrew at a gallop, contending themselves with paralleling the march of our troops on the next road to the east.

When the column of American cavalry reached the vicinity of the selected camp site, the main body of the command was well under cover, but as the Carranza soldiers were fast taking up a commanding position in rear of our force, the American rear guard of eight troopers was deployed for action, and General Lozano, who was still present, was notified that our column had been fired upon. Lozano thereupon hastened back to stop the firing, but shortly afterwards sent a messenger to Major Tompkins requesting the immediate withdrawal of the American troops, and excusing his action on the ground that he was unable to control the townspeople. Tompkins sent word by the messenger in reply, that he would move northward as soon as the forage and rations were delivered, for which he had contracted in Parral. The messenger promised to bring back General Lozano's reply, but never returned.

Meanwhile Carranza soldiers continued to mass on a hill, south of the American troops, and brought up a large Mexican flag to mark their position. This was followed by the attempt of a large number of Mexicans to move around the left flank of the American position. The American commander shouted

to the Mexican soldiers to go back, but this they refused to do, and seeing no other alternative, Tompkins sent four troopers to drive them back. As this little patrol moved out on their perilous errand, the Carranza troops opened fire, and it was very reluctantly returned by our troops. The latter were in an excellent firing position and had easy targets in the exposed Mexican soldiers, so that it would have been easy to have shot down a large number of the latter. But so certain was the American commander that his opponents were Carranzistas with whom our troops were supposed to be on friendly terms, that he permitted only the little rear-guard of eight men to return the Mexican fire. This small detachment under First Lieutenant Clarence Lininger, Thirteenth Cavalry, exhibited excellent fire discipline, firing cooly and deliberately, and correcting their sights through field glass observations by a non-commissioned officer. According to subsequent reports of the Mexican authorities, this rear-guard killed twenty of the enemy at this point, and wounded many others.

As the American position could be easily flanked, and was in fact being actually enveloped by a hundred or more Mexican soldiers, Major Tompkins ordered a withdrawal at 1:30 p. m., across the hills towards the wagon road leading to Santa Cruz de Villegas—the Carranza soldiers following, and firing at the

American column at every opportunity.

No attention was paid to this fire until the Mexican lines approached within 600 yards, when the rear guard of eight troopers dismounted and checked the Mexican advance with an effective rifle fire. The withdrawal continued until arrival of the American column at an adobe house about half way between Parral and Santa Cruz, where the command was dismounted for a brief rest, and the wounded looked after. The march was then resumed in column of twos, at a walk and a slow trot.

About this time the Carranzistas seem to have thought that our cavalry was running away, for the former became much more aggressive, and quite a body of mounted Mexican cavalry galloped down the main road, directly in rear of the American column. To discourage this movement, about twenty of our troopers under Captain Frederick G. Turner, Thirteenth Cavalry, were dismounted at this point and effectually checked the

Mexican pursuit, killing fifteen of the latter including Major Orozco, and wounding many others, including a colonel. Captain Turner's detachment suffered no casualties.

Our cavalry then marched into Santa Cruz de Villegas, watered the horses, and placed them under cover. The American troops were placed in position for defense, and after about half an hour of waiting, were again subjected to quite a heavy fire from the Carranzistas, to which only the expert marksmen and sharpshooters of the command, were allowed to reply. At 6:00 o'clock P. M., a flag of truce came into the town from the Mexican forces, and the fighting stopped—General Lozano withdrawing his soldiers, and entering into correspondence with the American commander in an attempt to explain the very hostile attitude of the troops of his command throughout the day. At 7:00 o'clock the same evening, Major Tompkins was reinforced by Colonel William C. Brown, Tenth Cavalry, with Major Charles Young's squadron of that regiment.

The casualties of the entire day's fighting were forty Mexicans killed and many wounded; while two American soldiers were killed, and six wounded.

The attack of the Carranza soldiers and populace of the town of Parral was treacherous and inexcusable; their subsequent pursuit of the American column as far as Santa Cruz was still more reprehensible, since it was apparent that our cavalry was attempting to peaceably withdraw. The patience and forbearance of the American officers and soldiers in the face of most provoking and intimidating hostilities on the part of those whom our War Department had reckoned as friendly allies, was admirable; while their masterly withdrawal in the face of many odds, with comparatively trivial losses was most skillfully conducted and executed. The severe punishment meted out to the enemy was well deserved, and they can count themselves fortunate that their apparent determination to annihilate our cavalry did not tempt the American troopers into making a more sanguinary example of their treacherous conduct.



THE AMERICAN "MILLION ARMY."

BY DR. LEO BRENNER.

(Translated from the B. z. am Mittag, for May, 1916.)

Norder to strengthen the efforts of the challenging American note, Reuter has hastened to inform the whole world simultaneoulsy by telegraph, that the American Congress has decided to raise the strength of the United States Army to one million (in these days no state would consider it dignified to think of anything less than a million).

This information will not have failed to evoke a silent smile from all who know American conditions, and especially those who are intimately acquainted with American military affairs (as to the writer of these lines). For as a matter of fact, this piece of news is the greatest "bluff" that one can imagine. It is, for example, just as if the French parliament had adopted a resolution to carry the war to a victorious end.

The American military conditions are so fundamentally different from the European, and especially the German, that a clear explanation of the difference for the general German reader, will not be superfluous.

In the United States, there exists no compulsory military service, and therefore all naval and land forces consist of volunteers. As manual labor is exceptionally well paid in America (in contradiction to the intellectual which is not worthily rewarded in the United States, because it is little valued by the American whose ignorance in international questions of culture, can rival that of a Russian mujiks), there-

fore few young men are inclined to enter military service, notwithstanding the attractive placards and circulars setting forth military service. As an example, the case of a soldier is cited who retires after thirty years service, with a saving in cash of 120,000 marks, which if invested in life-rent, he could live as a gentleman of means, with a yearly income of 16,000 marks; and thereby it is assumed that he has spent half of his pay during service, for pleasure.

This also is true, but for this reason it is all the more-strange, that in spite of the attraction and certainly moderate discipline, up to now it was never possible to keep up the authorized strength of 82,000 men, standing army, and 64,000 men for the navy, for one-third of the former and one-fourth of the latter desert each year. This is explained by the large number of fraudulent individuals who only enlist in order to get into possession of the high amount of bounty with the fixed purpose of deserting at the first opportunity, and perhaps reenlist elsewhere under a false name. This is very easily possible in the Union, because there no one is required to have identification papers of any kind, one's oath is all that is required; so it happened that a man received the bounty money seventeen times, and always escaped.

I can bring evidence to show that I am not exaggerating. In 1912, when Taft declared that the continued challenging attitude of Mexico could no longer be endured, and that accordingly 200,000 men should be mobilized and sent to the frontier the Secretary of War was obliged to confess that of the 82,000 men on paper, 27,000 were lacking, and that 22,000 men were necessary for garrisoning Hawaii, the Philippines, and forts in the home country, so that only 30,000 remained available for war. This confession could not have been a real surprise, for one year previous when Taft ordered 20,000 men to the Mexican frontier, only 13,000 were on hand (whose mobilization required ten days), and that four months passed before the lacking 7,000 men could be recruited. This did not prevent the American press from proudly writing:

That we were able to mobilize 20,000 men (read 13,000) in ten days, is an achievement which Europe can well envy us, and which shows the world that our army is always ready. This is a tip that Japan will know how to appreciate.

In consequence of this confession of the Secretary of War. Congress provided (just as it is now providing for the "Million Army"), that 9,000 should be immediately recruited to fill vacancies, and that an additional 40,000 men should be mobilized, and that the 120,000 strong, militia, should be added. Regarding the navy, in which 16,000 men were lacking, no notice was taken. In reality, not even the 9,000 men were secured, not to mention the 40 000; and as for the militia, they dryly stated that according to the law, they could only be employed for home defense, and not for a war beyond the frontier. The militia officers, however, were of the opinion that they would volunteer, provided their rank would be recognized as being equal to officers of the Regular Army. This was impossible, on account of protest from the latter. For, an American militia officer, even if he be a "colonel", or indeed a "general," has no idea of war service. Militia officers are simply appointed by the Governor of the State, who selects his good friends and political colleagues, who may have accomplished something in civil life but who know less of things military than a German schoolboy. This assertion is supported by the fact that in 1912, seventy-eight generals, colonels, and majors of the California State Militia requested permission to serve for a time as privates in the Regular Army, in order that they might at least have something approaching a conception as to the soldier's trade. And these were the men who would have commanded militia regiments and brigades. I recollect an instance in the American Civil War, in which such a colonel of militia was ordered to attack the enemy located in a railroad station; he solved the problem by boarding the train with his regiment, and rode calmly to the station where he and his men alighted and were taken prisoners by the Confederates with more or less noisy glee.

But it is not only this lack of soldiers that makes the United States a "quantité négligéable" in respect to military matters; it is due more to the fact that there are not sufficient officers available, and even such as there are cannot be compared with those of Europe. In order to escape possible criticism from our pessimists, I will confine myself to the words of MacLachlan, spoken without contradiction in Congress:

I maintain and challenge proof to the contrary, that our army is absolutely without tactical organization; it is nothing more than a grotesquely proportioned aggregation of armed people, without training or complete equipment, not even able to meet the demands of the smallest war; our military forces are scattered in remote, non-tactical commands, which serve solely as guards for property in hundreds of purposeless posts, erected at a cost of millions, as political tribute to legislative cowards.

The time of the officers and men is taken up solely in guarding property, instead of making themselves acquainted with the duties of a soldier. We have regiments that for years have not been mustered for training; colonels who have never seen their entire command together; not one general who has even seen a whole army together; officers who have never had opportunity to instruct their soldiers, and who do not understand how to lead them. Our socalled maneuvers are farces. They have as much resemblance to real warfare as a play between rabbits and terriers.

And General Weaver complains at the same time, that not even the home defenses amount to anything, for no less than 40,000 artillerists were lacking to serve coast guns.

And while we are talking of guns, I would like to state that according to official figures, the United States had in 1913, not more than 600 rapid fire guns, and 200 machine guns at her disposal; the commissary department of the army may be compared to that of the Turkish army in 1912, the absolute inefficiency of which was responsible for the terrible defeats against the Bulgarians.

The most ludicrous by far, however, is the fact that in spite of these conditions, the American people must pay more for their warriors than the total cost of the German army in peace. Up to now the pensions to "veterans" alone, amounts to 17,768,000 marks! Of the 892,089 pensioners, not less than 800,000 are swindlers who have never served and who owe their pensions to the good-will of the political party who happened to be in power, and was obliged to reward its supporters!

Under the conditions, one will understand why the resolution of Congress struck me as being funny. Resolutions can be made for all things, but it is a question whether or not they can be carried out. From where are the one million to come, when it is not even possible to drum up enough to maintain the miserable strength of 80,000? If it is believed the militia and volunteers will furnish the million, it is very questionable whether there are as many willing to play soldier, in spite of the American's fondness for dressing himself in grotesque

uniforms. But even if the million really comes, there are neither officers (who cannot simply be appointed), nor arms, and least of all artillery or other war materials. Therefore, I maintain, throwing a scare amounts to nothing.

THE HORSE IN THE GREAT WAR. (1915)

(Translated from the French of E. Trouessart, Professor at the National Museum. Published in Le Nature, by JOSEPHA B. GODSON.*)

IN recent years, since the automobile has been put to such practical uses, many people have been led to predict the end of the horse, but present events do not appear to have proven their prophecy true. Certainly as long as there shall be armies there must be horses for cavalry, for artillery, and in many cases even for the transportation of munitions and supplies. The automobile is suited only for use over good roads; the horse, on the contrary, can go everywhere, and such a trained and intelligent motive power, able to clear obstacles of all kinds, and to cooperate with man in getting artillery over ditches and through bad country will ever be in demand. The mules of our Alpine troops carry the guns on their backs through the narrowest mountain trails, a feat which no substitute so far discovered could accomplish.

As the state of warfare now existing has exacted its dreadful toll of men so has it also demanded enormous numbers of horses, and while the trench fighting has given a certain respite to our cavalry, this is far from being the case with our artillery which from the first has had to fill the breach.

The heavy artilley, even, which now is generally seen drawn by motor engines still makes use of horses as well. An American who in the first months of the war was traveling across Belgium in his automobile and saw the great German army flowing like a torrent toward the west, remarked the enormous

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siege guns drawn by from sixteen to fifty horses. These were the guns used to reduce the forts of Antwero.

In France, under ordinary circumstances, our breeding farms easily furnish all the different kinds of horses necessary to supply the army remount demands. The horses for the heavy cavalry (Cuirassiers) which must stand fifteen to sixteen hands at the withers (1 m. 5 to 1 m. 64) come from Normandy (Calvadoes) Mauche, Orne; those for the cavalry of the line (Dragoons) come from the departments in the West and Central part of France, (Vendee, Charente, Anjou, Mayenne, Touraine) and being ridden by less heavy men need stand on y 14.1 to 15; and those for the light cavalry (Chaussers and Hussars), which is made up of men of the smallest and lightest build, are furnished from the departments in the southwest, (Ariege, Limousin, Auvergne, Haute, Pyrenees) and are required to measure only from fourteen to fifteen (1.48 to 1.54 m.). These last are called Tarbes and are a cross of the original horse in this part of France with the Arab and are found to be more adaptable to the climate of Northern France than the pure Arab.

Nearly all the above named horses are, like the Tarbes, the result of cross breeding, the mares of ancient French lineage having been crossed with the English thoroughbred stallions in the North, and the South with the Arabian stallions.

The artillery prefer horses of low stature, that is to say, with a rather long body and shorter legs than would be chosen for a horse to use under the saddle, but they are required to stand at least fifteen hands. These are raised in Pas-de-Calais and Bretagne. As to the mules, bred from mares and the great donkeys of Poitou, they often measure from fourteen to fifteen hands.

Of late years the artillery has especially sought the Breton horse, which also has an admixture of oriental blood in its veins if, as is popularly believed, the old Celtic breed of horses was crossed four hundred years ago with the Spanish barbs that escaped from the wreck of the Armada on the coast of Brittany in August, 1588. An officer of heavy artillery has reported that he left Lorient, November 30, 1914, with 246 Breton horses

^{*}Wife of Captain W. F. H. Godson, Eighth Cavalry.

requisitioned in the Department of Finistere, that they were harnessed, six to each piece of artillery, weighing 3,000 kgs. (6,600 lbs.) and made marches of from fifteen to twenty miles (25 to 30 km.) a day. Under these circumstances they astonished the officers by their wonderful power of endurance, their willingness in hill climbing, and their frugality. They would go sometimes forty-eight hours without food or water and often with only one rations of hay a day and yet at the end of three weeks of this regime and after four months of war, all were still in good condition and several had apparently not even grown thin; and these horses are no larger than the ones used to draw our 75 cm. field pieces.

This general preference for a light horse, one comparatively easier to control and care for, caused us to neglect, at the outbreak of war, the heavier horses from the north—the Bonlonnais and Percherons. This was a mistake of which we soon became sensible. The horse of the Ardennais type in particular has since been in great demand on both sides of the frontier, and it was the invaders who called attention to their value by hastening to send back to Germany for breeding purposes all suitable mares which they found. The Luxembourg horse differs little from the French Ardennais. Our superior officers of territorial infantry (Majors, Captain, etc.), who in time of peace are rarely mounted, have been glad to get these horses for their own use, though they are not much to look at, are rather heavy for the saddle, and not desired at all by the cavalry and field artillery. The English however, use horses of this very type, harnessing sometimes as many as eight of the Clydesdales, Suffolk, or Shire horses to one of their heavy field pieces.

Since November, 1914, we have been importing from Canada great numbers of American horses of the Argentine type for the use of our heavy cavalry and light artillery. All the transports which brought them—sometimes 900 on one trip—have been lucky enough to escape the attention of the piratical German Cruiser Kronprinz Wilhelm, which has since terminated its career by being interned in one of the ports of the United States.

Our General Officers and Staff Officers require a horse of an altogether different type, finer, swifter, better suited for jumping then the ordinary troop horse. These have been chosen, since last August, from the thoroughbred racing stock, idle now that horse racing has been temporarily abandoned, and they are being requisitioned by the army under the name of "skilled horses" (chevaux de tete). Officers of the invading army have sought to lay a heavy hand on these special horses. The newspapers printed the story of a young Uhlan lieutenant who, in the famous raid toward Paris, arrived at Chantilly at the head of a small advance guard. He rushed eagerly to one of the well known stables there expecting to capture a valuable mount. He even shouted out the name of a horse, celebrated by its v ctories on the Paris track, which he hoped to find, but this particular horse had long before gone to the front and unhappily the valuable horses still remaining did not have their names printed over their box stalls. Greatly embarrassed by this difficulty the young German sportsman was obliged to interrogate the stable boy, a timid old man who alone had been left to guard the stable. In the confusion of inspecting so many sorrel coats and white feet he may perhaps be pardoned for later issuing proudly from the stable followed by his orderly who led by the bridle a horse, handsome enough to look at it is true, but one who had never in his whole career gained anything better than an "also ran."

Sportsman of the old school are already hoping that this severe campaign will teach us a lesson in regard to the breeding of race horses, doing away with the highly specialized training which puts a horse to the test of his strength and endurance when only two years old and allowing him a more rational development which will increase his value as an asset in time of war.

To have speed and be a good jumper are indispensable in a horse ridden by any officer charged with bearing orders whose position joined to evident purpose of his mission tells all too much to the observing eyes of the enemy. Besides this, more than one sovereign, beaten and forsaken by his fleeing army has placed his last hope of personal safety in the legs of his horse. Queen Louise, of Prussia, who, arrayed in a breast-plate and helmet, entered the battle of Jena, was separated

Maria Constant

from her escort in the confusion of defeat, and except for the speed of her horse she would have suffered the ignominy of being taken prisoner. Two French hussars, so the Gazette of that time tells us, "started in pursuit and pressed her so hard that she could not help hearing their barrack room oaths and exclamations—things highly inproper for the delicate ears of a young Queen."

The English, who created the thoroughbred race horse, have always prided themselves on possessing a cavalry arm of the first rank. The type of their charger is the Hunter, a horse used in the hunting field, light, strongly built, and a splendid jumper, whether he be a pure bred or a half bred, the latter indeed being often preferable as it means a horse not quite so high strung and sensitive as the pure bred, and better suited to endure the hardships of a long and painful campaign such as this one. In their Colonial Wars the English have used mounted infantry to great advantage and during the present war in Flanders their cavalry and infantry have worked together according to new and original methods.

When a squadron is about to charge, each cavalryman takes a foot soldier up behind him, usually a man from a Scotch regiment, noted for their long legs, at the moment of contact with the enemy the foot soldier leaps down in order to let the mounted man have greater liberty of movement and gripping a saddle strap he runs besides the man on horseback as fast as the horse can go, both go together in the charge—the one with h s lance, the other with his bayonet, then the action ended, the foot soldier jumps up again behind on the horse and rides to the rear of the reserves to reform in rank.

Since 1913 the English Government has been making arrangements so that it could furnish in ten days all the horses needed by the army placed on a war footing. A complete census of horses available has been made in advance by the Remount Department and the requisition was made with the most remarkable facility, not only were the regular troops sent at once to the Continent provided for, but also the territorial cavalry and the Yeomanry were enabled to assemble with their horses at the several concentration camps on the second day after war was declared.

The Russian, like all other horses of Europe, has been regenerated by crossing with pure bred horses, either from England or from the East. The Russian Government owns six breeding farms, the best known being the one at Khrenovoye where the horses for the famous Orlov races have been bred and trained since prior to 1778. This farm also provides saddle horses as well as trotters. There is also in Russia a Government breeeding farm in connection with the Army of the Don—(Eastern Russia)—where the native horse of that region is crosssed with Asiatic stock by means of imported stallions.

The native horse of the region of the Don is used by the Cossacks of that portion of Russia. It is a horse of mixed origin and while it has not the graceful build of the Arab or Barb horse it makes an excellent mount for ight cavalry, it has great endurance and agility and is capable of great speed. It is specially suited for maneuvering in extended order which is much used by the Russian army; the mounted soldiers charge "as skirmishers" jump down and, by a simple pressure on the bit cause the horses to lie down beside them, they kneel behind these living ramparts and, thus protected, fire, then, in the blink of an eye, horses and riders are up and disappearing in the distance.

The smallest and most stocky horses of the Coassacks of the Ural and the Amoor are descended from the Kirghis and Kalmouk stock, these have no trace of English blood but have undoubtedly come from the herds of wild horses which used to roam the Steppes. Like the ponies from the north of Europe these little horses live always in the open and find their living as best they can. They have no beauty or grace but they are hardy and amenable and get over the ground at a good pace. They are used largely by the Russian army in the Department of the Don.

The German cavalry is certainly mounted. It is a far cry from the days when the Cuirassiers of Frederick William I, could only charge at a trot and dreaded the slippery pavements of the streets of Berlin! English thoroughbred stock was introduced in 1700 and the horse farms of Trakehnen established in 1716 in the northeastern part of Prussia have furnished, directly or indirectly, the greater part of the horses for the

army. Their type of saddle horse is more like that of the Anglo-Arabs in the south of France than our Anglo-Normands from the north, (indeed they average about fifty per cent. English blood, twenty-five per cent. Oriental, and twenty-five per cent. native) but they have worked to increase the height until it has been achieved by sacrificing other good qualities.

According to their theory the Oldenburg charger would appear to be the ideal horse as it stands from sixteen to seventeen hands. It has been bred altogether from English half thoroughbred stock and it is not at all suited to work under harness.

We know that in 1870 the German cavalry was judged superior to our own. We have had very little exact information regarding comparative merits shown in engagements of cavalry during the present war but competent judges affirm that the situation is now reversed, that our superiority was plainly shown at the battle of the Marne, and certainly since that time the Germans have evaded every opportunity to measure their cavalry against the French cavalry.

In the face of the enormous loss of horses which must take place in all modern warfare we have tried to save the lives of all horses possible and to heal and restore them. For this purpose the Blue Cross was established several years ago by the English and since the Balkan War it has taken its place as an international institution.

On the 10th of October, 1914, a delegation or unit of this society was installed in France under the command of Captain Claremont, with the authorization of M. Millerand, and with Prof. Almy from the Veterinary School at Alfort in charge of its work. Now we have twelve auxillary hospitals, connected with four depots, each able to take care of from 300 to 500 horses.

The horses are treated in these hospitals until their cure is complete and are then turned out for a period of convalesence into great pastures where they can regain their strength. When they have recovered they are not sent back for use in the army but to supply the various agricultural needs which were deprived of their horses at the outbreak of hostilities.

FROM THE TARTAR—MONGOL TO THE DERBY HORSE.

INTRODUCTION.*

THE World's War has made unusual demands on horses of all breeds—not directly for the present, but the time is probably not far off when all horses of all breeds will be engaged directly and as fellow-combatants.

In spite of railroads, automobiles, cycles, and vehicles of the air, the horse has clearly demonstrated that it cannot be replaced in the field, and that to such an extent, that each mobile field army is doing its utmost now to keep up its quota of horses by all possible means, and that our enemies are sacrificing hundreds of millions in money to offset the enormous losses in horseflesh by purchases in America. The loss in horseflesh in all countries engaged in this war is enormous; domestic and foreign breeding of horses has been greatly damaged.

Millions of Germans now in the field, no matter to what branch of the service they belong, are now getting acquainted with the horse; many of them live daily in close companionship with it, who in time of peace had only a superficial acquaintance with it.

In the face of these conditions and in the face of the increased importance of the horse as a fighting means—doubted greatly by many prior to the war—it may just at the present time be of great value to make these millions better acquainted with the horse in war, and naturally with its history, its development, etc.

Besides these things, I consider it my main task to discuss all experiences gained, as well as results of achievements and

^{*}Note.—This article was received as given below with no notation showing by whom it was written or sent. Credit will be given as soon as the Editor can ascertain to whom it should be allowed.

services of the horse in the present war—with us, with our allies, and with our opponents.

When I decided about two years ago to write a history of the horse, such as not heretofore published, I selected the above title for my book, and wrote the following introduction, with due reference to the interest displayed to man's best friend by all classes:

"At a time when millions of men in Germany, and in all other countries, especially in France, in summer and winter occupy themselves with the horse without having a thorough knowledge of it, and sacrifice to this stranger a part of their earnings or income, it appears to me not out of place to overcome the above drawback (lack of knowledge).

"Of the mentioned millions about eight per cent. hardly ever see this interesting quadruped galloping across the turf at longer ar shorter range, but may have a very good knowledge of him through the "Our Tips" in the daily papers, in the sporting columns, or preferably on the black-boards publishing the races. Fifteen per cent. probably see the horse a little better, but not good enough, while among the remaining five per cent. are the actual connoisseurs, which do not belong among the millions proper.

"The reader may have noticed that I speak here principally of the race horse, the race course frequenter, which means a minority of men and animals, which is opposed by the enormous majority of stockmen, military men, officials of all grades, tradesmen, etc., who come into daily contact with the horse and know it thoroughly.

"I have found in spite of the scant sources of hoary antiquity, much useful and interesting material concerning the first appearance and origin of the horse and its subsequent development and breeding, and have attempted to portray the horse in its most useful, glorious and exalted rôles. I have given a separate and long chapter to the horse in upr, and have treated horse-breeding itself, especially that of the thoroughbred in the best known countries, its achievements on the turf in the most

minute details. The most renowned events on the race track, the origin and development of betting on races, from the ancient private bet—many of them including entire fortunes, many of them historical—to the bookmaking system of the present "Toto" or "Paru Mutuel" respectively will be paraded before the eyes of the reader. A large number of events which came to the personal knowledge of the author, and scenes on the largest race tracks in Germany, America, England, France and Eastern India are dispersed throughout the book like raisins if a cake."

Now, along came the World's War! And with it the extraordinary, unexpected importance of the horse as a fighting means and ally of the soldier. And with this war I was confronted by a new task, a thorough revision of my book entirely in regard to and with reference to the war, its accompanying features, its presuppositions and its deductions.

ORIGIN AND ORIGINAL CONDITION OF THE HORSE.

"The horse has taught culture and good manners to mankind," says an old chronicle, as we daily see the truth of this saying.

When first meeting the horse man pursued it, especialy in Asia, and North America, like a beast of prey and was very instrumental in its expulsion and almost annihilation, until the horse, by its conciliatory manner and its good behavior, infused these same qualities into man, until it infused into him trust and the conviction that it was his best friend and defender, its best means of gaining a livelihood. The horse introduced itself to man as an excellent means to accomplish work and taught man how to work better and to more advantage. At the present time we see in cities and in the country, especially in the largest cities, the horse being the teacher of man in public traffic. It teaches him how the conduct on the street should be, how to be tranquil in the densest crowds and at street intersections where the most traffic runs. But the horse appears at its best, as compared to man, as the supporter of civilization in battle, where it spares the wounded or dead enemy and respects him, while man barbarously mutilates and robs him, and that not only during hoary antiquity but also in very recent times.

A sharply defined feeling of rank pertains, as is well known, to the newest culture. In this respect also the horse crowds man into the shadow; and that not alone because the thoroughbred carries himself better and prouder than his coldblooded relative of lower birth. The horse that feels his master and regimental commander in the saddle shows a more self-conscious deportment than when it knows that his master's servant is on his back, while the gradually disappearing snobbish horseman, who rides out only on Sundays, on the firey steed of his friend shows the same sad figure as he does on a horse hired from a livery stable.

. Historical traditions and accounts relating to the origin of the horse differ greatly and are consequently very unreliable. In the first book of Moses, Genesis, in the account of the life of Joseph, that is somewhere around 1500 B. C., it is stated with some degree of authenticity that during the Flood there were two horses in Noah's Ark, which is taught us in our first religious lessons.

For a long time the belief was entertained that horses were found only in the Old World, while on the other hand voices were raised to the effect that in the primeval period horses lived in the western part of North America and that they disappeared subsequently. In any case since the diluvial period Europe was the home of the wild horse; the prarie-like condition of Central Europe was excellently suited to its life and welfare, and when forests began to appear the horse fled eastward. Still other sources, basing themselves on fossils dug up, state that the Cernays horse is the primary type, it having been found in the second tertiary period in the so-called Cernays district around Reims in France. Discoveries dating to that same period were also made in the foothills of the Hartz mountains.

In spite of all these contradictions we have to seek the origin of the present day horse in the large Mongolian-Tartary family, that is in the table land of Asia. It was introduced there by the ancient Arians, the Indo-Germans, when they captured Hindustany. From Hindostan it found its way westward.

The first types, regulated by human breeding, indicate Egypt, Palestine, Mesopotamia and especially Cappadocia. The Romans brought their best, quickest and strongest horses, used for chariot races, from those countries. In 850 B. C. we find horses employed in Greece as motive power in the Olympic games, in chariot races and fights. After the horse had served the Hellenes for a long time as a draft animal it gained, because of trails at breeding, such a strong physical development that it could be used by man for riding. Herodotus speaks, around 450 B. C., of "studs," and the ancient kings of Persia raised certain breeds.

It said that Solomon, the most powerful of the ancient monarchs, had 40,000 draft and 12,000 saddle horses, the largest number of horses owned by any individual of ancient or modern times. His interest in horseflesh Solomon transmitted to his race down to the present time, for the Jew is frequently encountered in close connection with the horse, being a breeder, race course owner, Tattersall owner, horse trader, etc. Large race horse establishments are in the hands of Israelites in England, France and Germany. The Jew is also much interested in modern horse racing, especially as a flying bookmaker and absolute sure tipster. It is but seldom we find him in the role of trainer, gentleman rider or jockey.

Appearances are deceptive! This is true also in regard to the history of the horse! As a remarkable fact history indicates that the horse was originally unknown to the semitic tribes of the Near East and Southwestern Asia and also to the Arabs, our audacious, excellent and assured horsemen. History repeats itself. For as their forebears knew nothing of the horse, most of the Saphis of the French army never had been on horseback before entering that service. This awakes in me a remembrance of the Spanish American War of 1898, for fully fifty per cent. of the renowned Rough Riders under Colonel Roosevelt were neither rough nor could they ride.

Today nearly all the different races of horses are tamed and in the service of man. Only the Tarpans in Tartary and the Alzedos in South America live in their primordial state to a certain degree. The former are found principally in the Altai Highlands along the Siberian frontier, the latter in the Pampas

or the La Plata States. Their life differs. While the Tarpans live in herds of 20 to 30, the Alzedos live in mass herds of 10,000 heads and more. This is accounted for by forage conditions on the one hand, and beasts of prey on the other. In the plateau near the Siberian frontier the "savage" has to seek his feed laboriously, only smaller, scanty grazing grounds invite him, and he has to fear the Tartar in addition to the wolf. The enormous, fruitful Pampas of South America on the other hand support or can support many thousands of heads and the beasts of prey there, especially the jaguar, compel the horses to assemble in enormous herds.

The stallions are more numerous than the mares in these herds, but nevertheless the strongest of the former gather a number of the latter around them. These mares must not be touched by any other stallion, and many a mortal battle has been waged because of jealousy. Just like animals ogle from a respectful distance the battle between two stags at rutting time, so are the mares frigthened witness of the mortal battle their lord and master wages frequently. At dark the mass herds of the Alzedos split up in small groups and take their night quarters, which they defend furiously against other horses. At daybreak the following morning the herd assembles again. The herds are led by the strongest and most valorous stallion, following him blindly on the march and in battle; they march, if they do march, in an endless thin file. It appears that here the wild horse influenced, served as an example, to the wild man, for the Gauchos also travel across the flat country in single file. The herd is preceded by a few scouts invariably, which, as soon as they perceive anything unusual report the fact to the herd by neighing and the herd at once forms a large circle around the strange object-man or animal-which closes up slowly to get a better view. The wild horses, especially the Alzedos, are a continual danger to the domesticated horses; they attempt to decoy them, and are frequently successful therein. However, the domesticated horse is not allowed to live long, death soon overtakes it through kicks and bites. In many a Pampas the settler is still today forced to battle against the attacks of the Alzedos on his stock.

In Tartary, as well as in the Pampas, these wild horses are much hunted. The Tartars kill them for their hide, which serves as clothing, the Gauchos killed the Alzedos to get his hoofs for the horn therein. But the principal object of the hunt is to catch them, to tame and sell them. The method of catching the Alzedos, as well as the wild horses in the west and northwest of North America is well known-lassos being used principally to throw the horse. The just mentioned horses of North America cannot be considered as wild though they live entirely independently and free. Once caught, which is always a hard nut to crack for even the most adept of cowboys, they are quickly tamed and turn into the best and quitest horses of the world. Why? Because they are not ruined and spoliled like , in Europe by idiotic hitting in the head or flank but are tired out thoroughly by endless chasing, jumping and bucking without hitting or striking them, and when once calmed down are treated friendly and kindly.

In conformation and exterior the wild horse differs materially from all other races. His head is large out of all proportion, the forehead below the eyes strongly arched, while the upper part is flat. The ears are materially longer and incline backward, probably a sign of readiness for fighting. There is much hair around the mouth and nostrils. The legs are long and strong. The hair, especially the mane, is rough and curled, never smooth as in the domestic horse. There is little uniformity in build, no harmony of limbs like in domestic horses.

We now come to the history of the modern horse and as England is still ahead of all countries in the matter of studs, I shall commence with that Island Empire.

DEVELOPMENT OF HORSE BREEDING IN ENGLAND.

We find the first historical mention of the British horse in Cæsar's Gallic Wars. But as he himself hæd not yet gained a firm foothold in that island we are still somewhat in the dark concerning the nature of that horse at that time. The wellknown English writer W. Youatt, who emphasizes the native character with the words "then as ever the creature of the

country," speaks of a small, tough, hardy animal, but his prejudice is shown by the addition "that the ancient horse was not behind the modern horse in regard to construction and power" speaking of horses in the marshes of Nen and Wilham and on the banks of the Tee and Clyde rivers.

Only after the Romans had become the undisputed master of the country we can speak of a regulated breeding, and many English writers designate the close of the First Century A. D., that is the time of Emperor Agricola, as the commencement of British horse breeding. The best native mares were paired with stallions of the Roman cavalry. Concerning value and effect of this crossing of breeds we have nothing tangible in the start. Gradually, however, success appeared, very slowly according to our conception. For only three centuries later, in 410 A. D., when Emperor Honorus definitely abandoned England, do we see progress of the British horse breeding, an excellent and serviceable saddle horse having been produced by them.

The succeeding Saxon tribes also brought fresh blood into the country. However, history is very scant concerning this epoch and we are unable to find anything concerning results of horse breeding therein. It is certain however that in those times the horse played a proud rôle in the knightly battles at the courts of the Highest of the Land. The "Horsthegn," the boss of a stable, corresponding to our "Oberstallmeister" (master of the horse), was a high persongage at court. From then on horsebreeding steadily progressed in England and foreign countries commenced to throw envious glances at the English horse. How valuable the English horse was considered at that time as against a foreign horse is shown by the orders of King Athelstan (925-940 A. D.) forbidding the export of horses, except as presents.

The reign of the Normans in England was a material turning point in English horsebreeding. William the Conqueror, (1066-1087), and his barons introduced into the country the valuable and renowned Spanish thoroughbred and this noble blood in conjunction with the numerous Norman breeds brought the breeding to a heretofore unknown height. Its superiority was now established throughout Europe. Clear-sighted breeding of different types commenced and horsebreeding became one of the most important branches of husbandry throughout the Island Kingdom. The people that knew anything about horses at once grasped the high importance of the Spanish blood.

The strongest horses were employed in the service of the State and by knights in war. On farms horses were used but rarely and in Wales a law even was passed forbidding the use of horses for plowing.

In a time, when superstition still ruled the land, reality and fable is hard to distinguish. Thus today the question is not yet settled if two Berber stallions, imported to England in 1121 from Morocco, lived or not; one of them is said to have been kept in the country, the other to have been presented by King Alexander I to the Scottish Church. But who could have imagined the definite details and the exact year, and who has made the entire circumstances into a legend?

In the time of the crusades much noble blood was brought to England, amongst others also the Spanish jennet, a very much sought for and light saddle horse, which successfully replaced the native saddle horses which had become gradually too heavy. King John sent for one hundred Flemish stallions and bred the first working horse suitable in every way to husbandry. King Edward III also raised lighter horses' by correct crossing of jennets with English mares. But withall the old, massive horse, which alone was capable of carrying its rider and the heavy armor and armament, lost nothing in its value when we consider the continuous fighting at home and in foreign countries as well as the tournaments then at their zenith.

With improvements to the roads through the country and increased traffic thereon, which resulted in lighter equipment for man and horse, breeding of lighter horses increased enormously; demands from foreign countries also became so great that Edward III and later on Richard II saw themselves induced to interdict the export of horses and the latter Monarch even went as far as to lay down a maximum price to govern in England. In those days three stallions presented by the King of Navarra caused great admiration in England, but it is very remarkable that there is no record to be found showing whether or not these stallions were of any use in English horsebreeding.

Thereafter England's campaigns in France interfered greatly with horsebreeding at home, cost many horses, and forced King Edward III to purchase at a high price many remounts in Belgian Hennegau. King Richard III, under whose reign the country suffered greatly because of bloody civil wars and who lost his life on August 22, 1485, in the battle of Bosworth, could do but little in the matter of advancing horsebreeding. Henry VII renewed the interdict against export of horses, but subsequently excepted therefrom horses three years of age and above. Though he did very little to further horsebreeding throughout the land, his reign is of general interest in so far as he "discovered" the Wallach.

Henry VIII's reign was of value for English horsebreeding. because he was the first monarch to make laws regulating that industry. His regulations governing age, conformation and temperament of the stallions and mares remained in force for

a very long time in England.

, Queen Elizabeth, 1558-1603, who was a passionate horsewoman, had little knowledge of horsebreeding. She even hurt the industry materially through again reviving-becasue of her inborn hate against Scotland—the following law: "It is treason to sell, exchange or give a horse to a Scot." This senseless law was rescinded immediately after James I ascended the throne. As travel throughout the country increased under James' reign breeding of draft horses progressed materially.

The invention of gun powder was the cause for regulating anew horsebreeding. With the appearance of firearms the heavily armored knights and troopers, as well as their very heavy horses, lost their importance in war. New tasks confronted the cavalry, which required a lighter, fleeter horse. James I became at once convinced that horsebreeding had to be entirely changed, which required large means. He paid 500 pounds sterling, a sum enormously large condisering conditions of those days for the Arab stallion Markham-1606-and that stallion, though not at all up to the expectations entertained of him by James, is generally called the father of the English thoroughbred. The conservatism of the landed proprietors and horse breeders greatly prejudiced the imported, foreign blood, but James was not discouraged thereby, he continued his experiments, for instance, by the purchase of the Arab stallion "White Turk." Charles I also considered the introduction of "eastern" blood as a gain and furthered it in such a measure that renewed remonstrances were heard and he was requested in a memorial "to take measures to prevent the extinction of the ancient native horse for the benefit of national defense." How the "ancient native horse" should or could be extinguished by the addition of fresh, noble blood, is still a conundrum to many today.

Nothing much was done under the domination of Oliver Cromwell and no attempts were made to better horsebreeding; and we may also say that the above mentioned stallion "White Turk" did not near come up to the expectations expected of him.

With Charles II renewed life entered this important branch of British husbandry. This monarch placed special value on the acquirement of first-class foreign brood-mares, which heretofore had been neglected. For that purpose he sent his Master of Horse, one of the best judges of horseflesh in England, abroad and the "Royal mares" thus acquired found such universal approval, even among the earls and dukes, that demand for exceeded the supply. One of the best purchases in this line was that of the mother of the excellent stallion Dodsworth; this Berber mare served for a long number of years, but was sold for forty pounds sterling shortly after the death of Charles II, when she was twenty years old and in foal from Helmsly Turk. The many names ending with "Turk" have to be traced back to the fact that at that time the domination of Turkey extended far beyond Arabia to Persia. Under James II, who was prevented greatly from carrying out his stud plans by political conditions, the Duke of Berwick brought to England the stallion Stradling or Lister Turk that had been taken as booty during the siege of Buda.

At the close of the seventeenth and opening of the eighteenth century we see three stallions which are the direct ancestors of all present day English race horses and all thoroughbreds listed in the Stud Book. The first of this renowned trio is Byerly Turk, imported under King William III; he belonged to the well known Captain Byerly, serving him as his charger

and an experience of the control of

in the wars in Ireland. The second was brought to England in Queen Anne's reign by Darley from Aleppo; he was called Darley's Arabian and was an Arabian thoroughbred. The third and last was Godolphin Arabian or Barb, imported from France by a Mister Cade and named after his new owner Lord Godolphin. So little was thought of him in France that he had to draw wagons through the streets of Paris for a number of years until discovered by Cade.

With the opening of the eighteenth century commences the third and last period of British horsebreeding, that of the throughbred and race horse respectively. The English Stud Book, kept by Mr. Weatherby for the Jockey Club, contains names and descent of each throughbred in the country, stallion or mare. The publication of this important work started in 1791, and the first complete volume was issued in 1809. The editors of this book had to go back one hundred years to find the material therefor, and they were confined in many cases to incomplete, mostly private, data, so that in spite of their best efforts errors could not be entirely avoided. The first pedigrees go back to the opening of the eighteenth century with two exceptions; the Byerly Turk, 1689, and the stallion Counsellor bred in 1694 by a Mr. Egerton.

The most successful of the heretofore mentioned three stallions was undoubtedly Darley's Arabian, to whom is traced back the best English thoroughbreds and who presumably was brought to England in 1700. Among his descendants are Aleppo, 1704, Manica 1707, Almanxor 1713, and the excellent Flying Childers 1715.

It is very instructive and interesting to learn the opinion of the heredity of these stallions, in regard to numerous descendants and their attributes. Here also Darley's Arabian is in the lead. Though Eclipse, probably the best race horse of the Island, is one of his descendants, Snap, Shuttle, Waxy and Orville are considered to be the noblest of his line. The noblest descendants of Byerly Turk—who came to Ireland in 1689—and which inherited speed primarily, are Buzzard and Sir Peter. Godolphin Arabian or Barb, who was a thoroughbred Berber and came to England in 1730, transmitted to his descendants,

We will give here a short account of the English Turf. In 1766 Richard Tattersall started his world renowned institute, first at Hyde Park Corner in London, principally for the purpose of buying and selling horses. Very soon "Tattersalls" became the center of the English race market—until 1865 when the lease of the property expired and the establishment was moved to Knightsbridge.

The Era of classic racing started. In 1776 the Saint Legar was founded by a colonel of that name, and in 1779 and ,1780 the Oaks and the Derby were founded. The founder of both was the twelfth Earl of Derby, who won the first "Oaks" with his mare Bridget, while the first Derby was won by Sir C. Benbury's Diomed. This stallion had from then on a remarkable career, which included a grand triumph of America over England. At home he was a zero in regard to his work as a stallion. He was sold to Colonel John Holmes of Virginia, when he was twenty-one years old for \$5,000 and became the best father of his times, the father of the most successful race horses. "His death," says Charles E. Threvathan in the American Thoroughbred, "was mourned almost as much as that of George Washington's and the State of Virginia considered his demise as a national misfortune." Another thing, the "Diomed" gave the American "cant" plenty of opportunity to make itself noticed.

In the nineteenth century, the important handicaps: Cæsarewitch, Cambridgeshire City, Suburban and Lincoln, etc., were founded, being subsequently augmented by the bi-annual races as Middle Park Plate among others. The first 10,000 pounds stake was organized in England in 1884 as "Eclipse Stakes." The British racing sport has lost much of his old-time steadiness and distinction and elements are gaining round there which would have been impossible twenty years ago. The conformation or form of the best horses, especially of the three year olds, delcines more and more and inexplicable, doubtful appearances no longer are rare. Thus we see in 1913 the little

relished spectacle at the Derby of the victor being disqualified by the stewards, without the owner of the second horse making any kind of protest.

In no country where racing is fostered do we find such a great difference between Derby victors as in England. Isinglas 1893, Persimmon 1896, Galtee Moore 1897, Flying Fox 1899, Ard Patrick 1902 and Sunstar 1911 are as high as the heavens above Sir Hugo 1892, Sir Visro 1895, Jeddah 1898, Signorinetta 1908 and Minoru 1909. And in addition Ormoonde victor in 1886, which was considered the best horse of the nineteenth century, but which as a stallion was one of the worst disappointments of modern times.

But enough of the British Turf which, though still filling first place, has suffered much when France and America are considered. English racing, and this we say in excuse of this trangression from our subject, as that much in common with the World's War that it, like English politics and conduct of war, shows atrocious scandals and corruption.

French racing has made progress as is well known and we will give the following figures for the delectation of the British and for clearing up the racing relations between our enemies, the Allies. Here also we see John Bull, as in the World's War, going backward, step by step.

While in the first twenty-four years of its existence, that is up to 1886, the Grand Prix was won by English horses in ten instances—Kiserb 1876 was a Hungarian, Foxhall 1881 an American horse, while in the subsequent twenty-six years only one English horse landed the large prize and that was Spearmint in 1906. On the other hand French horses were successful often in the English Classics and still more so in the important "finals" races, as follows:

Gladiateurs, Count Lagrange owner, won the Triple Crown in England in 1885, and took first prize in the Two Thousand, the Derby and the St. Leger, which is still today a hard pill to swallow to the English turfmen. First place was taken in the Oaks by the following: Fille de l'Air in 1865, Reine in 1872, Camelia in 1876; first prize in the One Thousands were taken

by Reine in 1872, Camilea in 1876, Hauteur in 1883, and in the Two Thousands by Cahmant in 1847, while Rayon d'Or took first prize in the St. Leger in 1879. The French furthermore won the hotly contested for Ascot Gold Cup by Gladiateur in 1886, by Mortimer in 1871, by Henry in 1872, by Boiard in 1874, by Verneuil in 1878 and by Elf II in 1898. The Ascot Gold Vase was won by Verneuil in 1878; The Goodwood Cup by Monarque in 1857, by Dollar in 1864 and by Flageleot in 1873. Winner of the Alexandra-Plate (Ascot) were: Fille de l'Air in 1865, Trocadero in 1870, Verneuil in 1878, Insulaire in 1879, Rayon d'Or in 1880. Jockey Cup won by Flageleot in 1873, by Verneuil in 1877—damn that Verneuil—by Callistrate in 1894. Winners in the Champion Stakes were Rayon d'Or in 1879, while Chamant won the Dewhurst Plate in 1879 and De Justivier the Eclipse Stakes in 1895.

Next to the years 1864, 1865 and from 1876 to 1879, when Count La Grange snapped up the choicest morsels from in front of the noses of the British on their own course with Fille de l'Air, Gladiateur, Camelia, Chamant, Verneuil and Royan d'Or, we must designate 1905 and 1914 as a time of proud achievements of French horses on the British Isalnd. After Jardy, one of the renowned five sons of Flying Fox owned by Edmond Blanc was very closely beaten in the Derby at Epsom by Lord Roseberry's Cicero, another one of Flying Fox's sons Val d'Or shoved the Derby winner Cicero in the Eclipse stakes (10,000 pounds Sterling prize) into the second place with ease. The year before that Jardy won the Middle Park Plate in the English Bi-Annual Races.

The French triumphs in England would have been materially larger and ought to have been larger had not the best French horses been pursued by extraordinarily bad luck and been subjected to unbelieveable "mishaps." I shall mention here the Derby in Epsom. Five times in recent years French horses started there with the very best chances, but three times they were prevented by "force majeur" and twice by inexplicable riding of their jockeys from being winners. Insulaire, owned by Count Lagrange, who started as first favorite, odds 100 to 30, had the race almost won in 1878 when his jockey, the old J. Goater, allowed himself to be intimidated by Fred Archer and

THE DESERT STRAIN.

thus helped Sefton, odds 100 to 12, ridden by Jockey Constable and owned by Mr. Crawford, to gain an undeserved victory. Still more remarkable was the riding of Jockey Thompson on Vivicius owned by Edomnd Blanc during the Derby in 1903. This jockey held the stallion so hard—why is only known to him and the men behind him—allowed the entire field to pass him without any reason, was the last long after the start, there being several hundred meters between him and the leading horse, only to suddleny give his stallion free head, to gallop without much effort past the entire field, of course without reaching Rock Sand in the lead— it looked like mocking M. Blanc. There is no indication that the English Jockey Club interfered in this evident fraud, and that in spite of the fact that shortly after the start of the race the bookmakers took 20 to 1 against Vivicius, after the latter had been up to then the second favorite

with odds of 11 to 2.

But the very worst fortune in these five cases fell to the lot of the excellent stallion Holocauste, owned by M. de Bremond, in the Derby in the year 1899. Two hundred meters from the finishing line, Holocauste, ridden by Maher, stumbled and fell; he was then far ahead of the nearest competitor. He had broken a fetlock and had to be killed where he fell. Governant, one of the five sons of Flying Fox, owned by M. Edmond Blanc, fell in the Derby in 1904, having been frightened by the thunder storm raging, just like John o' Gount and Henry I, both English horses. Jardy's misfortune in the 1905 Derby has been mentioned already; he has not yet recovered from the trip across the channel, was feverish and coughing.

The next five pages are worthless; they are written with great prejudice, citing English swindles on the race track; great bitterness is displayed by the author, and the publication can serve no good purpose, in fact, the thing is abusive.

THE DESERT STRAIN.*

ROYAL BLOOD FOR AMERICAN HORSES.

BY DAVID BUFFUM.

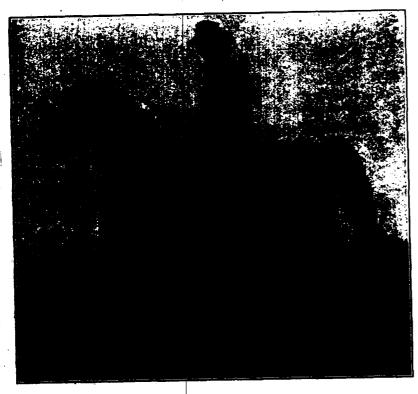
WHAT has the Arabian horse to do with the American cavalry? The great mass of people know him only as a creature of poetry and romance; others, more familiar with equine history, think of him as the horse by whose blood English breeders, in their dire need of greater speed and endurance, sought, more than a century and a half ago, to improve their racing stock. And all are prone to regard him as a figure of the past rather than as a practical working factor in the affairs of the present.

But the Arab horse is not a figure of the past. In his own little corner of the world, and to some extent in both England and America, he is still bred as painstakingly and as perfect in form and quality as ever. He is still the King of Horses. And today a greater need confronts us than ever confronted the English breeders of racing stock—a need for which no suitable remedy has yet been found, and which, in the light of present conditions in Europe stands out in sharper and sharper distinctness—the need of a supply of horses, right in kind and sufficient in number, for our cavalry.

In the supplying of this need, if we heed the lessons of the past, we must regard quality no less than numbers. To this end the Arab points the open way, for the simple feason that no other horse possesses the requisite qualities in so high a degree. As a life-long horseman and breeder of many types I say this without hesitation. And for the production of a sufficient number I will point out what I have long believed to be not only the best and most practical way but the only one by which it can be always at hand.

^{*}Reprinted from The Saturday Evening Post, February 26, 1916, by kind permission of the publisher.

But, first of all, let us inquire what manner of horse is an Arab—for I have been repeatedly surprised to find how few people really know anything about him, or even how he looks. So let me try to introduce you to him—to make you acquainted with him. In doing this I shall first take you not to his native desert but to quite another place; a place where, at the time of



which I shall speak, he was a stranger in a strange land, and where was enacted one of the most romantic chapters in his long and romantic history.

A ROYAL GIFT FROM KING TO KING.

That place was England; the time, the early part of the eighteenth century. John Bull is earnestly engaged in raising

horses and seeking to improve their speed and endurance mainly by constantly selecting the native stock most prominent in those qualities. Meantime several choice animals of Arabian or closely allied stock have been brought to England—among them the Byerly Turk, Curwen's Barb and the now world-famous Darley Arabian. John had bred some of his best mares to these horses and the result had been most gratifying; but he had not yet realized the full significance of this fact, or that in Arabia—not in England—lies the true source of the qualities he was seeking.

About this time the Bey of Tunis sent as a present to the King of France several choice Barbary horses, each with a Moorish slave in attendance. They were intended as and truly were a princely gift; but they were of a type to which the French King was wholly unaccustomed and he regarded them as of little value. Squire Bull, of Staffordshire, England, would have said: "Though not equal to our best British stock, y'know, they're pretty cattle, egad!" And Joel Briggs, of Hardscrabble Center, Maine, would have observed: "The critters are put up just right for road service, b'gosh!" But His Majesty with royal nonchalance ordered them sold for what they would bring and the grooms set at liberty. In this way all the horses but one were completely lost sight of; and this one, whose Moorish name was Scham, was acquired by a drunken carter and set at work hauling a garbage cart.

The horse's groom, whose name was Agba, was thus separated from his charge and for weeks knew nothing of his whereabouts. But he was keenly alive to the fact, that however, the horse might be underestimated in France, in Tunis, where king and commoner alike were horsemen, he was adjudged of great value. He resolved to find the horse and, if possible, acquire him by a term of service. Adrift as he was in a strange city and knowing but little of the language, the search was no easy matter; and when he finally discovered the horse—which was late one evening in one of the poorest parts of the city—he found him miserably stabled, covered with harness galls and sores, and so emaciated as to be hardly recognizable. He threw his arms round the horse's neck, and with many caresses and

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words of endearment proceeded to make him as comfortable as the shed and its meager equipment permitted.

While he was thus engaged the carter appeared. Scornfully and perhaps naturally rejecting Agba's offer to purchase the horse by a term of service, he ordered the Moor out of the stable. The latter had no alternative but to obey, but he by no means gave up his purpose. In some way and at some time so precious an animal must be rescued from his wretched situation. Meantime he must be cared for and his strength kept up. By doing sundry odd jobs about the city Agba managed to pick up a little money; and with this, often stinting himself of needed food, he bought grain and medicine, and, surreptitiously visiting Scham at night, he fed him, bathed his wounds and otherwise afforded him what comfort he could. There is little question that the horse would have died during this period had it not been for this care and attention.

One day an English Quaker, who was staying in Paris, saw Scham pitifully struggling with a load that he could not draw, his master meantime applying a heavy whip. The Quaker, who at once ordered a halt, was not only humane but he was also a horseman—an excellent combination, by the way; and his practiced eye promptly took in the points of equine excellence the French king so signally failed to discover. Clearly this was no ordinary horse. Examining him and satisfying himself of his age and soundness, he at once purchased him of the carter. Agba, who soon learned of the event, now sought the Quaker and told his story, with the result that he was hired as groom for Scham, and both were sent to the Quaker's country seat in England.

Thus, the horse first found himself on English soil; and here, under good feed and treatment, he soon regained his original beauty and spirit. Indeed, he regained the latter in too large a degree for his own good, for the Friend's family, accustomed as they were to colder-blooded animals, became afraid of him; that a horse should apparently be absolutely tireless and show at the end of a long and hard ride even more spirit than at its start seemed to them almost uncanny. So he was sold to a livery-stable keeper named Rogers.

Agba, greatly chagrined at the occurrence, left the Friend's employ and sought a position with Rogers; but the latter refused to hire him. This proved a mistake, for Scham was getting more grain than he was accustomed to in his native land and he needed skillful management. Under the care of Roger's grooms he grew irritable and victous, and soon Rogers himself could do nothing with him.

Agba now applied a second time for employment—doubtless with the "I told you so!" that is always so exasperating to the man who is wrong. Rogers not only refused to hire him but forbade him the premises. Agba, however, continued to hang round the stable, visiting the horse when he could; and, to put a stop to this, he was finally arrested when caught one night scaling the stableyard wall, with some carrots in his pocket that he had brought for Scham, and put into jail on a charge of attempted burglary.

News of this occurrence reached Lord Godolphin, who lived in the neighborhood and had already heard from the Quaker the story of the horse and the Moor's remarkable devotion to him. He procured Agba's release, took him into his own employ and bought the horse of Rogers, who was exceedingly glad to get rid of him. Scham, with Agba in charge, was now sent to the Godolphin breeding stables.

SCHAM'S FORTUNES CHANGE FOR THE BETTER.

Agba was overjoyed; the horse was now again owned by a great sheik. But if the Moor thought, as he doubtless did. that the horse's real value was now recognized he was soon to learn his mistake, for Godolphin regarded Scham only as an interesting specimen of the Oriental stock, in no way comparable to the English-bred horses that formed his stud, and had no thought of using him as a sire. The head of the studthe horse that held the place of honor in the stables—was an English-bred stallion named Hobgoblin, and to him the best mares were bred. But Agba had determined that, by hook or by crook, Scham should have a chance to show his value as a

Among others that had been selected to breed to Hobgoblin was a beautiful mare named Roxana. She was a daughter of Flying Childers and so a descendant of the Darley Arabian, and was considered one of the best mares in the stables.

When the day arrived that she was to be bred to Hobgoblin one of the grooms stood holding her near the center of the stable-yard while, from a gate at the farther end, the head groom entered, leading Hobgoblin. A surprise was in store for the head groom. As he passed the inclosure where Scham was kept its door was suddenly thrown wide open and Scham, with a shrill neigh, rushed out. Owing partly to his past record and partly to stories circulated by Agba, Scham was greatly feared in the stables, and when he came thus loose into the yard both grooms deserted their horses and fled. Hobgoblin, however, was more brave; he at once challenged the intruder, and in a moment the fight was on.

If the grooms, from their reserved seats outside the gate, were not too frightened to offer a bet or two on the result of the encounter we may be sure they offered them on Hobgoblin, for he was much the larger and heavier of the two horses. But they little knew the spirit of a true son of the desert; for, not to go into details, Scham thrashed the big stallion, thrashed him thoroughly and well, thrashed him till he ignominiously fled, leaving Roxana to his conqueror, who thus triumphed in both love and war.

When all was over, and Scham, again in his stall, was being petted and groomed by Agba, the head groom appeared with the information that the latter might consider himself discharged from service.

"You bally 'eathen schemer!" he shouted. "Just think of the hirreparable mischief you've done! Now git hoff the premises before 'is lordhsip 'as yo put hoff."

But success had transformed the Moor into a very different creature.

"Dog of an unbeliever!" he screamed in his native tongue. "Dog of an unbeliever and vile travesty on horsemen, profane no longer the abode of a noble animal with thy detestable personality!"

The dog of an unbeliever did not know what the words meant; but as they were reenforced by a good Moslem jab from the business end of a pitchfork he had no trouble in guessing their purport. He capitulated and at once sought Lord Godolphin.

The tale of the Moor's duplicity filled his lordship with rage; and, though he did not dismiss him from his service, he gave him an opportunity to learn that the English language contained possibilities in invective not inferior to his own. As the wily Moor truly observed, however, this made but little difference, as Roxana was now in foal to Scham.

In due season Roxana produced a fine colt, which was named Lath. Lord Godolphin's views now began to change; for as Lath grew and developed he proved far superior to any of the get of Hobgoblin. And when, as a two-year-old, he easily beat the best youngsters in England the value of his sire was fully established. Hobgoblin was deposed from his place of honor and Scham installed in his stead as head of the stud, his owner giving him his own name; for Scham was none other than the famous Godolphin Arabian, now reckoned one of the greatest sires in all equine history.

Breeders now bred back again and again to the Arabian strains till the blood of the Darley and Godolphin Arabians was in all their racing stock. And thus originated the English thoroughbred; for thoroughbred simply means bred thoroughly to the Arabian stock that formed its foundation.

Bred strictly for racing and with consummate skill, the thoroughbred is now greatly modified from the type of those early progenitors; faster now at the run than any Arabian, he is also larger, requires more feed, and when put to a sufficiently long and hard test is less enduring. It is, therefore, wrong to call him, as has sometimes been done, an improved Arabian; for the Arab can still beat him on long distances, and in all his essential and distinctive qualities has never been improved by any outcross.

Now why was this foreign blood, so little appreciated and with the additional handicap of ingrained prejudice, able to win its way to the front and become the most honored strain from which the Thoroughbred has sprung? Or, to put the question into more concrete form, what is an Arab? And why is he so strikingly different from and superior to all other horses? The majority would doubtless reply: "Because of the care

with which he has been bred by the Arabs." But this does not by any means answer the question in full.

The Arab was a separate and distinct evolutionary type, superior to and more highly developed than any other horse in the world long before his domestication. And from the time of his domestication down to the present he has not only been carefully bred but guarded, as no other horse has ever been, from admixture with other blood.

To grasp fully the significance of these facts, it must be understood that the horse was in process of evolution in widely different parts of the world at the same time, there being evidence of his existence in all four of the great continents—though in America he seems to have become extinct at some prehistoric period.

Such different environments produced different results. It was in Arabia and that part of Northern Africa known to the ancients as Libya that he reached his highest perfection. There he was more beautiful, more fleet of foot, more enduring, and of a more amiable and domestic disposition. Certain structural differences also mark the horse of those regions. He has one less vertabra in the spine and two less vertebræ in the tail, the brain cavity in the skull is larger, the skull itself shorter and the lower jaw more slender. And the ulna, or small bone in his foreleg, is complete, while in all other horses it ends in a splint.

These anatomical differences, all indicating a higher evolutionary development, were unknown for many years, because it was assumed that all horses were structurally alike; and in the study of any subject it is never wise to take too much for granted. The differences in the number of vertebræ were first noted by the French naturalist, Sanson; the other differences more recently by Professor Osborne.

I have referred thus to the generic distinctions of the Arabian horse because they are so little understood, and because a knowledge of them is essential to a true estimate of his value. His more obvious and better-known characteristics are as follows: In size he is rather small, rarely weighing much over nine hundred pounds, but still able to carry a heavy man all day without fatigue. His conformation is the most perfect

to be found in horses and his way of carrying himself peculiarly proud and aristocratic. His neck is long and arched and his tail is carried very high—"Like that of a cock," as an ancient authority quaintly observes. This way of carrying the tail is extremely characteristic and is conspicuous in the earliest and crudest representations of him. With the single exception of the Thoroughbred, he is the fastest of horses at the run, and for long distances can beat the Thoroughbred. He is more courageous than other horses and in disposition he is remarkably gentle and docile.

One characteristic, frequently overlooked in descriptions of the Arab, is the color of his skin. It was discovered by Upton that the skins of all pure-bred Arabs are dark, whatever the color of the coat. In a white Arab mare that I owned a few years ago—white being a color where we should least of all expect to find a dark skin—this feature was conspicuous. The black of her skin showed in her nostrils and round her eyes in a way that was strikingly beautiful and in some indescribable way contributed strongly to that peculiarly aristocratic look so characteristic of the race.

But the most important of all the characteristics of the Arab horse is his persistent stamina and vitality.

The Anazeh tribes, who are the great horse breeders of Arabia, include all pure-bred Arabs in five great families called Al Khamish—the Five. These families are descended from five very famous mares—for the Arabs trace the pedigrees of their horses through the female side and not through the male side, as we do—which were owned many centuries ago by a certain Sheik Salaman.

The mares to which each of these families traces its descent were all animals of distinguished performance. Living, as they did, centuries ago, and only their pedigrees being placed on record, more or less romance has, without doubt, become interwoven with their history.

As an example of these histories, carefully treasured and handed down from generation to generation, let us take the account of the founder of the Keheilet Ajuz family, as given in Borden's illuminating little work on the Arab horse:

"The history of Keheilet Ajuz comes to us surrounded by a romantic halo thrown round her by the people among whom'she was born and lived. It is related that a certain sheik was flying from an enemy, mounted on his favorite mare. Arab warriors trust themselves only to mares; they will not ride a stallion in war. The said mare was at the time far along toward parturition; indeed, she became a mother when the fleeing horseman stopped for rest at noonday, the newcomer being a filly.

"Being hard pressed the sheik was compelled to remount his mare, abandoning the newborn filly to her fate. Finally reaching safety among his own people, great was the surprise of all when, shortly after the arrival of the sheik on his faithful mare, the little filly, less than a day old, came into camp also, having followed her mother across miles of desert. She was immediately given into the care of an old woman of the tribe, ajus, meaning an old woman—hence her name, Keheilet Ajuz, 'the mare of the old woman'—and grew to be the most famous of all animals in the history of the breed."

The descendants of Keheilet Ajuz are today among the most highly prized of all pure-bred Arabs. And, whether we believe or not this story of her youthful performance, that she was an animal of phenomenal vitality and endurance, even among a race of horses where these qualities are conspicuous, is beyond all question.

WHY CAVALRY HORSEFLESH IS SCARCE.

Having shown what the Arab horse of today really is, let us now take a glance at the needs of our cavalry and see what the Arab has to do or, at least, ought to have to do with it.

The chief difficulty in the situation is that the inducements to raise cavalry horses are not sufficiently tempting, and farmers will not raise them so long as they can make much more money raising heavy draft stock.

Now this bring us to a very practical and pertinent question of what ought to be done to remedy this situation. To me the answer seems clear, being simply that the Government should cease depending on outside supplies and raise its own horses on its own breeding farms. Such farms could be easily established on land already belonging to the Government or on such other

land as it might choose to acquire. The advantages of such a system would be manifold. It would insure a regular and dependable supply. It would also make possible the raising of horses of exactly the right kind, which in itself would make it worth while; for the difference in the efficiency of a cavalry equipped with the right kind of horses and one equipped with the wrong kind is incalculable. Moreover, the system would probably be a little if any more expensive than the one now in vogue.

But what is this horse of the right kind, this special and distinct type, to which I have referred? In a nutshell, he should be a horse that can carry the requisite weight and go fast and far without breaking down or tiring; and also be able to do these things, when necessary, on short rations.

SMALL HORSES THE TOUGHEST.

Going more into detail, he should be compact in form, strongly built, with short back, slanting shoulders and large lung capacity. He should have feet of fine and tough fiber, and clean, flat limbs, of strong formation and hereditary soundness. In size he should not be very large, ability to do what is required of him being all that is necessary and anything beyond this a detriment rather than a help.

In this matter of size there is so much misconception that it requires a little elucidation. In the popular mind strength and endurance are often confounded with size; but if the recorded performances of phenomenal activity and endurance—by horses carrying good-sized men on their backs, for otherwise the test would be worthless—be examined the performers will almost invariably be found to be comparatively small horses.

Why is this so?

All wild horses, in all parts of the world, are comparatively small, and in this state they not only get no grain or shelter but frequently have to go considerable distances at high speed. From this natural type the skill of man has bred horses of far larger size, those of a ton in weight being not uncommon; but the farther we get from the natural type of horse, the greater the need of artificial support and upkeep, such as grain, shelter, and the avoidance of maintaining for any considerable time a high

rate of speed. Therefore, among our breeds of domestic horses those in which the skill of man has been directed to perfection in form and the development of the more essentially equine qualities, rather than to increase of size, are invariably the hardiest, the most enduring and the strongest in proportion to their size.

All the qualities I have mentioned as being so essential to a cavalry horse are possessed by the Arab in a higher degree than by any other, and in any plan for raising cavalry stock he should be given first place as sire. Government breeding farms, headed by Arab stallions, provide the surest of all ways to an efficient cavalry. America, too, has greater facilities for such work than any European country.

The question may naturally be asked whether a sufficient number of Arabs could be found to form the foundation for Government breeding farms. To obtain enough of both sexes for such a purpose would doubtless be impossible; but that enough stallions could be had to make a very fair start is beyond question. These could be crossed upon selected mares of American stock. Then, if all the resulting half-bred fillies were reserved for breeders, and pure-bred Arabs be strictly adhered to as sires, a very few years would suffice for the production of a magnificent lot of half-bred and three-quarter bred Arabs; for it is astonishing, when such a method is followed, how rapid is the increase.

I should add that the blood of an Arab is extremely prepotent, and so predominates over that of the stock on which he is crossed that his half-bred sons and daughters partake of his characteristics much more than those of their dams, though many of the three-quarter breds might almost pass for pure Arabs.

For Government breeding farms the great need, of course, would be to have always enough pure-bred stallions for sires. As one stallion can be mated with a great many mares in a single season, the number needed would not, comparatively speaking, be large; and when once a good start is had the best of all ways to supply them is to raise them.

RECENT PERFORMANCES OF ARABS.

After all I have said of the Arab, to cite individual instances of his qualities when under severe stress would seem needless; but as so many are accustomed to think of his exploits as things of the past, and we are now considering him as a practical factor in the supplying of a great present-day need, I may perhaps properly cite a few of his more recent performances—peaceful, it is true, and in a country where there is now no war, but, nevertheless, illuminating.

On October 30, 1912, Captain Frank Tompkins rode the pure-bred Arab stallion Razzia from Northfield, Vermont, to Fort Ethan Allen, a distance of fifty-one miles, and back the same day. The horse, which stood 14.2 hands high and weighed nine hundred and fifty pounds, carried a hundred and seventy-five pounds on his back. The most important feature in the performance, however, was that after this journey of a hundred and two miles in a single day he showed no weariness and was in condition the next morning to repeat the feat.

On September 16, 1913, in an endurance race, the course being a hundred and fifty-four miles over rough and hilly roads, and which was open to horses of all kinds, the three horses to come in first were all pure-bred Arabs. Halcyon, the winner, stood 15.1 hands in height, weighed only nine hundred pounds, and carried a hundred and eighty pounds on her back. Her time for the hundred and fifty-four miles, including all stops, was thirty hours and forty minutes.

Perhaps no better example of the stamina and vitality of the race could be found than in Field Marshal Lord Roberts' Arab horse. Lord Roberts rode this horse for twenty-two consecutive years, campaigning meantime in Afghanistan, India, Burma and South Africa; and during the whole of that time the horse was never sick and never lame.

In recommending Arabian blood as the best of all for producing cavalry stock I am by no means unmindful of the merits of other breeds, many of which have their special uses, in which they have no rivals.

CAVALRY IN MODERN WAR.*

By CAPTAIN HENRY J. REILLY, FIRST FIELD ARTILLERY, I. N. G.

A MONG the ideas which have gained currency since the outbreak of war, the most erroneous is the belief that the day of cavalry is past. This misconception apparently is founded on the thought that the accuracy and volume of modern fire limits cavalry to reconnaissance duties, and that even these duties are being usurped by aeroplanes.

It is true that mounted charges are few and far between, but all cavalries are armed with rifles and are therefore able to fight dismounted as infantry. This method, well understood in the American cavalry since the Civil War, is being practiced more and more by European cavalry, particularly the German cavalry, which has made extensive use of dismounted action.

At the beginning of the war, the German patrols sent out to gather information, whenever attacked, promptly galloped to the rear and behind carefully concealed dismounted cavalry with machine guns. This resulted in many cases of French and British cavalry being badly cut by the fire of the dismounted men and machine guns, and was the cause of reports that the German cavalry had run away.

The great point about cavalry is its mobility. It can get over long distances in a manner which infantry never can equal. Even the use of large numbers of motor-busses does not give the infantry the same mobility, as there are not enough busses to carry large bodies of troops and these busses are confined to good roads.

Cavalry played a significant rôle on both sides in the Allied retreat and the German advance to the Marne. During the battle of the Marne, the German cavalry held the gap in the German line between von Kluck's flank guard north of Meaux and his main force on the right flank of the main German line. When the Allies were endeavoring to extend their line to Anwerp, and the Germans were trying to reach the Belgian coast in October, 1914, the cavalry of both sides played an extremely important part in the region of Lille and Ypres; in fact, a large part of all the early engagements in this region were fought by cavalry.

In the eastern, or Russian, theater of war, the cavalry has played a prominent rôle from the beginning. Both the Germans and the Austro-Hungarians continually speak of how their movements have been hampered by the superior numbers of the Russian regular cavalry.

The general of the Twelfth Austro-Hungarian Army Corps, is an officer who has spent his whole life in the infantry service. On being asked his opinion, formed from personal experience, as to the usefulness, or the contrary, of cavalry under modern war conditions, he stated that it could be taken as axiomatic that as long as war existed on this earth, cavalry not only would be useful but highly necessary.

He added that on his recent advance through southern Poland, he found the Russian retreat covered by large bodies of Cossacks, and that only the fighting superiority of his cavalry enabled him to push the Russians the way he wished. While in this case the Russian cavalry probably was superior to his in numbers, they were made up of cossacks whose fighting qualities are distinctly inferior to those of the regular Russian cavalry.

He also stated that however much the aeroplance might replace cavalry in reconnaissance work, this would not affect the value of cavalry, because mobility is its chief asset, and in these days of long battle fronts, mobility makes cavalry especially valuable as a reserve.

A good example of the use of cavalry in filling in gaps between different forces was afforded by this same advance. The Austro-Hungarian and German troops coming in general

^{*}This constitutes Capter XXX, of the important work, Why Preparedness by Captain Henry J. Reilly, First Field Artillery, I. N. G., late First Lieutenant, Fifteenth U. S. Cavairy, and a graduate of West Point. Lieutenant Reilly was present with the warring armies of Europe for over a year, and this chapter, which was written as late as September, 1916, is the result of his studies of the operations of the British, French, German, Austrian, Belgian, and Swiss armies. The book is published by Daughaday & Company, Chicago, Ills., and this chapter is published with the express permission of the author.—Editor.

from the west, had driven the Russians into Ivangorod on the Vistula. At the same time, the army of the Archduke Joseph Perdinand, with that of von Mackensen on its right, was advancing in general from the south between the Vistula and the Bug rivers.

When the army coming from the east halted in front of Ivangorod, the Austro-Hungarian cavalry division belonging to it took position on the right, or southern, flankalong a front of more than ten kilometers along the Vistula. They then brought detachments across the river which finally came in touch with the Archduke's cavalry coming from the south, thus filling in the gaps between the two armies and making the Russian position in Ivangorbd more precarious. Later, when some infantry divisions had succeeded in crossing the Vistula between Warsaw and Ivangorod, it was discovered that there was a considerable gap in the Russian line between these two places.

Each infantry division of an army has a certain amount of cavalry attached to it, called divisional cavalry. In addition, every army has its independent cavalry division, that is, divisions made up entirely of cavalry.

Immediately this hole was discoverd, ninety-six squadrons (about 15,000 men) were gathered together by taking the cavalry division attached to the Twelfth Corps, all the divisional cavalry of the corps, and most of the Archduke's cavalry. These ninety-six squadrons then were shoved into the gap between the Russian forces, and because of their mobility were able to display such activity as to hasten considerably the evacuation of Ivangorod and the retreat of the Russians from the Vistula to the Bug river.

At the present time, due to the difficulty of getting exact data covering both sides of every action in which cavalry has been engaged in this war, it is too early to come to definite conclusions. However, there are certain marked tendencies which seem to indicate, in a general way, what these conclusions will be.

While prior to the Franco-Prussian War, cavalry with some exceptions, nearly always was used for reconnaissance purposes, this duty was always subordinate to that of taking part in the battle proper, and above all, in completing a victory by pur-

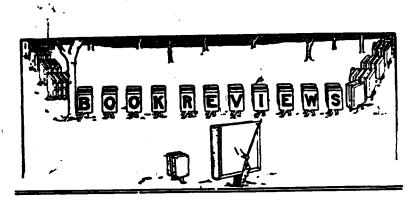
suing, cutting off, capturing, or otherwise destroying the retreating enemy.

The Franco-Prussian War put emphasis upon the reconnaissance duties of cavalry, because the German cavalry took advantage of the fact that the French cavalry mostly was kept concentrated and with the infantry to spread out far in front of the German armies for reconnaissance purposes; also because both cavalries disdained to fight on foot and therefore, contented themselves with waiting for opportunities to make mounted attacks. These opportunities came but seldom, and in the majority of cases furnished examples of the failure of the mounted attack rather than the reverse.

Many of the more thoughtful cavalry officers in all countries have felt for years that undue emphasis was being put on the reconnaissance duties of cavalry, and that cavalry should not consider itself an obsolete fighting arm merely because it cannot habitually use the saber, any more than infantry should rule itself off the battlefield because it cannot habitually use the bayonet.

These cavalry officers have welcomed the possiblity of the aeroplane taking over the duties of reconnaissance from the cavalry, as that means the end of the period in which cavalry has been split up into small bodies, and the return to its use in large bodies under cavalry leaders. In other words, its use would be on a much larger scale but in the same manner in which Sheridan in the closing days of our Civil War cut off and destroyed Ewell, Lee's rear guard, and afterwards stopped Lee until the infantry could arrive.

The exponents of this use of cavalry point out the fact that though there have been big advances and retreats in the present war, there have been no decisive victories, with the exception of those gained by the Germans in East Prussia which, considering the situation as a whole, were relatively small. The reason is that infantry cannot catch infantry. Cavalry can; but as modern infantry travels in large numbers, it can take care of itself, unless attacked by large bodies of troops. Thus, it will be seen, a decisive victory can be gained only by catching the enemy's infantry. This can only be done by cavalry, but it will not be successful then, unless the cavalry is numerous.



Range Finder marked on one edge like a stadia board, and arranged so a cord will hold it twenty-five inches from the eye. Really holding it at arms length will usually serve the purpose. The divisions on the scale are one-fortieth of an inch, hence the relation of a division on the scale to the distance of the scale from the eye is one to one thousand. The interior of the card is covered by plotted curves for widths of target from one to eighty-eight yards.

To use the card as a range finder it is necessary to know or estimate one of the dimensions of the target. For example, a telegraph pole is usually about twenty-five feet high or eight yards. If there is such a pole near the target it can be used to approximately find the range, working as follows:

Hold the stadia-like edge of the card verticle and at the length of the cord from the eye. Sight at the telegraph pole. As an example we will say that the pole covers thirty divisions on the scale. Take the eight yard curve on the diagram, follow it till it crosses the line extending upward across the card from thirty. Note the point of intersection. From this point of intersection follow a line perpendicular to the thirty line to the other edge of the card and read the range, viz.: 266 yards.

By a reverse process, if we know the range, the dimensions of the target may be found.

The reverse side of the card is constructed for use as a slope board.

While this is not an accurate range finder it will serve to check estimates of the range and keep them within reasonable limits of error. This card or something similar to it should be adopted in our service for the higher non-commissioned officers and for company officers who have no high grade range finder issued as part of the equipment of their organizations.

The South American
War of
Independence.*

A small monograph on the subject, consisting of but twenty pages. It gives in outline a complete general view of the subject and is worthy of study by every

officer in our army.

Field Sanitation.† This little book of pocket size with limp covers, is a manual for officers and enlisted men.

The size and weight of this manual is convenient, the type large and clear, a considerable number of original illustrations have been inserted, and are of value in assisting the reader.

The subject matter is well covered by eight chapters, including an introduction and reference bibliography. These chapters discuss clearly and briefly in non-technical terms the subjects: Camp Diseases, Personal Hygiene, Clothing, Water, Subsistence, Wastes, First Aid, and Sanitary Service in Camp-

T. G., Turonto, Canada. Price about 50c, according to quantity ordered.

^{*&}quot;THE SOUTH AMERICAN WARS OF INDEPENDENCE."—By G. E. Cronin, First Lieutenant, Ninth Infantry. Published by A. E. Vidaurri, Laredo, Texas. Price not stated.

t"FIELD SANITATION." By Major James Sprigg Wilson, Medical Corps, U. S. Army. Fourth Edition. George Banta Publishing Co. Pp. 125. Price, \$1.00.

BOOK REVIEWS.

aign, in a manner which gives the student sufficient practical knowledge of the subject without overburdening him with details.

The head of each chapter is followed by a list of the subject matter within it; and all subheads are centered or indented in capitals. This makes reference particularly easy. While it is believed that this book could be revised to an advantage, as it is, it is particularly useful as a text book for instruction in colleges, summer camps, non-commissioned officers and schools.

The price seems excessive.

Five Tactical Principles and Uniform
Tactical Training.*

This little book, by Major V. A. Caldwell, 25th Infantry, should be in the library of every infantry and cavalry officer. It treats of the tactical instruction of the infantry soldier for battle.

In the training of infantry and dismounted cavalry for combat, those who have tried it out, find that a point is eventually reached, where further progress seems impracticable, except such as might be gained by actual experience in war.

Major Caldwell shows us in his little work that among our officers, there is a tendency to assume that this limit has been arrived at much sooner that is really the case. He advocates carrying this instruction much further than is now generally believed to be possible.

The author recognizes the intell gence of the rank and file of our army and, in order to insure perfect teamwork, he favors letting both non-commissioned officers and privates know as much of the orders, upon which tactical action is to be based, as is possible. He believes that on account of the natural aptitude of the American soldier, this will result in greater co-ord nation on the field of battle.

The author explains that the five tactical principles, underlying all tactical instruction, are equally applicable to the ordinary avocations of civil life and he proposes to make use of this fact, to gain the early interest of the recruit, by showing him that his new work is based on common-sense principles, just as it ought to be, for one who intends to engage in civil prusuits.

Major Caldwell is firmly convinced that we must adopt short enlistments with the colors so that each year the army will turn back to the country as large a proportion of trained men as is possible. The time has come when the officers of our mobile army must face this proposition, and those who longer stand in the way of its fulfillment, will be working against the best interests of the army and of our country.

N. F. M.

First Days in Manila.

This little pamphlet published by the Philippine Branch of the Army Relief Society will be found most useful and instructive to anyone about to visit the Philippines. It contanis the information that is needed on arrival by any new comer and will be equally appreciated by anyone making a second tour after a lapse of a few years.

Among other things, the following are explained: "Servants and their wages; Household utensils and furniture—where to purchase; Automobiles, calesas, and liveries and their prices; Hotels and boarding-houses and their prices; Transportation—Ferry and Railroad schedules; Laundry; Clothing—uniform, seamstresses; Quarters; How to prepare for a visit to Baguio.

The pamphlet will be found on all transports or may be obtained *free* on application to Mrs. R. S. Fitch, care Captain R. S. Fitch, Cavalry, A. D. C., Headquarters Central Department, Chicago, Ill.

^{*&}quot;Five Tactical Principles and Uniform Tactical Training."—By V. A. Caldwell, Major, Twenty-fifth Infantry, U. S. Army. Schofield Barracks, H. T., Dec. 81, 1915. The Geo. Banta Publishing Company, Menasha, Wisconsin.

Patrels,
Scenting,
Messages.*

A small pamphlet of thirty pages describing the need for instruction of our men in these important branches of the service of information and detailing how to give it.

A clearly stated little monograph that will be found of great value as a text book in non-commissioned officer's school. Any company commander that takes up the systematic study of this book with his men will be amply repaid for the cost in time and money.

This interesting book deals with the adventures of those first seven divisions, on which England staked her reputation, her riches, and her sovereignty, to stop the German host which invaded Belgium. Covering as it does, the work of the British army from Mons to Ypres during the first three months of the Great War, it is probably the most important contribution from any source which has as yet appeared, and contains much information hitherto unavailable to the public.

The gallant deeds of the "Seven Divisions" are of special interest to American readers, because as with us at Santiago-de-Cuba, they are the deeds of England's regular army, which, as the author puts it, "saved the national honour in the acutest crisis in history."

At the beginning of the Great War, England and ourselves were the only ones of the great powers which had no scientific system of military service; her small but well trained regular army had sufficed for the many "small wars" in which she had engaged, and the storm found her, as it would find us, almost totally unprepared for what has proved to be the greatest holocaust in history. The experience of these regulars is therefore a great object lesson to us, because were we threatened with in-

vasion, we too would have to stake all on the heroic resistance of our small, well-trained regular army, until an army of volunteers or conscripts could be raised, equipped, trained, and put in the field. The present mobilization of the national militia on our southern frontier has brought home to many of us, the great length of time necessary to develop a trained soldier, and has made it extremely improbable whether, under our present military system, we would be as fortunate as was England in stemming the tide of invasion of our homes and firesides.

While not dealing with tactical deductions as to the lessons of the war, the narrative is nevertheless of the greatest interest in its apparent historical accuracy, and describes in great detail the valor and heroism which surrounded the retreat from Mons to the Marne, and the subsequent advance to the line of the Aisne. As the author, Lord Hamilton observes: "Nothing can ever surpass as a story of simple, sublime pluck, the history of the first three months of England's participation in the war."

The cavalryman will take heart in repeated, detailed accounts of cavalry charges between British and German mounted troops, particularly in the initial clash near Mons, and during the stubborn retreat of the British division, contesting every inch of the enemy's advance on Paris or Calais. More especially perhaps, will the cavalryman appreciate the many occasions where cavalry units held in reserve, were rushed to weak spots in the hard-pressed British line, and repeatedly saved the day for Great Britain by fighting dismounted until the crisis was passed, when they resumed their position as a mobile reserve, ready to fight mounted or dismounted. This appears to have taken place over and over again, not alone in the mobile operations ending at the Aisne, but in the trench warfare which followed, and which has since marked a new epoch (or the revival of an old epoch) in the tactical handling of mobile forces.

The one criticism of the mechanical production of the book, is that the four maps which accompany it, are not in keeping with the really high standard of the rest of the work. But it is well worth reading by the military student as well as the casual reader, who may have heretofore had but a hazy idea of

^{*&}quot;PATROLS, SCOUTING, MESSAGES." By First Lieutenant K. A. Joyce, Sixth Cavalry. U. S. Cavalry Association, Agents. Price 25 cents.

^{+&}quot;THE FIRST SEVEN DIVISIONS." Being a detailed account of the fighting from Mons to Ypres, by Captain Ernest W. Hamilton, 11th Hussars. Published by E. P. Dutton & Company, New York, 1916. Price \$1.50.

the gigantic task which confronted England's "regulars," when they saved their country from what would probably have resulted in territorial invasion, had the regular army not immolated itself to such an extent as to have been practically annihilated.

C. D. R.



Our Editor, Colonel E. B. Fuller, being seriously but not dangerously ill at the time the present Journal was being prepared for the printer, Major Eltinge, completed the number and corrected the proof of such articles as did not pertain to the Mounted Service Schools Section. Lieut. Col. C. D. Rhodes, volunteered to do all work, including correcting the proof, for that section. All errors, omissions, etc., are chargeable to Maj. Eltinge who will receive all complaints.

VOTE ON CHANGE OF LOCATION.

The proposed changes in the Constitution of the Association which would move the Headquarters of the Association to Washington, D. C., are recommended to the attention of all members. Please vote *today* and mail your vote to the Secretary of the Association.

It is suggested that members name Colonel Fuller or Colonel Rice as their proxy as these two are the only cavalry officers now at Fort Leavenworth, whose stay there until the Annual Meeting is at all assured.

In this connection, it is desirable for all members to consider that a change of Editors will be necessary immediately after the Annual Meeting. Colonel Fuller has long been considering the advisability of releasing himself from the im-

mense amount of work required of the Editor and now feels it necessary to sever his connection with the JOURNAL.

Only those who have been familiar with the work at the Headquarters of the Association know how invaluable Colonel Fuller's services have been and how difficult it will be to secure anyone who can fill his place. Much as we regret it, we must now do so. Therefore every member of the Association should give thought to the subject and lend his best efforts to securing a new Editor.